# Secondary School Course Classification System: School Codes for the Exchange of Data (SCED)

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# Foreword

*Secondary School Course Classification System: School Codes for the Exchange of Data (SCED)* presents a taxonomy and course descriptions for secondary education. The system is intended to help schools and education agencies maintain longitudinal information about students' coursework in an efficient, standardized format that facilitates the exchange of records as students transfer from one school to another, or to postsecondary education.

SCED is part of the National Center for Education Statistics' data handbook series, which is published as a searchable electronic database, *Handbooks Online* (http://nces.ed.gov/programs/handbook/). NCES has developed a series of data handbooks to provide guidance on consistency in data definitions and the maintenance of education data, so that such data can be accurately aggregated and analyzed. The handbooks are intended to serve as reference documents for public and private education agencies, schools, early childhood centers, and other educational institutions, as well as by researchers involved in the collection of education data. In addition, the handbooks may be useful to elected officials and members of the public who have an interest in education information. The handbooks are not, however, data collection instruments, nor do they reflect any type of federal data maintenance requirements. *Handbooks Online* is reviewed and updated annually.

Education agencies and institutions collect and maintain information to help the education system function efficiently and effectively. Standardized data available to education agency officials can

- assist in the development of sound educational policies at all levels;
- improve the quality of instruction and boost student achievement;
- help compare information among communities and among states;
- improve the accuracy and timeliness of nationwide summaries of information about education systems;
- improve the quality and significance of education research—locally, statewide, and nationwide; and
- enhance reporting to the public about the condition and progress of education.

It is the intent of *Secondary School Course Classification System: School Codes for the Exchange of Data (SCED)* to provide educators and data managers with a tool that will support decision-making in these ways.

# Acknowledgments

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# Chapter 1. Introduction

**Developing a System for Classifying Secondary Courses**

In the summer of 2003, the National Center for Education Statistics (NCES) initiated work to develop a common classification system for secondary school courses in the United States. The resulting system is the *Secondary School Course Classification System: School Codes for Exchange of Data* (SCED), presented in this handbook. The primary purpose of the SCED system is to make it easier for school districts and states to maintain longitudinal student records electronically, and to transmit coursetaking information from one student information system to another, from one school district to another, and from a school district to a state department of education. As substantial numbers of agencies adopt the system, it will produce a secondary benefit: standardized course information for those who evaluate transcripts for postsecondary admission or research purposes.

More specifically, a common classification system for secondary school courses would achieve the following:

- enable comparison of course offerings among districts and states;

- facilitate the use of electronic student transcripts;

- support longitudinal student information systems;

- encourage interoperability of student information and other data management systems by providing a standard for education software designers and vendors;

- reduce the cost and burden of transcript studies; and

- encourage the use of coursetaking information in research and evaluation of student outcomes.

**Earlier Work in Electronic Student Transcripts**

In 1995, NCES developed the *Pilot Standard National Course Classification System for Secondary Education (SNCCS)* to support the electronic exchange of student transcripts. The SNCCS is included in the SPEEDE/ExPRESS[1] transcript standards, which were maintained by the Data Interchange Standards Association and accepted by the American National Standards Institute. The SNCCS was developed in recognition that any process for the electronic exchange of transcripts between districts would not be very successful without a common course classification system.

The technology for maintaining electronic records was in its early stages in 1995. As a result, relatively few school districts or state education agencies adopted either SPEEDE/ExPRESS or the SNCCS. Today, most transcripts for students who transfer are still requested over the phone or through traditional mail, and schools still have to respond to requests for transcripts by manually copying them and sending

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[1] System for Postsecondary Electronic Exchange of Data for Education/Exchange of Permanent Records for Students and Schools. These electronic data interchange (EDI) transcript standards were developed jointly by the Association of College Registrars and Admission Officers (ACRAAO) and NCES.

the paper transcripts to the requesting school. However, the conditions for the electronic transfer of student records have improved significantly from 1995. Some of the key changes are the following:

- Nearly all schools operate student information systems that retain student records in data systems. Most secondary schools use electronic scheduling with some type of course coding system to place students in appropriate courses.

- The SCED coding structure has simplified the structure of the 1995 SNCCS. Experience with the earlier system was the basis of extensive input to the SCED system from the external review committee, members of the National Forum on Education Statistics, and other practitioners. (See Acknowledgments for a list of participants.)

- School district and state education agency information professionals are working with designers from the education management software industry to produce open standards for making data systems interoperable. This approach simplifies the older electronic data interchange (EDI) standards used in SPEEDE/ExPRESS.

## Part of NCES Handbook Series

NCES will maintain the new course classification system, the SCED, as part of the NCES data handbook system. It will be a part of NCES's searchable web database, *Handbooks Online,[2]* which will make the course classification system readily accessible to all potential users. Through the *Handbooks Online*, users can tailor the structure of the SCED course classification taxonomy to meet the needs of their individual student information systems. The basic SCED elements defining a course can be combined with other data elements in the *Handbooks Online* to create an electronic student transcript, course scheduling software, systems for matching teacher qualifications and assignments, and a host of other information management tools. The SCED course codes and descriptions ensure comparability among electronic transcripts when describing courses for students who move from one district to another, and among reports when sending course information from a school district to a statewide database.

## Uses and Users of the Secondary Course Classification System

*Uses within the education system.* When a secondary student transfers from one district to another, the student's course history must be reviewed meticulously to determine if the courses named on a transcript are the same as, or acceptably similar to, courses offered in the new district. The effort of these painstaking reviews is multiplied when many students transfer into a single school.

A major objective of the SCED is to provide common secondary course descriptions that enable school counselors to compare courses more easily when reviewing the transcript of a transferring student. A common system for describing courses saves the counselor's time and ensures that the student is placed in appropriate classes without delay.

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[2] *Handbooks Online* incorporates definitions of data elements about students, education staff, school facilities, schools, and education agencies.

A common secondary course classification system assists states developing statewide longitudinal data systems to meet the reporting requirements of local and state mandates, as well as those of No Child Left Behind. Without a statewide course classification system, it can be very burdensome to collect and interpret information from school districts about student course taking and the qualifications of teachers responsible for those courses.

Numerous groups could use and benefit from the information available through adoption of the SCED. For example, a parent needs to know how his or her child is performing in classes. They can find information about courses in a report card that shows specific courses taken by that student, teachers' assessment of performance, and credit(s) earned and in a transcript (an overall record of a student's educational attainments). The school's course catalog tells the parent more about the student's class work. The catalog also tells students and parents about the course offerings of the school—other courses the student might take, their content, and prerequisites.

At the school level, course information is used to guide and advise individual students; to assign teachers to classes for which they are qualified and/or certified; to organize a master schedule that coordinates students, teachers, and resources; and to distribute information about students to other institutions. These other institutions include district and state agencies that need to track student enrollment in particular grades and, in some cases, in specific courses. Based on course and enrollment data, these agencies account for enrollment in specific courses, reimburse schools based on average daily attendance, report to funding agencies/programs (e.g., Perkins), and could analyze differences between subsets of students.

Postsecondary institutions need information about students and their coursework, typically to determine students' eligibility for enrollment, financial assistance, and eventual placement. For example, the National Collegiate Athletic Association (NCAA) uses secondary course information to determine a student's eligibility for postsecondary athletic programs.

*Involvement of the education software community.* "Interoperability" in data management systems means that information can be transferred from one system to others with no effort on the part of a user. In a school district, for example, interoperable software applications would ensure that when the name and address of a new student are entered into the system once, the information also appears in the district's library, class assignment, transportation, food service, student information management, and other relevant systems. SCED provides a standard course coding framework for vendors of school information systems who are working toward interoperability. During the development of the SCED, the Student Information System workgroup of the Schools Interoperability Framework Association contributed input and recommendations. As vendors become aware of the SCED, the course coding structure and definitions can be included in student information systems or used to form a common "crosswalk" from one system to another.

*Facilitating the research use of transcript data*. Researchers and policymakers represent another important use of course-related information. Education researchers typically want to identify trends in course taking and in students' access to educational experiences, examine links between practice and desired outcomes, and analyze differences between subsets of students. Data about courses are combined with information about the students and their teachers, schools, parents, and communities in a number of ways.

More and more states are developing longitudinal student data systems in order to measure the added value of education to students as they move through the education pipeline. Information about the courses that students take, and their performance in these courses, is vital to understanding the effects of

education—but almost impossible to measure without a standard system for describing courses[3]. The SCED provides comparability for that effort and can greatly reduce the time it takes to review course information.

As more school districts and states adopt the SCED, and as the number of courses and course descriptions are increased, the system will be of use to researchers. Comparable transcript data for researchers will be a valuable side product when the SCED becomes widely used to transfer transcripts between districts and from districts to state departments of education.

**Using the Secondary Course Coding System**

SCED is designed for use in student record systems, transcripts, and reporting by school districts and state education agencies (and their nonpublic school equivalents). This purpose determined several key characteristics of the system. NCES wanted the framework for SCED to:

- build upon the current course systems that NCES supports—the *Pilot Standard National Course Classification System for Secondary Education* (SNCCS) and the *Classification of Secondary School Courses* (CSSC);

- maintain a straightforward format to describe and classify courses that could be used by others with minimal training; and

- be structured so that the system could become part of the NCES *Handbooks Online*.

The *School Codes for the Exchange of Data* (SCED) incorporates a coding structure that meets these requirements.

The SCED coding structure has four basic elements that were derived from the SNCCS: (1) course description, (2) course level, (3) available credit, and (4) sequence. Each element imparts different, but complementary, pieces of information about the particular course being offered. Taken as a whole, these elements can be used to "map" SCED-coded courses to the CSSC system that is widely used in transcript research[4].

SCED simplifies earlier coding systems. Informal piloting with volunteer states and school districts suggests that practitioners can use the system with little instruction or support, although the effort in applying any course classification system should not be underestimated. And, the framework can be integrated into the *Handbooks Online* system, which will automate the process of course coding—and hopefully reduce the complexity and effort of this task.

*Maintaining SCED*. Courses may be added to SCED and modifications made through the normal *Handbooks Online* review process. NCES formally reviews the contents of *Handbooks Online* each year, convening a panel of subject area specialists, data managers, and other educators to consider any changes recommended by users throughout the year. The Program Offices of the US Department of

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[3] Congress has allocated funds to assist states in developing statewide longitudinal data systems through competitive grants administered by the Institute of Education Sciences in the US Department of Education. Fourteen states received these grants in the first year of their award, 2005.

[4] The CSSC was developed by NCES and has been used in transcript studies (research on course offerings and students' course taking behavior) since the 1970's. SCED courses have been compared to the CSSC courses (forthcoming working paper) but the overlap is not 100 percent.

Education are also asked to review any data elements that are part of their information collections, to make sure that these elements' definitions are up to date. Proposed revisions that result from this review are then subjected to NCES's review standards before being accepted or rejected.

In Chapter 2, the SCED framework is described, as are the reasons for decisions that led to the structure. Chapter 3 includes the SCED course codes and descriptions. Appendix A provides information about the procedures used in developing SCED. Appendix B is a list of all courses within each subject area.

# Chapter 2. Framework of SCED

**Elements of the Coding Structure**

The SCED framework consists of four basic elements. Taken together, they create a unique identification code for any secondary course. The four component elements are course description, course level, available credit, and sequence.

**Element 1. Course Description** consists of two parts, a Subject Area and a Course Identifier within that Subject Area. For example, the course General Math is coded as 02002—Subject Area Mathematics (02) and Course Identifier (002).

*Subject Area*. These are 22 general content categories, each represented by a two-digit code. The categories are mutually exclusive and, to date, can include any course offered in secondary schools. The Subject Areas are listed in an exhibit at the beginning of chapter 3, Course Codes and Descriptions. Subject Area identifies a single course when it is combined with the Course Identifier.

*Course Identifier*. Courses within a Subject Area are distinguished by a three-digit code. The codes carry no meaning within themselves. As with all entries in the NCES Handbook series, "999" is reserved for courses coded as "other." Only some numbers between 001 and 999 have been used in this system; unused numbers can accommodate new courses as these are added to the SCED.

The Course Descriptions are fairly general. They provide enough specificity to identify the course's topic and to distinguish it from other courses in that Subject Area. However, the Course Descriptions do not include course objectives.

Three other elements in the SCED structure provide additional information about a course when combined with the Course Description.

**Element 2. Course Level** conveys the course's level of rigor. There are four options for coding this element:

- *B*   for basic or remedial. A course focusing primarily on skills development, including literacy in language, mathematics, and the physical and social sciences. These courses are typically less rigorous than standard courses and may be intended to prepare a student for a general course.

- *G*   for general or regular. A course providing instruction in a given subject area that focuses primarily on general concepts appropriate for the grade level. General courses typically meet the state's or district's expectations of scope and difficulty for mastery of the content

- *E*   for enriched or advanced. A course that augments the content and/or rigor of a general course, but does not carry an honors designation.

- *H*   for honors. An advanced level course designed for students who have earned honors status according to educational requirements. These courses typically include additional content not found in general courses, and are formally designated as honors courses.

The majority of courses that schools offer are general: intended for any student in the proper grade level range. However, some courses are distinguished by having more or less rigorous requirements than the "usual" course and are designated as advanced/ enriched, honors, or basic/remedial. Some school systems place students in, or allow students to select from, different "tracks"—particularly in academic

subject areas—while others do not use such distinctions, holding all students to the same standards. The coding structure enables schools to portray such differences.

Personal judgment is needed in assigning and interpreting the Course Level element. While individual schools, districts, and states may have criteria that clearly distinguish one level of course from another, these criteria are not the same in every state or school district. And, not every course catalog will include courses at all of these four levels.

**Element 3. Available Credit** identifies the amount of Carnegie unit credit available to a student who successfully meets the objectives of the course. A course meeting every day for one period of the school day over the span of a school year offers one Carnegie unit. A Carnegie unit is thus a measure of "seat time" rather than a measure of attainment of the course objectives. While some schools and districts use a performance—or competency—based metric of student progress, the Carnegie unit remains the predominant metric of student progress in schools in the United States and is part of the SCED framework.

Available Credit is coded as a one-digit number carried out to two decimal places, with an explicit decimal. That is, one Carnegie unit would be coded as 1.00. A half-unit of Carnegie credit would be reported as 0.50. Note that Available Credit for a given course can vary from school district to school district.

**Element 4. Sequence** describes the manner in which school systems may "break up" increasingly difficult or more complex information. School districts operating on a semester or trimester schedule frequently offer consecutive courses fitting one course description. For example, Accounting may be broken into two different courses that together make up a complete Accounting course. Or, the requirements for studio arts could include Creative Arts—Comprehensive (SCED #05154) and two additional studio arts courses selected from a number of choices (drawing, ceramics, sculpture, painting, etc.)

Sequence is a two-character element that should be interpreted as "part 'n' of 'm' parts." In the example given above, if each course were a year in length, Creative Arts—Comprehensive would be course "one of three," or "1 3." It is important to remember that sequence describes only the order in which the courses are taken. If the arts sequence in this example required six semester-long courses, the second semester of the introductory Creative Arts—Comprehensive could be shown with the sequence "2 6," or, "part 2 of 6 parts." The Sequence indicated for a given course can vary from school district to school district.

Exhibit 1 is an example of how the four SCED elements are used to identify a specific course, and the Level, Credit and Sequence that can differ for the same course.

**Exhibit 1. Course code structure: United States Government—Comprehensive**

| course description | | course level | available credit | sequence |
|---|---|---|---|---|
| **04** | **151** | **H** | **1.00** | **1   1** |
| Social Sciences and History | U.S. Government —Comprehensive | Honors | one Carnegie unit | "1 of 1"—not part of a sequence |

| course description | | course level | available credit | sequence |
|---|---|---|---|---|
| **04** | **151** | **R** | **0.50** | **1   2** |
| Social Sciences and History | U.S. Government —Comprehensive | Regular | one-half Carnegie unit | "1 of 2"—1st part of a 2-course sequence |

## Additional Notes on the Content and Structure of SCED

*Course description codes*. SCED is intended to be an electronic system, part of the NCES *Handbooks Online*. Because of this, Subject Areas can be numbered in an arbitrary order (e.g., "01" is English Language and Literature, "02" is Mathematics, and so on). The Course Identifier codes within the various Subject Areas similarly carry no meaning other than that they distinguish one course from another. Unused numbers among the Course Identifiers are simply placeholders for additional courses that may be added to SCED and *Handbooks Online* in the future.

One important characteristic of an electronic data handbook is that, if there are good search criteria, it is just as efficient to include many entries as it is to include a few. A number of the courses in SCED will be offered by only a few districts; however, when a code and description are needed, they will be available.

*Ambiguous Subject Area descriptions*. Some courses combine content from more than a single subject area, and the assignment of the course to a Subject Area is a judgment call. When SCED is integrated into *Handbooks Online*, users can create their own course lists and assign individual courses to whatever Subject Area is appropriate for that list while retaining the original SCED code.

*Additional transcript information*. SCED makes it feasible to include detailed course information on electronic student transcripts, with standard course descriptions that are widely understood. However, there will undoubtedly be additional information about courses and their outcomes that schools and districts will want to add to an electronic transcript or other student record. This could include, for example, grade assigned for performance in the class or flags identifying courses that meet State high school graduation or college admission requirements.

*Treatment of special education courses*. There are no course descriptions in SCED that are intended solely for students with disabilities, or that indicate that a course has been modified for these students. When this information is appropriate, users will need to add an element in order to note that a course is adapted to meet the individual needs stated in a student's Individual Education Programs (IEP).

*Treatment of AP and IB courses*. Advanced Placement (AP) and International Baccalaureate (IB) courses are assigned individual codes in SCED, rather than being identified by the Level element. This is because the College Board and International Baccalaureate Organization define the content and set the performance standards for AP and IB courses. Unlike "honors" or "advanced" classifications, a course's designation as IB or AP is not at the discretion of the school or district using SCED.

*Treatment of foreign language courses*. Obviously, SCED does not include every language other than English that could be taught in secondary schools. The languages for which there are course descriptions were those most likely to be found in the high school course catalogs reviewed for the development of SCED. For each language, there are five course descriptions that progress from introductory to higher levels of fluency; separate course descriptions for native speakers, field experience, study of conversation and culture, and the language's literature; and two courses preparing the student for the IB level A and level B examinations, respectively.

*Miscellaneous subject area*. This set includes courses that can not be assigned to any of the other subject areas. Miscellaneous courses often include activities or skills that are applicable to a range of topics: standardized test preparation (22001) or study hall (22006) are examples of this. Other miscellaneous courses, such as family living (22208) or community service (22104) address what may be perceived as important but non-academic areas.

# Chapter 3. SCED Subject Areas

Exhibit 2 identifies the 22 Subject Areas contained in SCED. In addition to the Subject Area, each course code includes a 3-digit identifier that distinguishes the course from others within the Subject Area. Appendix B is a numeric listing of SCED courses, with their titles.

**Exhibit 2. Secondary subject areas and codes in the SCED**

| Subject area | Code |
| --- | --- |
| English Language and Literature (secondary) | 01 |
| Mathematics (secondary) | 02 |
| Life and Physical Sciences (secondary) | 03 |
| Social Sciences and History (secondary) | 04 |
| Fine and Performing Arts (secondary) | 05 |
| Foreign Language and Literature (secondary) | 06 |
| Religious Education and Theology (secondary) | 07 |
| Physical, Health, and Safety Education (secondary) | 08 |
| Military Science (secondary) | 09 |
| Computer and Information Sciences (secondary) | 10 |
| Communications and Audio/Visual Technology (secondary) | 11 |
| Business and Marketing (secondary) | 12 |
| Manufacturing (secondary) | 13 |
| Health Care Sciences (secondary) | 14 |
| Public, Protective, and Government Service (secondary) | 15 |
| Hospitality and Tourism (secondary) | 16 |
| Architecture and Construction (secondary) | 17 |
| Agriculture, Food, and Natural Resources (secondary) | 18 |
| Human Services (secondary) | 19 |
| Transportation, Distribution and Logistics (secondary) | 20 |
| Engineering and Technology (secondary) | 21 |
| Miscellaneous (secondary) | 22 |

The remainder of this chapter presents the 5-digit course description code, title, and a brief description of each course included in SCED.

# Subject Area 1: English Language and Literature (secondary)

## Comprehensive Language Arts

### 01001 English/Language Arts I (9th grade)

English/Language Arts I (9th grade) courses build upon students' prior knowledge of grammar, vocabulary, word usage, and the mechanics of writing and usually include the four aspects of language use: reading, writing, speaking, and listening. Typically, these courses introduce and define various genres of literature, with writing exercises often linked to reading selections.

### 01002 English/Language Arts II (10th grade)

English/Language Arts II (10th grade) courses usually offer a balanced focus on composition and literature. Typically, students learn about the alternate aims and audiences of written compositions by writing persuasive, critical, and creative multi-paragraph essays and compositions. Through the study of various genres of literature, students can improve their reading rate and comprehension and develop the skills to determine the author's intent and theme and to recognize the techniques used by the author to deliver his or her message.

### 01003 English/Language Arts III (11th grade)

English/Language Arts III (11th grade) courses continue to develop students' writing skills, emphasizing clear, logical writing patterns, word choice, and usage, as students write essays and begin to learn the techniques of writing research papers. Students continue to read works of literature, which often form the backbone of the writing assignments. Literary conventions and stylistic devices may receive greater emphasis than in previous courses.

### 01004 English/Language Arts IV (12th grade)

English/Language Arts IV (12th grade) courses blend composition and literature into a cohesive whole as students write critical and comparative analyses of selected literature, continuing to develop their language arts skills. Typically, students primarily write multi-paragraph essays, but they may also write one or more major research papers.

### 01005 AP English Language and Composition

Following the College Board's suggested curriculum designed to parallel college-level English courses, AP English Language and Composition courses expose students to prose written in a variety of periods, disciplines, and rhetorical contexts. These courses emphasize the interaction of authorial purpose, intended audience, and the subject at hand, and through them, students learn to develop stylistic flexibility as they write compositions covering a variety of subjects that are intended for various purposes.

**01006  AP English Literature and Composition**
Following the College Board's suggested curriculum designed to parallel college-level English courses, AP English Literature and Composition courses enable students to develop critical standards for evaluating literature. Students study the language, character, action, and theme in works of recognized literary merit; enrich their understanding of connotation, metaphor, irony, syntax, and tone; and write compositions of their own (including literary analysis, exposition, argument, narrative, and creative writing).

**01007  IB Language A (English)**
IB Language A (English) courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors and written analyses of this literature in addition to other oral and written assignments. All course content is designed to improve students' accuracy and fluency in the English language.

**01008  English as a Second Language**
English as a Second Language (ESL) courses are designed for the rapid mastery of the English language, focusing on reading, writing, speaking, and listening skills. ESL courses usually begin with extensive listening and speaking practice, building on auditory and oral skills, and then move on to reading and writing. These courses provide an explanation of basic structures of the English language, enabling students to progress from an elementary understanding of English words and verb tenses to a more comprehensive grasp of various formal and informal styles and then to advance to "regular" English courses. ESL classes may also include an orientation to the customs and culture of the diverse population in the United States.

**01009  Language Arts Laboratory**
Language Arts Laboratory courses provide instruction in basic language skills, integrating reading, writing, speaking, and listening, while placing great emphasis on the progress of individual students. Course content depends upon students' abilities and may include vocabulary building, improving spelling and grammar, developing writing and composition skills, reading silently or aloud, and improving listening and comprehension abilities.

## Literature/Reading

**01051  English/Literature (freshmen and sophomores)**
English/Literature (freshmen and sophomores) courses are designed for freshmen and/or sophomores and typically introduce them to two or more genres of literature (novel, short story, poetry, and so on). Exploration of each genre's literary elements; determination of theme and intent; and examination of vocabulary and semantics are often included in the course content. Writing assignments are required as an additional method to improve understanding and comprehension.

**01052  English/Literature (juniors and seniors)**

English/Literature (juniors and seniors) courses are designed for juniors and/or seniors and emphasize comprehension, discernment, and critical-thinking skills in the reading of texts and literature. These courses introduce and explore more advanced literary techniques (irony, satire, humor, connotation, tone, rhythm, symbolism, and so on) through two or more literary genres, with the aim of creating sophisticated readers. Writing assignments are required as an additional method to develop and improve critical-thinking and analytic skills.

**01053  Literature**

Literature courses offer the opportunity for students to study and reflect upon the themes presented in the body of literature being presented. Students improve their critical-thinking skills as they determine the underlying assumptions and values within the reading selection and as they understand how the work reflects society's problems and culture. Oral discussion is an integral part of literature courses, and written compositions are often required. Literature courses may survey representative works, reflect a particular genre or a specific theme, or survey works of a particular time or people.

**01054  American Literature**

American Literature courses focus upon commonly known American authors and their work. Students improve their critical-thinking skills as they determine the underlying assumptions and values within the selected works and as they understand how the literature reflects the society of the time. Oral discussion is an integral part of literature courses, and written compositions are often required.

**01055  American Literature/History**

American Literature/History courses integrate the study of American literature with an overview of U.S. history. These courses may also include other aspects of American culture, such as art or music. A two-year sequence or two-period per day class may be required to cover the same objectives as would be covered separately in U.S. History Overview and American Literature.

**01056  British Literature**

British Literature courses may provide a survey of British literature or may focus on a selected timeframe of England's history. Students improve their critical-thinking skills as they determine the underlying assumptions and values within the selected works and as they understand how the literature reflects the society of the time. Oral discussion is an integral part of literature courses, and written compositions are often required.

**01057  British Literature/History**

British Literature/History courses integrate the study of British literature with an overview of the history of England. These courses may also include other aspects of British culture, such as art or music. A two-year sequence or two-period per day class may be required to cover the same objectives as would be covered separately in English History Overview and British Literature.

**01058  World Literature**
World Literature courses use representative literature selections from ancient and/or modern times from countries around the world. Students improve their critical-thinking skills as they comprehend the diversity of literary traditions and the influences of those traditions. Oral discussion is an integral part of literature courses, and written compositions are often required.

**01059  Biblical Literature**
Biblical Literature courses have the same aim as general literature courses (to improve students' language arts and critical-thinking skills), focusing on the books of the Bible. Students may compare techniques, styles, and themes of the various books; examine the Bible's influence on secular literature; and may study historical events of Biblical times. Oral discussion is an integral part of these courses, and written compositions are often required.

**01060  Literature of an Author**
These courses have the same aim as general literature courses (to improve students' language arts and critical-thinking skills), focusing on a particular author and his or her work. Students determine the underlying assumptions and values within the selected works; compare techniques, styles, and themes of the author; and reflect upon the time period in which the author lived. Oral discussion is an integral part of literature courses, and written compositions are often required.

**01061  Literature of a Genre**
These courses have the same aim as general literature courses (to improve students' language arts and critical-thinking skills), focusing on one or several genres, such as poetry, essay, biography, short story, drama, and so on. Students determine the underlying assumptions and values within the selected works and also examine the structure, techniques, and intentions of the genre being studied. Oral discussion is an integral part of these genre-oriented courses, and written compositions are often required.

**01062  Literature of a Period**
These courses have the same aim as general literature courses (to improve students' language arts and critical-thinking skills), focusing on the literature written during or reflecting a particular time period (such as the French Revolution, the 1960s, or the 20th century). Students determine the underlying assumptions and values within the selected works, reflect upon the influence of societal events and social attitudes, and compare the points of view of various authors. Oral discussion is an integral part of literature courses, and written compositions are often required.

**01063  Literature of a Place**
These courses have the same aim as general literature courses (to improve students' language arts and critical-thinking skills), focusing on a particular geographic region. Students determine the underlying assumptions and values within the selected works; study how the literature reflects the land, society, and history of the region; and may study the influence of this literature on others. Oral discussion is an integral part of literature courses, and written compositions are often required.

**01064  Literature of a People**

These courses have the same aim as general literature courses (to improve students' language arts and critical-thinking skills), but use literature written by authors who share a particular characteristic such as religion, culture, or gender. Students determine the underlying assumptions and values within the selected works, reflect upon the influence of a common characteristic, and compare the points of view of various authors. Oral discussion is an integral part of literature courses, and written compositions are often required.

**01065  Literature of a Theme**

These courses have the same aim as general literature courses (to improve students' language arts and critical-thinking skills), but use selected literature to explore a particular theme as expressed from several points of view. Such themes might include The American Dream, Society and Self, Exploration, War and Peace, and the like.

**01066  Strategic Reading**

Strategic Reading courses are intended to improve a student's vocabulary, critical-thinking and analysis skills, or reading rate and comprehension level. Although these courses typically emphasize works of fiction, they may also include works of nonfiction (including textbooks). Strategic Reading courses often have a time-management focus, offering strategies for note-taking or for understanding and evaluating the important points of a text.

**01067  Assisted Reading**

Assisted Reading courses offer students the opportunity to focus on their reading skills. Assistance is targeted to students' particular weaknesses and is designed to bring students' reading comprehension up to the desired level or to develop strategies to read more efficiently.

**01068  Corrective Reading**

Corrective Reading courses offer diagnostic and remedial activities designed to correct reading difficulties and habits that interfere with students' progress in developing reading skills and understandings. Activities are chosen to increase or improve students' reading comprehension, reading technique, and general literacy skills.

**01097  Literature—Independent Study**

Courses in Literature—Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to literature. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**01098  Literature—Workplace Experience**
        Literature—Workplace Experience courses provide work experience in a field related to English literature. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**01099  Literature—Other**


## Composition/Writing

**01101  English/Composition (freshmen and sophomores)**
        English/Composition (freshmen and sophomores) courses are designed for freshmen and/or sophomores and build upon previous writing skills. These courses seek to develop the writing processes and practices necessary for producing successful high school compositions. Students typically learn to write persuasive, critical, and creative multi-paragraph essays and compositions. While emphasizing composition, these courses may also incorporate some literature study to expose students to exemplary illustrations of various forms of writing.


**01102  English/Composition (juniors and seniors)**
        English/Composition (juniors and seniors) courses are designed for juniors and/or seniors and build upon previous writing skills. Reinforcing the logic and critical-thinking skills that accompany good writing, these courses—which emphasize word choice, usage, and writing mechanics—provide continued and advanced instruction in writing for a variety of purposes and audiences. English/Composition (juniors and seniors) courses may emphasize college or business preparation; literature study may be offered as an additional component in which students analyze examples of several genres.


**01103  Composition**
        Composition courses focus on students' writing skills and develop their ability to compose different types of papers for a range of purposes and audiences. These courses enable students to explore and practice descriptive, narrative, persuasive, or expositive styles as they write paragraphs, essays, letters, applications, formal documented papers, or technical reports. Although composition courses may present some opportunities for creative writing, their focus usually remains on nonfiction, scholarly, or formal writing.


**01104  Creative Writing**
        Creative Writing courses offer students the opportunity to develop and improve their technique and individual style in poetry, short story, drama, essays, and other forms of prose. The emphasis of the courses is on writing; however, students may study exemplary representations and authors to obtain a fuller appreciation of the form and craft. Although most creative writing classes cover several expressive forms, others concentrate exclusively on one particular form (such as poetry or playwriting).

**01105  Research/Technical Writing**

Research/Technical Writing classes prepare students to write research papers and/or technical reports. These classes emphasize researching (primary and secondary sources), organizing (material, thoughts, and arguments), and writing in a persuasive or technical style.

**01147  Composition—Independent Study**

Composition—Independent study, often conducted with instructors as mentors, allow students to explore particular topics within the field of language arts (emphasizing composition). Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**01148  Composition—Workplace Experience**

Composition—Workplace Experience courses provide work experience in a field related to English composition. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**01149  Composition—Other**

## Speech and Communication

**01151  Public Speaking**

Public Speaking courses enable students, through practice, to develop communication skills that can be used in a variety of speaking situations (such as small and large group discussions, delivery of lectures or speeches in front of audiences, and so on). Course topics may include (but are not limited to) research and organization, writing for verbal delivery, stylistic choices, visual and presentation skills, analysis and critique, and development of self-confidence.

**01152  Forensic Speech—Inclusive**

Forensic Speech—Inclusive courses offer students the opportunity to learn how to use oral skills effectively in formal and informal situations. Students learn such skills as logic and reasoning, the organization of thought and supporting materials, and effective presentation of one's voice and body. Often linked to an extracurricular program, these courses introduce students to numerous public speaking situations, and they learn the methods, aims, and styles of a variety of events (e.g., formal debate, Lincoln-Douglas debate, expository speaking, radio broadcast, oral interpretation, and dramatic interpretation). Participation in competition is encouraged, but not always required.

**01153  Forensic Speech—Debate**

Forensic Speech—Debate courses offer students the opportunity to learn how to use oral skills in formal and informal situations. In these courses, students are able to develop such skills as logic and reasoning, research and analysis, organization of thought and supporting materials, argumentative style and skill, and effective presentation of one's voice and body. Often linked to an extracurricular program, these courses introduce students to the methods, aims, and styles used in various kinds of debates (formal debate or Lincoln-Douglas). Participation in competition is encouraged, but not always required.

**01154  Forensic Speech—Individual Event**

Forensic Speech—Individual Event courses offer students the opportunity to learn how to use oral skills in formal and informal situations. Topics included depend upon the event(s) being taught, but they usually emphasize effective presentation of one's voice and body, thoughtful understanding and interpretation of literature, logic and reasoning, and the organization of thought and supporting materials. Often linked to an extracurricular program, these courses introduce students to one or several individual event categories (e.g., exposition, oral interpretation, dramatic interpretation, and radio broadcast). Participation in competition is encouraged, but not always required.

**01155  Communications**

Communications courses focus on the application of written and oral communication skills through a variety of formal and informal experiences. The courses are performance-based and emphasize effective interpersonal and team-building skills. Communications courses may also involve the study of how interpersonal communications are affected by stereotypes, nonverbal cues, vocabulary, and stylistic choices.

**01156  Applied English and Communications**

Applied English and Communications courses teach students communication skills—reading, writing, listening, speaking—concentrating on "real-world" applications. These courses usually emphasize the practical application of communication as a business tool—using technical reports and manuals, business letters, resumes, and applications as examples—rather than emphasize language arts skills as applied to scholarly and literary materials.

**01197  Speech—Independent Study**

English Language and Literature—Independent study courses, often conducted with instructors as mentors, allow students to explore particular topics within the field of language arts (emphasizing speech). Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**01198  Speech—Workplace Experience**

Speech—Workplace Experience courses provide work experience in a field related to public speaking and speech. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**01199  Speech—Other**

## Linguistics

**01201  English Morphology and Grammar**

English Morphology and Grammar courses involve the study of the English language—its roots and derivations, structure and sentence patterns, dialects, writing and spelling systems, and uses as a communication tool.

**01202  History of the English Language**

History of the English Language courses trace the development of English, concentrating on historical and cultural influences and how the language has changed over time. Although language roots, structures, and dialects may be examined, the emphasis remains on the process of language development rather than on morphology.

**01203  English—Test Preparation**

English—Test preparation courses provide students with activities in analytical thinking and with the skills and strategies associated with standardized test taking. Topics covered include vocabulary, reading comprehension, and writing strategies, as well as time management, scoring procedures, and dealing with stress. Course materials may include ACT, SAT and PSAT review materials, current assessment software programs, and previous standardized examinations.

## All Others

**01992  English Proficiency Development**

English Proficiency Development courses are designed to assist students in acquiring the skills necessary to pass proficiency examinations.

**01995  English Language and Literature—Aide**

English Language and Literature—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**01997  English Language and Literature—Independent Study**

English Language and Literature—Independent study courses, often conducted with instructors as mentors, allow students to explore particular topics within the field of language arts. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.


**01998  English Language and Literature—Workplace Experience**

English Language and Literature—Workplace Experience courses provide students with work experience in a field related to English language or literature. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**01999  English Language and Literature—Other**

## Subject Area 2: Mathematics (secondary)

## Foundation Mathematics

### 02001  Informal Mathematics

Informal Mathematics courses emphasize the teaching of mathematics as problem solving, communication, and reasoning, and highlight the connections among mathematical topics and between mathematics and other disciplines. These courses approach the teaching of general math, pre-algebra, and pre-geometry topics by applying numbers, and algebraic and geometric concepts and relationships to real world problems.

### 02002  General Math

General Math courses reinforce and expand students' foundational math skills, such as arithmetic operations using rational numbers; area, perimeter, and volume of geometric figures, congruence and similarity, angle relationships, the Pythagorean theorem, the rectangular coordinate system, sets and logic, ratio and proportion, estimation, formulas, solving and graphing simple equations and inequalities.

### 02003  Particular Topics in Foundation Math

These courses examine particular topics in Foundation math, such as arithmetic or basic conceptual skills, rather than provide a general overview.

### 02047  Foundation Math—Independent Study

Foundation Math—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to foundation mathematics. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

### 02049  Foundation Math—Other

## Pure Mathematics

### 02051  Pre-Algebra

Pre-Algebra courses increase students' foundational math skills and prepare them for Algebra I by covering a variety of topics, such as properties of rational numbers (i.e., number theory), ratio, proportion, estimation, exponents and radicals, the rectangular coordinate system, sets and logic, formulas, and solving first-degree equations and inequalities.

**02052  Algebra I**

Algebra I courses include the study of properties and operations of the real number system; evaluating rational algebraic expressions; solving and graphing first degree equations and inequalities; translating word problems into equations; operations with and factoring of polynomials; and solving simple quadratic equations.

**02053  Algebra I—Part 1**

The first part in a multi-part sequence of Algebra I. This course generally covers the same topics as the first semester of Algebra I, including the study of properties of rational numbers (i.e., number theory), ratio, proportion, and estimation, exponents and radicals, the rectangular coordinate system, sets and logic, formulas, and solving first degree equations and inequalities.

**02054  Algebra I—Part 2**

The second part in a multi-part sequence of Algebra I. This course generally covers the same topics as the second semester of Algebra I, including the study of properties of the real number system and operations, evaluating rational algebraic expressions, solving and graphing first degree equations and inequalities, translating word problems into equations, operations with and factoring of polynomials, and solving simple quadratics.

**02055  Transition Algebra**

Transition Algebra courses review and extend algebra and geometry concepts for students who have already taken Algebra I and Geometry. Transition Algebra courses include a review of such topics as properties and operations of real numbers; evaluation of rational algebraic expressions; solutions and graphs of first degree equations and inequalities; translation of word problems into equations; operations with and factoring of polynomials; simple quadratics; properties of plane and solid figures; rules of congruence and similarity; coordinate geometry including lines, segments, and circles in the coordinate plane; and angle measurement in triangles including trigonometric ratios.

**02056  Algebra II**

Algebra II course topics typically include field properties and theorems; set theory; operations with rational and irrational expressions; factoring of rational expressions; in-depth study of linear equations and inequalities; quadratic equations; solving systems of linear and quadratic equations; graphing of constant, linear, and quadratic equations; properties of higher degree equations; and operations with rational and irrational exponents.

**02057  Algebra III**

Algebra III courses review and extend algebraic concepts for students who have already taken Algebra II. Course topics include (but are not limited to) operations with rational and irrational expressions, factoring of rational expressions, linear equations and inequalities, quadratic equations, solving systems of linear and quadratic equations, properties of higher degree equations, and operations with rational and irrational exponents. The courses may introduce topics in discrete math, elementary probability and statistics; matrices and determinants; and sequences and series.

**02058  Particular Topics in Algebra**

These courses examine a specific topic in algebra, such as linear equations or rational numbers, rather than provide an overview of algebra concepts.


**02061  Integrated Math—multi-year equivalent**

Integrated Math courses emphasize the teaching of mathematics as problem solving, communication, and reasoning, and emphasize the connections among mathematical topics and between mathematics and other disciplines. The multi-period sequence of Integrated Math replaces the traditional Algebra I, Geometry, Algebra II sequence of courses, and usually covers the following topics during a three- or four-year sequence: algebra, functions, geometry from both a synthetic and an algebraic perspective, trigonometry, statistics and probability, discrete mathematics, the conceptual underpinnings of calculus, and mathematical structure.


**02069  Algebra—Other**


**02071  Informal Geometry**

Informal Geometry courses emphasize a practical approach to the study of geometry and de-emphasize an abstract, formal approach. Topics typically include properties of and work with plane and solid figures; inductive methods of reasoning and use of logic; concepts of congruence, similarity, parallelism, perpendicularity, and proportion; and rules of angle measurement in triangles.


**02072  Geometry**

Geometry courses, emphasizing an abstract, formal approach to the study of geometry, typically include topics such as properties of plane and solid figures; deductive methods of reasoning and use of logic; geometry as an axiomatic system including the study of postulates, theorems, and formal proofs; concepts of congruence, similarity, parallelism, perpendicularity, and proportion; and rules of angle measurement in triangles.


**02073  Analytic Geometry**

Analytic Geometry courses include the study of the nature and intersection of lines and planes in space, including vectors, the polar coordinate system, equations and graphs of conic sections, rotations and transformations, and parametric equations.


**02074  Principles of Algebra and Geometry**

Principles of Algebra and Geometry courses combine the study of some pre-algebra and algebra topics with introductory geometry topics. These courses include the study of formulas, algebraic expressions, first degree equations and inequalities, the rectangular coordinate system, area, perimeter, and volume of geometric figures, and properties of triangles and circles.

**02075  Particular Topics in Geometry**
These courses examine specific topics in geometry, such as solid or technical geometry, rather than provide a general study of the field of geometry.

**02079  Geometry—Other**

**02101  Number Theory**
Number Theory courses review the properties and uses of integers and prime numbers, and extend this information to congruences and divisibility.

**02102  Discrete Mathematics**
Discrete Mathematics courses include the study of topics such as number theory, discrete probability, set theory, symbolic logic, Boolean algebra, combinatorics, recursion, basic algebraic structures and graph theory.

**02103  Trigonometry**
Trigonometry courses prepare students for eventual work in calculus and typically include the following topics: trigonometric and circular functions; their inverses and graphs; relations among the parts of a triangle; trigonometric identities and equations; solutions of right and oblique triangles; and complex numbers.

**02104  Math Analysis**
Math Analysis courses include the study of polynomial, logarithmic, exponential, and rational functions and their graphs; vectors; set theory; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; and limits and continuity. They may also include some study of trigonometry and/or pre-calculus topics.

**02105  Trigonometry/Math Analysis**
Covering topics of both Trigonometry and Math Analysis, these courses prepare students for eventual work in calculus. Topics typically include the study of right trigonometric and circular functions, inverses, and graphs; trigonometric identities and equations; solutions of right and oblique triangles; complex numbers; numerical tables; polynomial, logarithmic, exponential, and rational functions and their graphs; vectors; set theory; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; and limits and continuity.

**02106  Trigonometry/Algebra**
      Trigonometry/Algebra courses combine trigonometry and advanced algebra topics, and are usually intended for students who have attained Algebra I and Geometry objectives. Topics typically include right trigonometric and circular functions, inverses, and graphs; trigonometric identities and equations; solutions of right and oblique triangles; complex numbers; numerical tables; field properties and theorems; set theory; operations with rational and irrational expressions; factoring of rational expressions; in-depth study of linear equations and inequalities; quadratic equations; solving systems of linear and quadratic equations; graphing of constant, linear, and quadratic equations; and properties of higher degree equations.

**02107  Trigonometry/Analytic Geometry**
      Covering topics of both Trigonometry and Analytic Geometry, these courses prepare students for eventual work in calculus. Topics typically include the study of right trigonometric and circular functions, inverses, and graphs; trigonometric identities and equations; solutions of right and oblique triangles; complex numbers; numerical tables; vectors; the polar coordinate system; equations and graphs of conic sections; rotations and transformations; and parametric equations.

**02108  Math Analysis/Analytic Geometry**
      Covering topics from both Math Analysis and Analytic Geometry, these courses prepare students for eventual work in calculus. Topics include the study of polynomial, logarithmic, exponential, and rational functions and their graphs; vectors; set theory; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; and limits and continuity; the polar coordinate system; equations and graphs of conic sections; rotations and transformations; and parametric equations.

**02109  Elementary Functions**
      Elementary Functions courses, while preparing students for eventual work in calculus, include the study of relations and functions, including polynomial, logarithmic, exponential, rational, right trigonometric, and circular functions, and their inverses, graphs, and applications.

**02110  Pre-Calculus**
      Pre-Calculus courses combine the study of Trigonometry, Elementary Functions, Analytic Geometry, and Math Analysis topics as preparation for calculus. Topics typically include the study of complex numbers; polynomial, logarithmic, exponential, rational, right trigonometric, and circular functions, and their relations, inverses and graphs; trigonometric identities and equations; solutions of right and oblique triangles; vectors; the polar coordinate system; conic sections; Boolean algebra and symbolic logic; mathematical induction; matrix algebra; sequences and series; and limits and continuity.

**02111  Linear Algebra**
      Linear Algebra courses include a study of matrices, vectors, tensors, and linear transformations and are typically intended for students who have attained pre-calculus objectives.

**02112  Linear Programming**
Linear Programming courses include a study of mathematical modeling and the simplex method to solve linear inequalities and are typically intended for students who have attained pre-calculus objectives.


**02113  Abstract Algebra**
Abstract Algebra courses include a study of the properties of the number system from an abstract perspective, including such topics as number fields (i.e., rational, real, and complex numbers), integral domains, rings, groups, polynomials, and the fundamental theorem of algebra. Abstract Algebra is typically geared towards students who have attained pre-calculus objectives.


**02121  Calculus**
Calculus courses include the study of derivatives, differentiation, integration, the definite and indefinite integral, and applications of calculus. Typically, students have previously attained knowledge of pre-calculus topics (some combination of trigonometry, elementary functions, analytic geometry, and math analysis).


**02122  Multivariate Calculus**
Multivariate Calculus courses include the study of hyperbolic functions, improper integrals, directional directives, and multiple integration and its applications.


**02123  Differential Calculus**
Differential Calculus courses include the study of elementary differential equations including first- and higher-order differential equations, partial differential equations, linear equations, systems of linear equations, transformations, series solutions, numerical methods, boundary value problems, and existence theorems.


**02124  AP Calculus AB**
Following the College Board's suggested curriculum designed to parallel college-level calculus courses, AP Calculus AB provides students with an intuitive understanding of the concepts of calculus and experience with its methods and applications. These courses introduce calculus and include the following topics: elementary functions; properties of functions and their graphs; limits and continuity; differential calculus (including definition of the derivative, derivative formulas, theorems about derivatives, geometric applications, optimization problems, and rate-of-change problems); and integral calculus (including antiderivatives and the definite integral).

**02125  AP Calculus BC**

       Following the College Board's suggested curriculum designed to parallel college-level calculus courses, AP Calculus BC courses provide students with an intuitive understanding of the concepts of calculus and experience with its methods and applications, and also require additional knowledge of the theoretical tools of calculus. These courses assume a thorough knowledge of elementary functions, and cover all of the calculus topics in AP Calculus AB as well as the following topics: vector functions, parametric equations, and polar coordinates; rigorous definitions of finite and nonexistent limits; derivatives of vector functions and parametrically defined functions; advanced techniques of integration and advanced applications of the definite integral; and sequences and series.

**02126  Particular Topics in Calculus**

       These courses examine specific topics in calculus (such as integral calculus, special functions or series, or the applications of calculus to mathematical modeling), rather than provide a general overview of calculus.

**02131  IB Mathematical Studies**

       IB Mathematical Studies courses prepare students to take the International Baccalaureate Mathematical Studies exam at the Subsidiary or Higher level. Intended to provide students with the skills to cope with the mathematical demands of a technological society, course topics include linear, quadratic, and exponential functions, solutions, and graphs; skills in computation, estimation, and development of algorithms; data analysis, including collection, calculation, and presentation of statistics; set operations and logic; business techniques, including progressions and linear programming; and geometry and trigonometry.

**02132  IB Mathematics**

       IB Mathematics courses prepare students to take the International Baccalaureate Mathematics exams at the Subsidiary or Higher level. Topics include operations and properties of number sets; trigonometric functions, equations, and graphs; algebra and coordinate geometry; simultaneous linear equations; polynomial and quadratic functions and equations; calculus, including bilinear, exponential and logarithmic functions; two dimensional vectors and matrices; and probability.

**02133  IB Mathematics and Computing—SL**

       IB Mathematics and Computing—SL courses prepare students to take the International Baccalaureate Mathematics and Computing exam at the Subsidiary level. Designed to give students a working knowledge of a high level programming language and sound mathematical training, course topics include operations and properties of number sets; trigonometric functions, equations, and graphs; algebra and coordinate geometry, including simultaneous linear equations, binomial theorem, and polynomial and quadratic functions and equations; calculus; vectors and matrices; and numerical analysis. The courses also contain components on computer problem solving and programming; topics regarding computer hardware, software, modes of operation, and data types and structures.

**02134  IB Further Mathematics—SL**

IB Further Mathematics—SL courses prepare students to take the International Baccalaureate Further Mathematics at the Subsidiary level. Designed to advance students knowledge of IB mathematics—HL, course topics include geometry; statistics and probability; sets, relations and groups; series and differential equations; and discrete mathematics.

**02141  Particular Topics in Analytic Mathematics**

These courses examine particular topics in analytic mathematics (such as mathematical proofs and structures or numerical analysis), not otherwise described above.

**02149  Analytic Mathematics—Other**

## Applied Mathematics

**02151  General Applied Math**

General Applied Math courses reinforce general math skills, extend these skills to include some pre-algebra and algebra topics, and use these skills in a variety of practical, consumer, business, and occupational applications. Course topics typically include rational numbers, measurement, basic statistics, ratio and proportion, basic geometry, formulas, and simple equations.

**02152  Occupationally Applied Math**

Occupationally Applied Math courses reinforce general math skills, extend these skills to include some pre-algebra and algebra topics, and use these skills primarily in occupational applications. Course topics typically include rational numbers, measurement, basic statistics, ratio and proportion, basic geometry, formulas, and simple equations.

**02153  Technical Math**

Technical Math courses extend students' proficiency in mathematics, and often apply these skills to technical and/or industrial situations and problems. Technical Math topics may include but are not limited to rational numbers, systems of measurements, tolerances, numerical languages, geometry, algebra, statistics, and using tables, graphs, charts, and other data displays. Technology is integrated as appropriate.

**02154  Business Math**

Business Math courses reinforce general math skills, emphasize speed and accuracy in computations, and use these skills in a variety of business applications. Business Math courses reinforce general math topics (e.g., arithmetic, measurement, statistics, ratio and proportion, exponents, formulas, and simple equations) by applying these skills to business problems and situations; applications might include wages, hourly rates, payroll deductions, sales, receipts, accounts payable and receivable, financial reports, discounts, and interest.

**02155  Business Math with Algebra**
  Business Math with Algebra courses teach and have students apply algebra concepts to a variety of business and financial situations. Applications usually include income, insurance, credit, banking, taxation, stocks and bonds, and finance.


**02156  Computer Math with Algebra**
  Intended for students who have attained the objectives of Algebra I, Computer Math—Algebra I level courses include a study of computer systems and programming, and use the computer to solve math problems.


**02157  Consumer Math**
  Consumer Math courses reinforce general math topics (such as arithmetic using rational numbers, measurement, ratio and proportion, and basic statistics) and apply these skills to consumer problems and situations. Applications typically include budgeting, taxation, credit, banking services, insurance, buying and selling products and services, home and/or car ownership and rental, managing personal income, and investment.


## Probability and Statistics

**02201  Probability and Statistics**
  Probability and Statistics courses introduce the study of likely events and the analysis, interpretation, and presentation of quantitative data. Course topics generally include basic probability and statistics: discrete probability theory, odds and probabilities, probability trees, populations and samples, frequency tables, measures of central tendency, and presentation of data (including graphs). Course topics may also include normal distribution and measures of variability.


**02202  Inferential Probability and Statistics**
  Probability and Statistics courses focus on descriptive statistics, with an introduction to inferential statistics. Topics typically include event probability, normal probability distribution, collection and description of data, frequency tables and graphs, measures of central tendency and variability, random variables, and random sampling. Course topics may also include covariance and correlation, central limit theorem, confidence intervals, and hypothesis testing.


**02203  AP Statistics**
  Following the College Board's suggested curriculum designed to parallel college-level statistics courses, AP Statistics courses introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes: exploring data, sampling and experimentation, anticipating patterns, and statistical inference.

**02204  Particular Topics in Probability and Statistics**

These courses examine particular topics in Probability and Statistics, such as regression or hierarchical linear modeling, rather than provide a general overview.

**02207  Probability and Statistics—Independent Study**

Probability and Statistics—Independent Study courses, often conducted with instructors as mentors, enable students to explore mathematics topics of interest. These courses may be offered in conjunction with other rigorous math courses, or may serve as an opportunity to explore a topic of special interest. They may also serve as an opportunity to study for AP exams if the school does not offer specific courses for that endeavor.

**02209  Probability and Statistics—Other**

## Other Mathematics

**02991  History of Math**

History of Math courses include a study of the historical development of numbers, computation, algebra, and geometry. Figures critical to the development of mathematics (e.g., Pythagoras, Pascal, Descartes) or important developments (e.g., pi, decimal fractions, probability theory, calculus) often form the backbone of these classes.

**02993  Mathematics—Test Preparation**

Mathematics—Test Preparation courses provide students with activities in analytical thinking and with the skills and strategies associated with standardized test taking (such as the PSAT, SAT, and ACT). Topics covered include strategies for arithmetic, algebra, geometry, and quantitative comparison problems as well as time management, scoring procedures and calculator usage.

**02994  Mathematics Proficiency Development**

Mathematics Proficiency Development courses are designed to assist students in acquiring the skills necessary to pass proficiency examinations.

**02995  Mathematics—Aide**

Mathematics—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course materials. Students may provide tutorial or instructional assistance to other students.

**02997  Mathematics—Independent Study**

   Mathematics—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to mathematics. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.


**02998  Mathematics—Workplace Experience**

   Mathematics—Workplace Experience courses provide students with work experience in a field related to mathematics. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**02999  Mathematics—Other**

# Subject Area 3: Life and Physical Sciences (secondary)

## Earth Science

**03001  Earth Science**
Earth Science courses offer insight into the environment on earth and the earth's environment in space. While presenting the concepts and principles essential to students' understanding of the dynamics and history of the earth, these courses usually explore oceanography, geology, astronomy, meteorology, and geography.

**03002  Geology**
Geology courses provide an in-depth study of the forces that formed and continue to affect the earth's surface. Earthquakes, volcanoes, and erosion are examples of topics that are presented.

**03003  Environmental Science**
Environmental Science courses examine the mutual relationships between organisms and their environment. In studying the interrelationships among plants, animals, and humans, these courses usually cover the following subjects: photosynthesis, recycling and regeneration, ecosystems, population and growth studies, pollution, and conservation of natural resources.

**03004  Astronomy**
Astronomy courses offer students the opportunity to study the solar system, stars, galaxies, and interstellar bodies. These courses usually introduce and use astronomic instruments and typically explore theories regarding the origin and evolution of the universe, space, and time.

**03005  Marine Science**
Courses in Marine Science focus on the content, features, and possibilities of the earth's oceans. They explore marine organisms, conditions, and ecology and sometimes cover marine mining, farming, and exploration.

**03006  Meteorology**
Meteorology courses examine the properties of the earth's atmosphere. Topics usually include atmospheric layering, changing pressures, winds, water vapor, air masses, fronts, temperature changes and weather forecasting.

**03007  Physical Geography**
Physical Geography courses equip students with an understanding of the constraints and possibilities that the physical environment places on human development. These courses include discussion of the physical landscape through geomorphology and topography, the patterns and processes of climate and weather, and natural resources.

**03008  Earth and Space Science**

      Earth and Space Science courses introduce students to the study of the earth from a local and global perspective. In these courses, students typically learn about time zones, latitude and longitude, atmosphere, weather, climate, matter, and energy transfer. Advanced topics often include the study of the use of remote sensing, computer visualization, and computer modeling to enable earth scientists to understand earth as a complex and changing planet.

**03047  Earth Science—Independent Study**

      Earth Science—Independent Study courses, often conducted with instructors as mentors, enable students to explore scientific topics of interest, using advanced methods of scientific inquiry and experimentation. These courses may be offered in conjunction with other rigorous science courses or may serve as an opportunity to explore a topic of special interest.

**03048  Earth Science—Workplace Experience**

      Earth Science—Workplace Experience courses provide work experience in a field related to earth science. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**03049  Earth Science—Other**

## Biology

**03051  Biology**

      Biology courses are designed to provide information regarding the fundamental concepts of life and life processes. These courses include (but are not restricted to) such topics as cell structure and function, general plant and animal physiology, genetics, and taxonomy.

**03052  Biology—Advanced Studies**

      Usually taken after a comprehensive initial study of biology, Biology—Advanced Studies courses cover biological systems in more detail. Topics that may be explored include cell organization, function, and reproduction; energy transformation; human anatomy and physiology; and the evolution and adaptation of organisms.

**03053  Anatomy and Physiology**

      Usually taken after a comprehensive initial study of biology, Anatomy and Physiology courses present the human body and biological systems in more detail. In order to understand the structure of the human body and its functions, students learn anatomical terminology, study cells and tissues, explore functional systems (skeletal, muscular, circulatory, respiratory, digestive, reproductive, nervous, and so on), and may dissect mammals.

**03054  Anatomy**

Anatomy courses present an in-depth study of the human body and biological system. Students study such topics as anatomical terminology, cells, and tissues and typically explore functional systems such as skeletal, muscular, circulatory, respiratory, digestive, reproductive, and nervous systems.

**03055  Physiology**

Physiology courses examine all major systems, tissues, and muscle groups in the human body to help students understand how these systems interact and their role in maintaining homeostasis. These courses may also cover such topics as cell structure and function, metabolism, and the human life cycle.

**03056  AP Biology**

Adhering to the curricula recommended by the College Board and designed to parallel college-level introductory biology courses, AP Biology courses stress basic facts and their synthesis into major biological concepts and themes. These courses cover three general areas: molecules and cells (including biological chemistry and energy transformation); genetics and evolution; and organisms and populations (i.e., taxonomy, plants, animals, and ecology). AP Biology courses include college-level laboratory experiments.

**03057  IB Biology**

IB Biology courses prepare students to take the International Baccalaureate Biology exams at either the Subsidiary or Higher level. In keeping with the general aim of IB Experimental Sciences courses, IB Biology promotes understanding of the facts, principles, and concepts underlying the biological field; critical analysis, evaluation, and generation of scientific information and hypotheses; improved ability to communicate scientific ideas; and an awareness of the impact of biology and scientific advances in biology upon both society and issues of ethical, philosophical, and political importance. Course content varies, but includes study of living organisms from the cellular level through functioning entities within the biosphere. Laboratory experimentation is an essential component of these courses.

**03058  Botany**

Botany courses provide students with an understanding of plants, their life cycles, and their evolutionary relationships.

**03059  Genetics**

Genetics courses provide students with an understanding of general concepts concerning genes, heredity, and variation of organisms. Course topics typically include chromosomes, the structure of DNA and RNA molecules, and dominant and recessive inheritance and may also include lethal alleles, epistasis and hypostasis, and polygenic inheritance.

**03060  Microbiology**

Microbiology courses provide students with a general understanding of microbes, prokaryotic and euaryotic cells, and the three domain systems. Additional topics covered may include bacterial control, cell structure, fungi, protozoa, viruses and immunity, microbial genetics, and metabolism.

**03061  Zoology**

Zoology courses provide students with an understanding of animals, the niche they occupy in their environment or habitat, their life cycles, and their evolutionary relationships to other organisms. These courses should also help students develop an awareness and understanding of biotic communities.

**03062  Conceptual Biology**

These courses provide students with a basic understanding of living things. Topics covered may include ecology and environmental problems such as overpopulation and pollution as well as cells, types of organisms, evolutionary behavior, and inheritance.

**03063  Particular Topics in Biology**

Particular Topics in Biology courses concentrate on a particular subtopic within the field of biology (such as botany, zoology, genetics, and so on) that is not otherwise described within this classification system.

**03097  Biology—Independent Study**

Biology—Independent Study courses, often conducted with instructors as mentors, enable students to explore scientific topics of interest, using advanced methods of scientific inquiry and experimentation. These courses may be offered in conjunction with other rigorous science courses or may serve as an opportunity for students to explore a topic of special interest.

**03098  Biology—Workplace Experience**

Biology—Workplace Experience courses provide work experience in a field related to biology. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**03099  Biology—Other**

## Chemistry

### 03101  Chemistry
Chemistry courses involve studying the composition, properties, and reactions of substances. These courses typically explore such concepts as the behaviors of solids, liquids, and gases; acid/base and oxidation/reduction reactions; and atomic structure. Chemical formulas and equations and nuclear reactions are also studied.

### 03102  Chemistry—Advanced Studies
Usually taken after a comprehensive initial study of chemistry, Chemistry—Advanced Studies courses cover chemical properties and interactions in more detail. Advanced chemistry topics include organic chemistry, thermodynamics, electrochemistry, macromolecules, kinetic theory, and nuclear chemistry.

### 03103  Organic Chemistry
Organic Chemistry courses involve the study of organic molecules and functional groups. Topics covered may include nomenclature, bonding molecular structure and reactivity, reaction mechanisms, and current spectroscopic techniques.

### 03104  Physical Chemistry
Usually taken after completing a calculus course, Physical Chemistry courses cover chemical kinetics, quantum mechanics, molecular structure, molecular spectroscopy, and statistical mechanics.

### 03105  Conceptual Chemistry
Conceptual Chemistry courses are practical, nonquantitative chemistry courses designed for students who desire an understanding of chemical concepts and applications.

### 03106  AP Chemistry
Following the curricula recommended by the College Board, AP Chemistry courses usually follow high school chemistry and second-year algebra. Topics covered may include atomic theory and structure; chemical bonding; nuclear chemistry; states of matter; and reactions (stoichiometry, equilibrium, kinetics, and thermodynamics). AP Chemistry laboratories are equivalent to those of typical college courses.

**03107  IB Chemistry**

     IB Chemistry courses prepare students to take the International Baccalaureate Chemistry exams at either the Subsidiary or Higher level. In keeping with the general aim of IB Experimental Sciences courses, IB Chemistry promotes understanding of the facts, patterns, and principles underlying the field of chemistry; critical analysis, evaluation, prediction, and generation of scientific information and hypotheses; improved ability to communicate scientific ideas; and an awareness of the impact of chemistry and scientific advances in chemistry upon both society and issues of ethical, philosophical, and political importance. Course content varies, but includes the study of the materials of the environment, their properties, and their interaction. Laboratory experimentation is an essential part of these courses.


**03108  Particular Topics in Chemistry**

     Particular Topics in Chemistry courses concentrate on a particular subtopic within the field of chemistry (such as chromatography and spectrometry) that is not otherwise described in this classification system.


**03147  Chemistry—Independent Study**

     Chemistry—Independent Study courses, often conducted with instructors as mentors, enable students to explore scientific topics of interest, using advanced methods of scientific inquiry and experimentation. These courses may be offered in conjunction with other rigorous science courses or may serve as an opportunity to explore a topic of special interest.


**03148  Chemistry—Workplace Experience**

     Chemistry—Workplace Experience courses provide work experience in a field related to chemistry. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**03149  Chemistry—Other**


## Physics

**03151  Physics**

     Physics courses involve the study of the forces and laws of nature affecting matter, such as equilibrium, motion, momentum, and the relationships between matter and energy. The study of physics includes examination of sound, light, and magnetic and electric phenomena.


**03152  Physics—Advanced Studies**

     Usually taken after a comprehensive initial study of physics, Physics—Advanced Studies courses provide instruction in laws of conservation, thermodynamics, and kinetics; wave and particle phenomena; electromagnetic fields; and fluid dynamics.

**03153  Principles of Technology**

Principles of Technology courses focus on the study of the forces and laws of nature and their application to modern technology. Equilibrium, motion, momentum, energy conversion, electromagnetism, and optical phenomena are presented in the context of current, real-world applications. Demonstrations, math labs, and applied laboratory experiments are an integral part of the Principles of Technology curriculum. These courses enable students to gain a solid foundation for careers in electronics, robotics, telecommunications, and other technological fields.

**03155  AP Physics B**

AP Physics B courses are designed by the College Board to parallel college-level physics courses that provide a systematic introduction to the main principles of physics and emphasize problem-solving without calculus. Course content includes mechanics, electricity and magnetism, modern physics, waves and optics, and kinetic theory and thermodynamics.

**03156  AP Physics C**

Designed by the College Board to parallel college-level physics courses that serve as a partial foundation for science or engineering majors, AP Physics C courses primarily focus on 1) mechanics and 2) electricity and magnetism, with approximately equal emphasis on these two areas. AP Physics C courses are more intensive and analytical than AP Physics B courses and require the use of calculus to solve the problems posed.

**03157  IB Physics**

IB Physics courses prepare students to take the International Baccalaureate Physics exams at either the Subsidiary or Higher level. In keeping with the general aim of IB Experimental Sciences courses, IB Physics promotes understanding of the facts, patterns, and principles underlying the field of physics; critical analysis, prediction, and application of scientific information and hypotheses; improved ability to communicate scientific ideas; and an awareness of the impact of scientific advances in physics upon both society and issues of ethical, philosophical, and political importance. Course content varies, but includes the study of the fundamental laws of nature and the interaction between concepts of matter, fields, waves, and energy. Laboratory experimentation is essential; calculus may be used in some courses.

**03159  Physical Science**

Physical Science courses involve study of the structures and states of matter. Typically (but not always) offered as introductory survey courses, they may include such topics as forms of energy, wave phenomenon, electromagnetism, and physical and chemical interactions.

**03160  IB Physical Science**

   IB Physical Science courses prepare students to take the International Baccalaureate Physical Science exams at either the Subsidiary or Higher level. These courses integrate the study of physics and chemistry, showing how the physical and chemical properties of materials can be explained and predicted in terms of atomic, molecular, and crystal structures and forces. In keeping with the general aim of IB Experimental Sciences courses, IB Physical Science courses promote critical analysis, prediction, and application of scientific information and hypotheses; improved ability to communicate scientific ideas; and an awareness of the impact of science and scientific advances upon both society and issues of ethical, philosophical, and political importance. Students are required to develop and pursue an individual, experimental project, which is evaluated as part of the IB exam.

**03161  Conceptual Physics**

   Conceptual Physics courses introduce students to the use of chemicals, characteristic properties of materials, and simple mechanics to better describe the world and nonliving matter. The courses emphasize precise measurements and descriptive analysis of experimental results. Topics covered may include energy and motion, electricity, magnetism, heat, the structure of matter, and how matter reacts to materials and forces.

**03162  Particular Topics in Physics**

   Particular Topics in Physics courses concentrate on a particular subtopic within the field of physics (such as optics, thermodynamics, quantum physics, and so on) that is not otherwise described in this classification system.

**03197  Physics—Independent Study**

   Physics—Independent Study courses, often conducted with instructors as mentors, enable students to explore scientific topics of interest, using advanced methods of scientific inquiry and experimentation. These courses may be offered in conjunction with other rigorous science courses or may provide students with an opportunity to explore a topic of special interest.

**03198  Physics—Workplace Experience**

   Physics—Workplace Experience courses provide work experience in a field related to physics. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**03199  Physics—Other**

## Integrated/Other

**03201  Integrated Science**

The specific content of Integrated Science courses varies, but they draw upon the principles of several scientific specialties—earth science, physical science, biology, chemistry, and physics—and organize the material around thematic units. Common themes covered include systems, models, energy, patterns, change, and constancy. These courses use appropriate aspects from each specialty to investigate applications of the theme.

**03202  Unified Science**

Unified Science courses combine more than one branch of science into a cohesive study or may integrate science with another discipline. General scientific concepts are explored, as are the principles underlying the scientific method and experimentation techniques.

**03203  Applied Biology/Chemistry**

Applied Biology/Chemistry courses integrate biology and chemistry into a unified domain of study and present the resulting body of knowledge in the context of work, home, society, and the environment, emphasizing field and laboratory activities. Topics include natural resources, water, air and other gases, nutrition, disease and wellness, plant growth and reproduction, life processes, microorganisms, synthetic materials, waste and waste management, and the community of life.

**03204  Technological Inquiry**

Technological Inquiry courses provide students with an understanding of the use of process skills as an integral part of scientific activity and technological development. Students learn how scientific phenomena are explained, measured, predicted, organized, and communicated.

**03205  Origins of Science**

Origins of Science courses explore the body of scientific knowledge and discoveries from an historical perspective, wherein students gain an understanding of how one discovery led to others or to entire revolutions of thought. In these courses, original experiments may be replicated, and students may study primary materials.

**03206  IB Design Technology**

IB Design Technology courses prepare students to take the International Baccalaureate Design Technology exams at either the Subsidiary or Higher level. In keeping with the general aim of IB Experimental Sciences courses, IB Design Technology courses promote understanding and use of the scientific method to solve problems using scientific information and production techniques. Practical/investigative work centers on the properties of materials, mechanisms, control circuits, and production techniques as they apply to constructing an artifact or developing skills and ideas useful in carrying out such a project.

**03207  AP Environmental Science**

      AP Environmental Science courses are designed by the College Board to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, identify and analyze environmental problems (both natural and human made), evaluate the relative risks associated with the problems, and examine alternative solutions for resolving and/or preventing them. Topics covered include science as a process, ecological processes and energy conversions, earth as an interconnected system, the impact of humans on natural systems, cultural and societal contexts of environmental problems, and the development of practices that will ensure sustainable systems.

**03208  IB Environmental Systems**

      IB Environmental Systems courses prepare students to take the International Baccalaureate Environmental Systems exam at the Standard level by providing them with the knowledge, methods, and techniques to understand the nature and functioning of natural systems, the relationships that affect environmental equilibrium, and human impact on the biosphere. Topics also include ecosystem integrity and sustainability, students' own relationships to the environment, and the nature of internationalism in resolving major environmental issues.

**03209  Aerospace**

      Aerospace courses explore the connection between meteorology, astronomy, and flight across and around the earth as well as into outer space. In addition to principles of meteorology (e.g., atmosphere, pressures, winds and jet streams) and astronomical concepts (e.g., solar system, stars, and interplanetary bodies), course topics typically include the history of aviation, principles of aeronautical decision-making, airplane systems, aerodynamics, and flight theory.

**03210  Science, Technology, and Society**

      Science, Technology, and Society courses encourage students to explore and understand the ways in which science and technology shape culture, values, and institutions and how such factors, in turn, shape science and technology. Topics covered may include how science and technology enter society and how they change as a result of social processes.

**03211  Technical Science**

      Technical Science courses introduce students to scientific tools and methods and provide an introduction to chemistry and physics. Topics covered typically include measurement conversion, model creation, use of scientific methods, interpretation of atoms, identification of the properties of common compounds, analysis of chemical equations, the impact of force on linear motion, and the study of various physical phenomena and forms of energy.

**03212  Scientific Research and Design**

   In Scientific Research and Design courses, students conceive of, design, and complete a project using scientific inquiry and experimentation methodologies. Emphasis is typically placed on safety issues, research protocols, controlling or manipulating variables, data analysis, and a coherent display of the project and its outcome(s).

**03994  Life and Physical Sciences—Proficiency Development**

   Life and Physical Sciences—Proficiency Development courses are designed to assist students in acquiring the skills necessary to pass proficiency examinations related to the life sciences and physical sciences.

**03995  Life and Physical Sciences—Aide**

   Life and Physical Sciences—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students and may serve as laboratory assistants.

**03997  Life and Physical Sciences—Independent Study**

   Life and Physical Sciences—Independent Study courses, often conducted with instructors as mentors, enable students to explore scientific topics of interest, using advanced methods of scientific inquiry and experimentation. These courses may be offered in conjunction with other rigorous science courses or may serve as an opportunity to explore a topic of special interest.

**03998  Life and Physical Sciences—Workplace Experience**

   Life and Physical Sciences—Workplace Experience courses provide work experience in a field related to life and/or physical science. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**03999  Life and Physical Sciences—Other**

# Subject Area 4: Social Sciences and History (secondary)

## Geography

**04001  World Geography**

World Geography courses provide students with an overview of world geography, but may vary widely in the topics they cover. Topics typically include the physical environment; the political landscape; the relationship between people and the land; economic production and development; and the movement of people, goods, and ideas.

**04002  Particular Topics in Geography**

Particular Topics in Geography courses examine a particular topic in geography, such as physical or cultural geography, or the geography of a particular area or region, rather than provide an overview of the field.

**04003  IB Geography**

IB Geography courses prepare students to take the International Baccalaureate Geography exams at either the Subsidiary or Higher level, and individual courses vary to reflect the different emphases of the exams (either human or physical geology and case study or fieldwork instruction). In general, however, IB Geography courses aim to help students understand the relationships within society, the relationships between society and the natural environment, and how those relationships change over time.

**04004  AP Human Geography**

Following the College Board's suggested curriculum designed to parallel college-level Human Geography courses, AP Human Geography introduces students to the systematic study of patterns and processes that have shaped the ways in which humans understand, use, and alter the earth's surface. Students use spatial concepts and landscape analysis to examine human social organization and its environmental consequences and also learn about the methods and tools geographers use in their science and practice.

**04047  Geography—Independent Study**

Geography—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within geography. Independent Study courses may provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic of special interest, or to develop more advanced skills.

**04048 Geography—Workplace Experience**

Geography—Workplace Experience courses provide work experience in a field related to geography. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**04049 Geography—Other**

## World History

**04051 World History—Overview**

World History—Overview courses provide students with an overview of the history of human society from early civilization to the contemporary period, examining political, economic, social, religious, military, scientific, and cultural developments. World History—Overview courses may include geographical studies, but often these components are not as explicitly taught as geography.

**04052 World History and Geography**

In addition to covering the objectives of World History—Overview courses, World History and Geography courses provide an overview of world geography. These courses are often developed in response to increased national concern regarding the importance of geography, and they explore geographical concepts.

**04053 Modern World History**

Modern World History courses provide an overview of the history of human society in the past few centuries—from the Renaissance period, or later, to the contemporary period—exploring political, economic, social, religious, military, scientific, and cultural developments.

**04054 IB History**

IB History courses prepare students to take the International Baccalaureate History exams at either the Subsidiary or Higher level. In these courses, students study political, military, economic, social, and cultural trends and explore the nature of historical documentation and the methods used by historians. IB History courses survey 20th-century topics in an international context; provide a detailed regional study of a major area (Africa, Europe, the Americas, West and South Asia, East and Southeast Asia, or Australia); and enable students to undertake individual study on a subject of interest in greater detail and depth.

**04055 Modern European History**

Modern European History courses examine the development of political, social, and economic movements in Europe over the past few centuries (from the Renaissance period, or later, to the contemporary period) and usually include such topics as the rise of the modern nation state, scientific and industrial revolutions, the age of exploration and nationalism, imperialism, and world war.

**04056  AP European History**

Following the College Board's suggested curriculum designed to parallel college-level European History courses, AP European History courses examine European civilization from the High Renaissance period to the recent past and also expose students to the factual narrative. In addition, these courses help students develop an understanding of some of the principal themes in modern European history and the abilities to analyze historical evidence and to express that understanding and analysis in writing.

**04057  AP World History**

Following the College Board's suggested curriculum designed to parallel college-level World History courses, AP World History courses examine world history from 8000 BCE to the present with the aim of helping students develop a greater understanding of the evolution of global processes and contracts and how different human societies have interacted. These courses highlight the nature of changes in an international context and explore their causes and continuity.

**04058  Ancient Civilizations**

Ancient Civilizations courses provide a survey of the evolution of society from the ancient Middle East through Greek and Roman civilizations. Typically, in these courses, students study the rise and fall of civilizations and empires, with an emphasis on the legacies they provide to successive societies.

**04059  Medieval European History**

Medieval European History courses provide a survey of European civilization from the fall of Rome through the late Middle Ages.

**04060  Ancient and Medieval History**

Ancient and Medieval History courses combine a study of ancient civilizations and Medieval Europe, beginning with the civilizations of the ancient Middle East and continuing through the late Middle Ages in Europe.

**04061  World Area Studies**

World Area Studies courses examine the history, politics, economics, society, and/or culture of one or more regions of the world, such as Africa, Latin America, the former Soviet Union, Far East Asia, and the Middle East. These courses may focus primarily on the history of a particular region or may take an interdisciplinary approach to the contemporary issues affecting the region. Furthermore, these courses may emphasize one particular country (other than the United States), rather than emphasizing a region or continent.

**04062  World People Studies**

World People Studies courses allow students to study various types of subgroups that have something in common such as religion, gender, or culture. Similar in style to World Area Studies, but focusing on a group of people rather than on a specific region, these courses examine a subgroup's history, politics, economics, and/or culture.


**04063  Western Civilization**

Western Civilization courses apply an interdisciplinary approach to the study of western cultural traditions, frequently using a chronological framework. Course content typically includes a survey of the major developments in and contributors to art and architecture, literature, religion and philosophy, and culture. These courses may also cover intellectual and political movements.


**04064  Contemporary World Issues**

Contemporary World Issues courses enable students to study political, economic, and social issues facing the world. These courses may focus on current issues, examine selected issues throughout the 20th century, and look at historical causes or possible solutions.


**04065  Particular Topics in World History**

These courses examine particular topics in world history other than those already described.


**04066  IB Islamic History**

IB Islamic History courses prepare students to take the International Baccalaureate History exams at either the Subsidiary or Higher level. These courses are designed to provide students with the means to acquire a deep and open understanding of Islamic history and to grasp its contribution to the history of the world. Possible topics covered include political, social, economic, and intellectual aspects of Islamic history.


**04097  World History—Independent Study**

World History—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within world history. Independent Study courses may provide students with an opportunity to expand their expertise in a particular period or area, to explore a topic of special interest, or to develop more advanced skills.


**04098  World History—Workplace Experience**

World History—Workplace Experience courses provide work experience in a field related to world history. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**04099  World History—Other**


## U.S. History

**04101  U.S. History—Comprehensive**
U.S. History—Comprehensive courses provide students with an overview of the history of the United States, examining time periods from discovery or colonialism through World War II or after. These courses typically include a historical overview of political, military, scientific, and social developments. Course content may include a history of the North American peoples before European settlement.


**04102  Early U.S. History**
Early U.S. History courses examine the history of the United States from the colonial period to the Civil War or Reconstruction era (some courses end after this period). Some courses include American history before European settlement, while others may begin at the formation of the new nation. These courses typically include a historical overview of political, military, scientific, and social developments.


**04103  Modern U.S. History**
Modern U.S. History courses examine the history of the United States from the Civil War or Reconstruction era (some courses begin at a later period) through the present time. These courses typically include a historical review of political, military, scientific, and social developments.


**04104  AP U.S. History**
Following the College Board's suggested curriculum designed to parallel college-level U.S. History courses, AP U.S. History courses provide students with the analytical skills and factual knowledge necessary to address critically problems and materials in U.S. history. Students learn to assess historical materials and to weigh the evidence and interpretations presented in historical scholarship. The course examines the discovery and settlement of the New World through the recent past.


**04105  State-Specific Studies**
State-Specific Studies courses examine the history, politics, economics, society, and/or cultures of one state in the United States. This course may focus primarily on the history of that state or may take an interdisciplinary approach to the contemporary issues affecting it.


**04106  Contemporary U.S. Issues**
Contemporary U.S. Issues courses study the political, economic, and social issues facing the United States, with or without an emphasis on state and local issues. These courses may focus on current issues or may examine selected issues that span throughout the 20th century to the present.

**04107  U.S. Ethnic Studies**

U.S. Ethnic courses examine the history, politics, economics, society, and/or culture of one or more of the racial/ethnic groups in the United States. These courses may focus primarily on the history of an individual racial/ethnic group or may take a more comprehensive approach to studying the contemporary issues affecting racial/ethnic groups overall.

**04108  U.S. Gender Studies**

U.S. Gender Studies courses examine the history, politics, economics, and/or culture of gender in U.S. society. These courses may focus primarily on gender relations or may take a more comprehensive approach to studying the contemporary issues related to gender.

**04109  Particular Topics in U.S. History**

These courses examine a particular topic in U.S. History, such as particular time periods in the history of the United States, or they may focus on the history of particular U.S. regions rather than provide an overview of the subject.

**04147  U.S. History—Independent Study**

U.S. History—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within U.S. History. Independent Study courses may provide students with an opportunity to expand their expertise in a particular period or area, to explore a topic in greater detail, or to develop more advanced skills.

**04148  U.S. History—Workplace Experience**

U.S. History—Workplace Experience courses provide work experience in a field related to U.S. history. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**04149  U.S. History—Other**

## Government, Politics, and Law

**04151  U.S. Government—Comprehensive**

U.S. Government—Comprehensive courses provide an overview of the structure and functions of the U.S. government and political institutions and examine constitutional principles, the concepts of rights and responsibilities, the role of political parties and interest groups, and the importance of civic participation in the democratic process. These courses may examine the structure and function of state and local governments and may cover certain economic and legal topics.

**04152  Particular Topics in U.S. Government**

These courses examine a particular topic pertaining to U.S. government and political institutions rather than provide a general overview of the subject. They may concentrate on one of many topics related to governmental structure, function, and purposes, such as the Constitution, the Supreme Court, Congress, or the Office of the President.


**04153  Political Science**

Political Science courses approach the study of politics from a theoretical perspective, including an examination of the role of government and the nature of political behavior, political power, and political action.


**04154  Comparative Government**

Comparative Government courses study the basic tenets of government, searching for the differences and similarities among several forms of government. These courses take a comparative approach to the study of government and politics, focusing on how the United States compares with other nations.


**04155  International Relations**

International Relations courses provide students with an introduction to the relationships that exist among nations, including an examination of the modern state; the foreign policies of nations; the dynamics of nationalism, ideology, and culture; and the role of international organizations. The courses may also emphasize contemporary events.


**04156  United States and World Affairs**

United States and World Affairs courses provide a study of global interrelationships. Topics covered may include geographic, political, economic, and social issues of a particular country or region, with an emphasis on how these issues influence (or are influenced by) the way in which the United States relates to other countries in an interdependent world context.


**04157  AP U.S. Government and Politics**

Following the College Board's suggested curriculum designed to parallel college-level U.S. Government and Politics courses, these courses provide students with an analytical perspective on government and politics in the United States, involving both the study of general concepts used to interpret U.S. politics and the analysis of specific case studies. The courses generally cover the constitutional underpinnings of the U.S. government, political beliefs and behaviors, political parties and interest groups, the institutions and policy process of national government, and civil rights and liberties.

**04158  AP Comparative Government and Politics**

Following the College Board's suggested curriculum designed to parallel college-level Comparative Government and Politics courses, these courses offer students an understanding of the world's diverse political structures and practices. The courses encompass the study of both specific countries and general concepts used to interpret the key political relationships found in virtually all national policies. Course content generally includes sources of public authority and political power, the relationship between states and society, the relationships between the political and institutional frameworks of citizens and states, political change, and comparative methods.

**04159  AP Government**

AP Government courses prepare students for the AP exams in both U.S. Government and Politics and Comparative Government and Politics. Course content includes the topics covered in those two separate courses as described above.

**04160  Principles of Democracy**

Principles of Democracy courses combine a study of the structure of national, state, and local U.S. government with an overview of the principles of market economics. Course content may include contemporary U.S. issues. The purpose of these courses is to prepare students to perform effectively as informed citizens.

**04161  Civics**

Civics courses examine the general structure and functions of American systems of government, the roles and responsibilities of citizens to participate in the political process, and the relationship of the individual to the law and legal system. These courses do not typically delve into the same degree of detail on constitutional principles or the role of political parties and interest groups as do comprehensive courses in U.S. Government.

**04162  Law Studies**

Law Studies courses examine the history and philosophy of law as part of U.S. society and include the study of the major substantive areas of both criminal and civil law, such as constitutional rights, torts, contracts, property, criminal law, family law, and equity. Although these courses emphasize the study of law, they may also cover the workings of the legal system.

**04163  Consumer Law**

Consumer Law courses present a history and philosophy of law and the legal system in the United States, with a particular emphasis on those topics affecting students as consumers and young adults (such as contractual laws, laws pertaining to housing and marriage, and constitutional rights).

**04164  Business Law**

Business Law courses present a history and philosophy of law and the legal system in the United States, with a particular emphasis on those topics affecting students as future business leaders and employees. Such topics may include contracts, commercial paper and debt instruments, property rights, employer/employee relationships, and constitutional rights and responsibilities.

**04165  Legal System**

Legal System courses examine the workings of the U.S. criminal and civil justice systems, including providing an understanding of civil and criminal law and the legal process, the structure and procedures of courts, and the role of various legal or judicial agencies. Although these courses emphasize the legal process, they may also cover the history and foundation of U.S. law (the Constitution, statutes, and precedents). Course content may also include contemporary problems in the criminal justice system.

**04166  Particular Topics in Law**

These courses examine a particular topic in law such as the Constitution, specific statutes, or the legal process rather than provide an overview.

**04197  Government, Politics, and Law—Independent Study**

Government, Politics, and Law—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within one of the fields of Government, Politics, and Law. These courses may provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic of special interest, or to develop more advanced skills.

**04198  Government, Politics, and Law—Workplace Experience**

Government, Politics, and Law—Workplace Experience courses provide students with work experience in a field related government, politics, and/or law. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**04199  Government, Politics, and Law—Other**

## Economics

**04201  Economics**

Economics courses provide students with an overview of economics with primary emphasis on the principles of microeconomics and the U.S. economic system. These courses may also cover topics such as principles of macroeconomics, international economics, and comparative economics. Economic principles may be presented in formal theoretical contexts, applied contexts, or both.

**04202  Comparative Economics**
Comparative Economics courses offer students an opportunity to study different economies and economic systems, including an examination of various approaches to problems in micro- and macroeconomics.


**04203  AP Microeconomics**
Following the College Board's suggested curriculum designed to parallel college-level microeconomics, AP Microeconomics courses provide students with a thorough understanding of the principles of economics that apply to the functions of individual decisionmakers (both consumers and producers). They place primary emphasis on the nature and functions of product markets, while also including a study of factor markets and the role of government in the economy.


**04204  AP Macroeconomics**
Following the College Board's suggested curriculum designed to parallel college-level macroeconomics, AP Macroeconomics courses provide students with a thorough understanding of the principles of economics that apply to an economic system as a whole. They place particular emphasis on the study of national income and price determination and developing students' familiarity with economic performance measures, economic growth, and international economics.


**04205  AP Economics**
AP Economics courses prepare students for the College Board's examinations in both Microeconomics and Macroeconomics; these courses include the content of the two separate courses as described above.


**04206  IB Economics**
IB Economics courses prepare students to take the International Baccalaureate Economics exams at either the Subsidiary or Higher level. The courses provide students with the basic tools of economic reasoning and teach them to use those tools to explain or interpret economic problems. Course content includes resource allocation under various systems, national income analysis, international economics, and economic development and growth and may also cover income distribution.


**04207  Particular Topics in Economics**
These courses examine a particular topic in Economics rather than provide a general overview of the field. Course topics may include international economics, economic development and growth of a particular country or region, or resource allocation.


**04247  Economics—Independent Study**
Economics—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within the field of economics. Independent Study courses may provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic of special interest, or to develop more advanced skills.

**04248  Economics—Workplace Experience**

Economics—Workplace Experience courses provide work experience in a field related to economics. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**04249  Economics—Other**

## Social Sciences

**04251  Anthropology**

Anthropology courses introduce students to the study of human evolution with regard to the origin, distribution, physical attributes, environment, and culture of human beings. These courses provide an overview of anthropology, including but not limited to both physical and cultural anthropology.

**04252  Particular Topics in Anthropology**

These courses examine a particular topic in anthropology, such as physical anthropology, cultural anthropology, or archeology, rather than provide a more comprehensive overview of the field.

**04253  IB Social Anthropology**

IB Social Anthropology courses prepare students to take the International Baccalaureate Social Anthropology exams at either the Subsidiary or Higher level. The courses aim to promote students' awareness of underlying patterns and causes of social relationships and systems, preconceptions and assumptions within the social environment, and the use of ethnographic data in creating models, drawing inferences, and making comparisons.

**04254  Psychology**

Psychology courses introduce students to the study of individual human behavior. Course content typically includes (but is not limited to) an overview of the field of psychology, topics in human growth and development, personality and behavior, and abnormal psychology.

**04255  Particular Topics in Psychology**

These courses examine a particular topic in psychology, such as human growth and development or personality, rather than provide a more comprehensive overview of the field.

**04256  AP Psychology**

Following the College Board's suggested curriculum designed to parallel a college-level psychology course, AP Psychology courses introduce students to the systematic and scientific study of the behavior and mental processes of human beings and other animals, expose students to each major subfield within psychology, and enable students to examine the methods that psychologists use in their science and practice.

**04257  IB Psychology**

IB Psychology courses prepare students to take the International Baccalaureate Psychology exams at either the Subsidiary or Higher level. Course content includes developmental and social psychology, cognition and learning, and personality subject areas, which are approached from biological/physiological, behavioral, and humanistic points of view. These courses may include a study of research design and statistics and involve practical work in psychological research.

**04258  Sociology**

Sociology courses introduce students to the study of human behavior in society. These courses provide an overview of sociology, generally including (but not limited to) topics such as social institutions and norms, socialization and social change, and the relationships among individuals and groups in society.

**04259  Particular Topics in Sociology**

These courses examine a particular topic in sociology, such as culture and society or the individual in society, rather than provide an overview of the field of sociology.

**04260  Social Science**

Social Science courses provide students with an introduction to the various disciplines in the social sciences, including anthropology, economics, geography, history, political science, psychology, and sociology. Typically, these courses emphasize the methodologies of the social sciences and the differences among the various disciplines.

**04261  Social Science Research**

Social Science Research courses emphasize the methods of social science research, including statistics and experimental design.

**04262  IB Organization Studies**

IB Organization Studies courses prepare students to take the International Baccalaureate Organization Studies exams at either the Subsidiary or Higher levels. These IB courses provide a broad introduction to the principles and practices of enterprises engaged in producing, distributing, and exchanging goods and services in a variety of economic frameworks. A sample of topics explored within these courses include management styles and structures; decision-making methods; and methods for accounting, planning, and communication.

**04297 Social Sciences—Independent Study**

Social Sciences—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within one of the social science fields. Independent Study courses may provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic of special interest, or to develop more advanced skills.

**04298 Social Sciences—Workplace Experience**

Social Sciences—Workplace Experience courses provide work experience in a field related to the social sciences. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**04299 Social Sciences—Other**

## Humanities

**04301 Humanities Survey**

Humanities Survey courses provide an overview of major expressions of the cultural heritage of selected western and eastern civilizations. Content typically includes (but is not limited to) the examination of selected examples of art, music, literature, architecture, technology, philosophy, and religion of the cultures studied. These courses may also cover the languages and political institutions of these cultures.

**04302 Humanities**

Humanities courses examine and evoke student responses to human creative efforts and the world in particular historical periods and in particular cultures. Course content includes exploration, analysis, synthesis, and various responses to cultural traditions, including viewing, listening, speaking, reading, writing, performing, and creating. The courses may also examine relationships among painting, sculpture, architecture, and music.

**04303 Issues of Western Humanities**

Issues of Western Humanities courses introduce students to the study of the cultural heritage of human beings and provide an opportunity to explore our fundamental humanity. The content typically includes definitions of the humanities in relation to history, literature, religion, philosophy, art, music, and architecture and study of the cultures of Greece, Rome, and one or more settings in contemporary periods. Students are asked to analyze and clarify their sense of themselves; examine and clarify their responsibilities in relation to those of others; examine philosophies concerning moral responsibility for the future; and examine philosophies about human mortality.

**04304  IB Theory of Knowledge**

Obligatory for every International Baccalaureate degree candidate, IB Theory of Knowledge courses aim to stimulate critical self-reflection of students' knowledge and experiences. Course content generates questions regarding the bases of knowledge and their verification in the disciplines of mathematics, natural sciences, human sciences, and history, with an awareness of moral, political, and aesthetic judgments and biases. Students learn to appreciate the strengths and limitations of various kinds of knowledge; to relate studied subjects to one another, general knowledge, and living experiences; to formulate rational arguments; and to evaluate the role of language in knowledge and as a way to convey knowledge.

**04305  Social Studies**

Social Studies courses enable students to study a group of related subjects addressing the elements and structures of human society that may include economics, geography, history, citizenship, and other social studies-related disciplines.

**04306  Philosophy**

Philosophy courses introduce students to the discipline of philosophy as a way to analyze the principles underlying conduct, thought, knowledge, and the nature of the universe. Course content typically includes examination of the major philosophers and their writings.

**04307  Particular Topics in Philosophy**

These courses examine a particular topic in philosophy, such as aesthetic judgment, ethics, cosmology, or the philosophy of knowledge, rather than providing a more general overview of the subject.

**04308  Modern Intellectual History**

Modern Intellectual History courses provide a historical overview of modern intellectual movements, generally drawing from different disciplines such as political science, economics, and philosophy.

**04309  IB Philosophy**

IB Philosophy courses prepare students to take the International Baccalaureate Philosophy exams at either the Subsidiary or Higher levels. These courses challenge students to reflect upon and question the bases of knowledge and experience, to develop a personal mode of thought, to formulate rational arguments, and to use language to examine several conceptual themes in a thoughtful, philosophical manner.

**04310  Particular Topics in Humanities**

These courses cover particular topics in humanities such as the interrelationships among painting, sculpture, architecture, and music or the exploration of a particular time period rather than provide a general overview of the subject.

**04347  Humanities—Independent Study**

      Humanities—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within the field of humanities. Independent Study courses may provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic of special interest, or to develop more advanced skills.

**04348  Humanities—Workplace Experience**

      Humanities—Workplace Experience courses provide work experience in a field related to humanities. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**04349  Humanities—Other**

## All Others

**04994  Social Sciences and History—Proficiency Development**

      Social Sciences and History—Proficiency Development courses are designed to assist students in acquiring the skills necessary to pass proficiency examinations related to history and/or other social sciences.

**04995  Social Sciences and History—Aide**

      Social Sciences and History—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**04997  Social Sciences and History—Independent Study**

      Social Sciences and History—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within one of the fields of social studies. These courses provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic of special interest, or to develop more advanced skills.

**04998  Social Sciences and History—Workplace Experience**

      Social Sciences and History—Workplace Experience courses provide work experience in a field related to social sciences and/or history. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**04999  Social Sciences and History—Other**

# Subject Area 5: Fine and Performing Arts (secondary)

## Dance

**05001  Dance Technique**

Dance Technique courses provide students with experience in one or several dance forms (i.e., modern, jazz, ballet, and tap). Initial classes are usually introductory in nature, while the more advanced classes concentrate on improving students' technique and may offer or require experience in choreography and dance evaluation.

**05002  Dance Repertory**

Dance Repertory courses provide the opportunity for students with prior dance experience to develop dance techniques in small groups; these classes require auditions and emphasize performance.

**05003  Expressive Movement**

Expressive Movement courses help develop students' ability to move expressively, without an emphasis on particular dance forms or on developing specific dance techniques.

**05004  Dance Appreciation**

Dance Appreciation courses expand students' knowledge of dance as an art form and help develop students' ability to evaluate dance performances. Learning the history of one or several dance forms may also be included as a course objective.

**05005  Choreography**

Choreography courses teach students how to arrange and direct dancers' movements. Course content includes application of the elements and principles of dance, study of historical and contemporary dance from a worldwide perspective, and instruction in critique. Course objectives include developing an appreciation of dance as a communicative art form and self-expression. Students sometimes gain performance experience.

**05047  Dance—Independent Study**

Dance—Independent Study courses, often conducted with instructors or professional dancers/choreographers as mentors, enable students to explore a particular dance form. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular form or style, to explore a topic in greater detail, or to develop more advanced skills.

**05048  Dance—Workplace Experience**

Dance—Workplace Experience courses provide students with work experience in a field related to dance. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**05049  Dance—Other**

## Drama

**05051  Introduction to the Theater**

Introduction to the Theater courses provide an overview of the art, conventions, and history of the theater. Although the courses sometimes include experiential exercises, they emphasize learning about the theater rather than performance. Students learn about one or more of the following topics: basic techniques in acting, major developments in dramatic literature, major playwrights, the formation of theater as a cultural tradition, and critical appreciation of the art.

**05052  Theatre Arts**

Theatre arts courses focus on the study and performance of drama including musical theatre. These courses review a wide range of scripted materials, such as plays, screen plays, teleplays, readers' theatre scripts, dramatic criticism, creation of original dramatic works, and the role of dramatic arts in society. In addition, students will work collaboratively on performances.

**05053  Drama—Comprehensive**

Drama—Comprehensive courses are intended to help develop students' experience and skill in one or more aspects of theatrical production. Initial courses are usually introductory in nature, providing an overview of the features of drama such as acting, set design, stage management, and so on. The more advanced courses concentrate on improving technique, expanding students' exposure to different types of theatrical techniques and traditions, and increasing their chances of participating in public productions. These courses may also provide a discussion of career opportunities in the theater.

**05054  Exploration in Drama**

Exploration in Drama courses are designed to enhance students' understanding of life through the study and performance of dramatic works. They emphasize developing students' ability to express themselves and establish personal criteria for the critical evaluation of drama activities.

**05055 Drama—Acting/Performance**

Drama—Acting/Performance courses are intended to promote students' experience and skill development in one or more aspects of theatrical production, but they concentrate on acting and performance skills. Initial courses are usually introductory in nature, while the more advanced courses focus on improving technique, expanding students' exposure to different types of theatrical techniques and traditions, and increasing their chances of participating in public productions.

**05056 Drama—Stagecraft**

Drama—Stagecraft courses are intended to help students develop experience and skill in one or more aspects of theatrical production, but concentrate on stagecraft (such as lighting, costuming, set construction, makeup, stage management, and so on). Initial courses are usually introductory in nature, while more advanced courses concentrate on improving technique, expanding students' exposure to different types of theatrical techniques and traditions and increasing their chances of participating in public productions. These courses may also provide a discussion of career opportunities in the theater.

**05057 Directing**

Directing courses are intended to improve students' skills in translating a script into a final production and are usually taken after other drama courses. Directing courses enable each student to create an artistic vision and develop a personal aesthetic, by expanding the student's exposure to different types of theatrical techniques and traditions and providing opportunities to direct the performances of others (either in scenes or in a full production).

**05058 Playwriting**

Playwriting courses are intended to improve students' skills in creating a script suitable for live production and are usually taken after other drama courses. Playwriting courses enable students to develop a personal voice, style, and aesthetic by expanding their exposure to various playwrights and different types of theatrical techniques and traditions. Students are expected to write original scenes, one-act plays, or full productions.

**05059 History and Literature of the Theater**

History and Literature of the Theater courses explore in depth the structure, elements, and style of dramatic compositions, and, as an extension, how the dramatic literature influenced theatrical production and acting styles throughout history. Some courses may focus more on the literature component than on the theater (with increased emphasis on critique and analysis), but most courses connect these subjects, exploring their interrelationships. Major contributors (playwrights, directors, and so on) and the architecture of the theater may also be included as topics of study.

**05097 Drama—Independent Study**

Drama—Independent Study courses, often conducted with instructors or artists as mentors, enable students to explore a particular theatrical form. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular form or style, to explore a topic in greater detail, or to develop more advanced skills.

**05098  Drama—Workplace Experience**
　　　Drama—Workplace Experience courses provide work experience in a field related to drama and the theater. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**05099  Drama—Other**


## Music

**05101  General Band**
　　　General Band courses develop students' technique for playing brass, woodwind, and percussion instruments and cover a variety of nonspecified band literature styles (concert, marching, orchestral, and modern styles).


**05102  Concert Band**
　　　Courses in Concert Band are designed to promote students' technique for playing brass, woodwind, and percussion instruments and cover a variety of band literature styles, primarily for concert performances.


**05103  Marching Band**
　　　Courses in Marching Band are intended to develop students' technique for playing brass, woodwind, and percussion instruments and cover appropriate band literature styles, primarily for marching performances.


**05104  Orchestra**
　　　Orchestra courses are designed to develop students' abilities to play brass, woodwind, percussion, and string instruments, covering a variety of string and orchestral literature styles.


**05105  Contemporary Band**
　　　Contemporary Band courses help students develop their techniques for playing brass, woodwind, percussion, and string instruments, as well as guitars and keyboards, focusing primarily on contemporary stage band literature styles, such as traditional jazz, jazz improvisation, and rock.


**05106  Instrumental Ensemble**
　　　Instrumental Ensemble courses are intended to develop students' technique for playing brass, woodwind, percussion, and/or string instruments in small ensemble groups. Instrumental Ensemble courses cover one or more instrumental ensemble or band literature styles.

**05107  Piano**
   Piano courses introduce students to the fundamentals of music and basic keyboard techniques such as scales, chords, and melodic lines. These courses may also include more advanced keyboard techniques.


**05108  Guitar**
   Guitar courses introduce students to the fundamentals of music and guitar-playing techniques, such as strumming and chords. These courses may also include more advanced guitar-playing techniques.


**05109  Individual Technique—Instrumental Music**
   Individual Technique—Instrumental Music courses provide individuals with instruction in instrumental techniques. These courses may be conducted on either an individual or small group basis.


**05110  Chorus**
   Chorus courses provide the opportunity to sing a variety of choral literature styles for men's and/or women's voices and are designed to develop vocal techniques and the ability to sing parts.


**05111  Vocal Ensembles**
   Vocal Ensemble courses are intended to develop vocal techniques and the ability to sing parts in small ensemble or madrigal groups. Course goals may include the development of solo singing ability and may emphasize one or several ensemble literature styles.


**05112  Individual Technique—Vocal Music**
   Individual Technique—Vocal Music courses provide instruction in and encourage the development of vocal techniques (including aural development) other than the ability to sing in groups. These courses may be conducted on either an individual or small group basis.


**05113  Music Theory**
   Music Theory courses provide students with an understanding of the fundamentals of music and include one or more of the following topics: composition, arrangement, analysis, aural development, and sight reading.


**05114  AP Music Theory**
   AP Music Theory courses are designed to be the equivalent of a first-year music theory college course as specified by the College Board. AP Music Theory develops students' understanding of musical structure and compositional procedures. Usually intended for students who already possess performance-level skills, AP Music Theory courses extend and build upon students' knowledge of intervals, scales, chords, metric/rhythmic patterns, and the ways they interact in a composition. Musical notation, analysis, composition, and aural skills are important components of the course.

**05115  IB Music**

IB Music courses prepare students to take the International Baccalaureate Music exam at either the Subsidiary or Higher level. IB Music courses develop students' knowledge and understanding of music through training in musical skills (listening, performing, and composing); exposure to music theory; and formulation of an historic and global awareness of musical forms and styles. Historical, theoretical, and practical studies are suggested by the IB Curriculum Board.

**05116  Music History/Appreciation**

Music History/Appreciation courses survey different musical styles and periods with the intent of increasing students' enjoyment of musical styles and/or developing their artistic or technical judgment. Music History/Appreciation courses may also focus on developing an understanding of a particular style or period.

**05117  Music History**

Similar in nature to Music History/Appreciation courses, Music History courses focus specifically on the history of music.

**05118  Music Appreciation**

Similar in nature to Music History/Appreciation courses, Music Appreciation courses focus specifically on students' appreciation of music. They are designed to help students explore the world of music and to develop an understanding of the importance of music in their lives.

**05119  Composition/Songwriting**

Composition/Songwriting courses prepare students to express themselves thorough creating music. These courses may use conventional or nonconventional notation and may include harmonization in addition to melody writing. Along with musical instruments, students may also use computers for creating music.

**05147  Music—Independent Study**

Music—Independent Study courses, often conducted with instructors, professional musicians, or voice coaches as mentors, enable students to explore music-related topics. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular form or style, to explore a topic in greater detail, or to develop more advanced skills.

**05148  Music—Workplace Experience**

Music—Workplace Experience courses provide students with work experience in a field related to music. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**05149  Music—Other**


## Visual Arts

**05151  Art Appreciation**
Art Appreciation courses introduce students to the many forms of art and help them form an aesthetic framework through which they can judge and critique art of various ages and cultures. These courses also explore the place and significance of art in our society.


**05152  Art History**
Art History courses introduce students to significant works of art, artists, and artistic movements that have shaped the art world and have influenced or reflected periods of history. These courses often emphasize the evolution of art forms, techniques, symbols, and themes.


**05153  AP Art—History of Art**
Designed to parallel college-level Art History courses, AP Art—History of Art courses provide the opportunity for students to critically examine architecture, sculpture, painting, and other art forms within their historical and cultural contexts. In covering the art of several centuries (not necessarily in chronological order), students learn to identify different styles, techniques, and influences and to formulate and articulate their reactions to various kinds of artwork.


**05154  Creative Art—Comprehensive**
Creative Art—Comprehensive courses provide students with the knowledge and opportunity to explore an art form and to create individual works of art. These courses may also provide a discussion and exploration of career opportunities in the art world. Initial courses cover the language, materials, and processes of a particular art form and the design elements and principles supporting a work of art. As students advance and become more adept, the instruction regarding the creative process becomes more refined, and students are encouraged to develop their own artistic styles. Although Creative Art courses focus on creation, they may also include the study of major artists, art movements, and styles.


**05155  Creative Art—Drawing/Painting**
Creative Art—Drawing/Painting courses cover the same topics as Creative Art—Comprehensive courses, but focus on drawing and painting. In keeping with this attention on two-dimensional work, students typically work with several media (such as pen-and-ink, pencil, chalk, watercolor, tempera, oils, acrylics, and so on), but some courses may focus on only one medium.


**05156  Creative Art—Drawing**
Creative Art—Drawing courses cover the same topics as Creative Art—Drawing/Painting, but focus on drawing. In keeping with this attention on two-dimensional work, students typically work with several media (such as pen-and-ink, pencil, chalk, and so on), but some courses may focus on only one medium.

**05157  Creative Art—Painting**

Creative Art—Painting courses cover the same topics as Creative Art—Drawing/Painting, but focus on painting. In keeping with this attention on two-dimensional work, students typically work with several media (such as watercolor, tempera, oils, acrylics, and so on), but some courses may focus on only one medium.

**05158  Creative Art—Sculpture**

Creative Art—Sculpture courses cover the same topics as Creative Art—Comprehensive courses, but focus on creating three-dimensional works. Students typically work with several media (such as clay, ceramics, wood, metals, textiles, and so on), but some courses may focus on only one medium.

**05159  Ceramics/Pottery**

Ceramics/Pottery courses cover the same topics as Creative Art—Comprehensive courses, but focus on creating three-dimensional works out of clay and ceramic material. Particular attention is paid to the characteristics of the raw materials, their transformation under heat, and the various methods used to create and finish objects.

**05160  Printmaking/Graphics**

Printmaking/Graphics courses cover the same topics as Creative Art—Comprehensive courses, but focus on design principles, printmaking, and graphic design.

**05161  Printmaking**

Printmaking courses introduce students to a variety of printmaking techniques using processes such as relief printing (monoprint, collograph block); intaglio (etching and engraving); and perigraphy (silkscreen films, stencils, block-out). These courses emphasize design elements and principles and introduce art criticism as applied to fine art prints. Lessons may also include the historical development of printmaking in Western and non-Western cultures.

**05162  Graphic Design**

Graphic Design courses emphasize design elements and principles in the purposeful arrangement of images and text to communicate a message. They focus on creating art products such as advertisements, product designs, and identity symbols. Graphic Design courses may investigate the computer's influence on and role in creating contemporary designs and provide a cultural and historical study of master design works of different periods and styles.

**05163  Advertising Design**

Advertising Design courses relate and apply creative expression and design principles to the field of advertising and commercial art. The courses offer practical experiences in generating original ideas, executing layouts, and preparing artwork for reproduction. Advertising Design courses may also provide a historical and contemporary view of art as students learn to critique work.

**05164  Textiles**

      Textiles courses teach the same lessons as Creative Art—Comprehensive courses, but do so with a focus on textiles. These courses may survey a wide range of crafts and art forms using textiles, or they may focus on only one type of art form; possibilities include weaving, macramé, quilting, batik, stitchery, and so on.

**05165  Crafts**

      Crafts courses teach the same lessons as Creative Art—Comprehensive courses, but do so with a focus on crafts. These courses may survey a wide range of crafts, or they may focus on only one type of craft; possibilities include calligraphy, quilting, silk-screening, cake-decorating, tole-painting, mask-making, knitting, crocheting, paper-making, and so on.

**05166  Jewelry**

      Jewelry courses apply art and design principles to the creation of jewelry. Typically, students explore using various media, such as ceramic, papier-mache, glass, plastic, copper-enameled, brass, and silver. Course topics include exposure to jewelry of diverse world cultures and the history of jewelry design. Some Jewelry courses may concentrate on metalwork processes such as brazing, soldering, casting, welding, riveting, and finishing as they relate to the creation of jewelry.

**05167  Photography**

      Photography courses expose students to the materials, processes, and artistic techniques of taking artistic photographs. Students learn about the operation of a camera, composition, lighting techniques, depth of field, filters, camera angles, and film development. The course may cover black-and-white photography, color photography, or both. As students advance, the instruction regarding the creative process becomes more refined, and students are encouraged to develop their own artistic style. These courses may also cover major photographers, art movements, and styles.

**05168  Film/Videotape**

      Film/Videotape courses expose students to the materials, processes, and artistic techniques involved in film, television, or videotape. Students learn about the operation of a camera, lighting techniques, camera angles, depth of field, composition, storyboarding, sound capture, and editing techniques. Course topics may also include production values and various styles of filmmaking (documentary, storytelling, news magazines, animation, and so on). As students advance, the instruction becomes more refined, and students are encouraged to develop their own artistic style. Students may also study major filmmakers, cinematographers, and their films and learn about film, television, and video and their relationships to drama and theater.

**05169  Computer-Assisted Art**

      Computer-Assisted Art courses enable students to discover and explore how the computer can be used to create or to assist in producing various forms of artwork. Computer-Assisted Art courses provide the opportunity to become more adept in both the art form and in the use of the computer.

**05170 Art Portfolio**

Art Portfolio courses offer students the opportunity to create a professional body of work that reflects their personal style and talent. Students are often encouraged to display their work publicly.

**05171 AP Studio Art—General Portfolio**

Designed for students with a serious interest in art, AP Studio Art—General Portfolio courses enable students to refine their skills and create artistic works to be submitted to the College Board for evaluation. Given the nature of the AP evaluation, the courses typically emphasize quality of work, attention to and exploration of a particular visual interest or problem, and breadth of experience in the formal, technical, and expressive aspects of the student's art. AP Studio Art—General Portfolio evaluations require submission of artwork exemplifying talent in drawing, color organization, design, and sculpture.

**05172 AP Studio Art—Drawing Portfolio**

Designed for students with a serious interest in art, AP Studio Art—Drawing Portfolio courses enable students to refine their skill and create artistic works to be submitted to the College Board for evaluation. Given the nature of the AP evaluation, the courses typically emphasize quality of work, attention to and exploration of a particular visual interest or problem, and breadth of experience in the formal, technical, and expressive aspects of drawing. In these courses, students explore representation, abstraction, and experimentation with a variety of drawing materials.

**05173 IB Art/Design**

IB Art/Design courses prepare students to take the International Baccalaureate Art/Design exams at either the Subsidiary or Higher level. IB Art/Design courses help develop students' aesthetic and creative faculties, offer training in awareness and criticism of art, and enable students to create quality works of art of their own. Students perform both studio and research work; the research component is designed to investigate particular topics or concepts of interest in further detail.

**05197 Visual Art—Independent Study**

Visual Art—Independent Study courses, often conducted with instructors or professional artists as mentors, enable students to explore a particular art form or topic. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular form or style, to explore a topic in greater detail, or to develop more advanced skills

**05198 Visual Arts—Workplace Experience**

Visual Arts—Workplace Experience courses provide students with work experience in a field related to visual arts. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**05199  Visual Arts—Other**


## All Others

**05201  Integrated Fine Arts**

      Integrated Fine Arts courses explore self-expression across the fine arts: any subset or all of the visual arts, music, drama, theater, and literature may be included in the curriculum for these courses. Students both study and critique the works of others and participate in or produce art themselves. These courses often include comparative study of various art forms over time (i.e., the interrelationship of literature, music, and the performing arts of a particular time period and culture).


**05995  Fine and Performing Art—Aide**

      Fine and Performing Arts—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.


**05997  Fine and Performing Art—Independent Study**

      Fine and Performing Art—Independent Study courses, often conducted with instructors or professional artists as mentors, enable students to explore a particular art form. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular form or style, to explore a topic of in greater detail, or to develop more advanced skills


**05998  Fine and Performing Art—Workplace Experience**

      Fine and Performing Art—Workplace Experience courses provide students with work experience in a field related to the fine and performing arts. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**05999  Fine and Performing Art—Other**

# Subject Area 6: Foreign Language and Literature (secondary)

## Romance Languages

**06101  Spanish I**

Designed to introduce students to Spanish language and culture, Spanish I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Spanish culture is introduced through the art, literature, customs, and history of Spanish-speaking people.

**06102  Spanish II**

Spanish II courses build upon skills developed in Spanish I, extending students' ability to understand and express themselves in Spanish and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Spanish-speaking people to deepen their understanding of the culture(s).

**06103  Spanish III**

Spanish III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06104  Spanish IV**

Spanish IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Spanish language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06105  Spanish V**

Spanish V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06106  Spanish for Native Speakers**

Spanish for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Spanish for Native Speakers courses often move faster than do regular Spanish foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06107  Spanish Field Experience**

Spanish Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Spanish is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06108  Spanish Conversation and Culture**

Spanish Conversation and Culture courses provide students with an introduction to the Spanish language and the culture(s) of Spanish-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06109  Spanish Literature**

Spanish Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Spanish.

**06110  IB Language A (non-English)—Spanish**

IB Language A (non-English)—Spanish courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06111  IB Language B—Spanish**

IB Language B—Spanish courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06112  AP Spanish Language**

Designed by the College Board to parallel third-year college-level courses in Spanish Composition and Conversation, AP Spanish Language courses build upon prior knowledge and develop students' ability to understand others and express themselves (in Spanish) accurately, coherently, and fluently in both formal and informal situations. Students will develop a vocabulary large enough to understand literary texts, magazine/newspaper articles, films and television productions, and so on.

**06113  AP Spanish Literature**

Designed by the College Board to parallel college-level Introduction to Hispanic Literature courses, AP Spanish Literature courses cover representative works from the literatures of Spain and Spanish America, encompassing all genres. The courses build students' Spanish language proficiency so that they are able to read and understand moderately difficult prose and express critical opinions and literary analyses in oral and written Spanish (an ability equivalent to having completed a third-year college-level Spanish Language course).

**06121  French I**

Designed to introduce students to French language and culture, French I emphasizes basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. French culture is introduced through the art, literature, customs, and history of the French-speaking people.

**06122  French II**

French II courses build upon skills developed in French I, extending students' ability to understand and express themselves in French and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of French-speaking people to deepen their understanding of the culture(s).

**06123  French III**

French III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06124  French IV**

French IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the French language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06125  French V**

French V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06126  French for Native Speakers**

French for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), French for Native Speakers courses often move faster than do regular French foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06127  French Field Experience**

French Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where French is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06128  French Conversation and Culture**

French Conversation and Culture courses provide students with an introduction to the French language and the culture(s) of French-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06129  French Literature**

French Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in French.

**06130  IB Language A (non-English)—French**

IB Language A (non-English)—French courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06131  IB Language B—French**

IB Language B—French courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06132  AP French Language**

Designed to parallel third-year college-level courses in French Composition and Conversation, AP French Language courses build upon prior knowledge and develop students' ability to understand others and express themselves (in French) accurately, coherently, and fluently. Students will develop a vocabulary large enough to understand literary texts, magazine/newspaper articles, films and television productions, and so on.

**06133  AP French Literature**

Designed to parallel college-level Introduction to French Literature courses (offered at a third-year level), AP French Literature courses cover representative works of French literature and build students' French language proficiency so that they are able to read and understand moderately difficult prose and express critical opinions and analyses in correct oral and written French. The study of literary components (such as character, theme, structure, imagery, style, tone, and so on) is an important focus of AP French Literature.

**06141  Italian I**

Designed to introduce students to Italian language and culture, Italian I emphasizes basic grammar and syntax, simple vocabulary and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Italian culture is introduced through the art, literature, customs, and history of the Italian-speaking people.

**06142  Italian II**

Italian II courses build upon skills developed in Italian I, extending students' ability to understand and express themselves in Italian and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Italian-speaking people to deepen their understanding of the culture(s).

**06143  Italian III**

Italian III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06144  Italian IV**

Italian IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Italian language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06145  Italian V**

Italian V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).


**06146  Italian for Native Speakers**

Italian for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Italian for Native Speakers courses often move faster than do regular Italian foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.


**06147  Italian Field Experience**

Italian Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Italian is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.


**06148  Italian Conversation and Culture**

Italian Conversation and Culture courses provide students with an introduction to the Italian language and the culture(s) of Italian-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.


**06149  Italian Literature**

Italian Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Italian.


**06150  IB Language A (non-English)—Italian**

IB Language A (non-English)—Italian courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.


**06151  IB Language B—Italian**

IB Language B—Italian courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06161  Portuguese I**

Designed to introduce students to Portuguese language and culture, Portuguese I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Portuguese culture is introduced through the art, literature, customs, and history of the Portuguese-speaking people.


**06162  Portuguese II**

Portuguese II courses build upon skills developed in Portuguese I, extending students' ability to understand and express themselves in Portuguese and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Portuguese-speaking people to deepen their understanding of the culture(s).


**06163  Portuguese III**

Portuguese III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.


**06164  Portuguese IV**

Portuguese IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Portuguese language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.


**06165  Portuguese V**

Portuguese V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).


**06166  Portuguese for Native Speakers**

Portuguese for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Portuguese for Native Speakers courses often move faster than do regular Portuguese foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06167  Portuguese Field Experience**

Portuguese Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Portuguese is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06168  Portuguese Conversation and Culture**

Portuguese Conversation and Culture courses provide students with an introduction to the Portuguese language and the culture(s) of Portuguese-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06169  Portuguese Literature**

Portuguese Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Portuguese.

**06170  IB Language A (non-English)—Portuguese**

IB Language A (non-English)—Portuguese courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06171  IB Language B—Portuguese**

IB Language B—Portuguese courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06181  Romance/Italic Language I**

Designed to introduce students to a Romance/Italic language not otherwise described (e.g., Catalan, Sardinian, or Haitian Creole) and culture, Romance/Italic Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.

**06182  Romance/Italic Language II**

Romance/Italic Language II courses build upon skills developed in Romance/Italic Language I, extending students' ability to understand and express themselves in a Romance/Italic language not otherwise described (e.g., Catalan, Sardinian, or Haitian Creole) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).

**06183  Romance/Italic Language III**

Romance/Italic Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06184  Romance/Italic Language IV**

Romance/Italic Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Romance/Italic Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06185  Romance/Italic Language V**

Romance/Italic Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06186  Romance/Italic Language for Native Speakers**

Romance/Italic Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue not otherwise described (e.g., Catalan, Sardinian, or Haitian Creole). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Romance/Italic Language for Native Speakers courses often move faster than do regular Romance/Italic Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06187  Romance/Italic Language Field Experience**

Romance/Italic Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where a Romance/Italic language (e.g., Catalan, Sardinian, or Haitian Creole) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06188  Romance/Italic Language Conversation and Culture**

  Romance/Italic Language Conversation and Culture courses provide students with an introduction to a Romance/Italic language not otherwise described (e.g., Catalan, Sardinian, or Haitian Creole) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06189  Romance/Italic Literature**

  Romance/Italic Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in a Romance/Italic language not otherwise described (e.g., Catalan, Sardinian, or Haitian Creole).

**06190  IB Language A (non-English)—Romance/Italic Language**

  IB Language A (non-English)—Romance/Italic Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06191  IB Language B—Romance/Italic Language**

  IB Language B—Romance/Italic Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06199  Romance/Italic Language—Other**

## Germanic Languages

**06201  German I**

  Designed to introduce students to German language and culture, German I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. German culture is introduced through the art, literature, customs, and history of the German-speaking people.

**06202  German II**

German II courses build upon skills developed in German I, extending students' ability to understand and express themselves in German and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of German-speaking people to deepen their understanding of the culture(s).

**06203  German III**

German III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06204  German IV**

German IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the German language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06205  German V**

German V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06206  German for Native Speakers**

German for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), German for Native Speakers courses often move faster than do regular German foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06207  German Field Experience**

German Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where German is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06208  German Conversation and Culture**

German Conversation and Culture courses provide students with an introduction to the German language and the culture(s) of German-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.


**06209  German Literature**

German Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in German.


**06210  IB Language A (non-English)—German**

IB Language A (non-English)—German courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.


**06211  IB Language B—German**

IB Language B—German courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.


**06212  AP German Language**

Designed to parallel third-year college-level courses in German Language, AP German Language courses build upon prior knowledge and develop students' ability to understand spoken German in various conversational situations, to express themselves (in German) accurately and fluently, and to have a command of the structure of the German language. Students will develop a vocabulary large enough to understand literature, magazine/newspaper articles, films and television productions, and so on.


**06241  Germanic Language I**

Designed to introduce students to a Germanic language not otherwise described (e.g., Dutch or Flemish) and culture, Germanic Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.

**06242  Germanic Language II**

Germanic Language II courses build upon skills developed in Germanic Language I, extending students' ability to understand and express themselves in a Germanic language not otherwise described (e.g., Dutch or Flemish) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).

**06243  Germanic Language III**

Germanic Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06244  Germanic Language IV**

Germanic Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Germanic Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06245  Germanic Language V**

Germanic Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06246  Germanic Language for Native Speakers**

Germanic Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue not otherwise described (e.g., Dutch or Flemish). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Germanic Language for Native Speakers courses often move faster than do regular Germanic Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06247  Germanic Language Field Experience**

Germanic Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where a Germanic language (e.g., Dutch or Flemish) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06248  Germanic Language Conversation and Culture**
Germanic Language Conversation and Culture courses provide students with an introduction to a Germanic language not otherwise described (e.g., Dutch or Flemish) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.


**06249  Germanic Literature**
Germanic Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in a Germanic language not otherwise described (e.g., Dutch or Flemish).


**06250  IB Language A (non-English)—Germanic Language**
IB Language A (non-English)—Germanic Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.


**06251  IB Language B—Germanic Language**
IB Language B—Germanic Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.


**06259  Germanic Language—Other**


**Celtic Languages**
**06261  Celtic Language I**
Designed to introduce students to a Celtic language (e.g., Gaelic or Welsh) and culture, Celtic Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Celtic culture is introduced through the art, literature, customs, and history of Celtic people.

**06262  Celtic Language II**

Celtic Language II courses build upon skills developed in Celtic Language I, extending students' ability to understand and express themselves in a Celtic language (e.g., Gaelic or Welsh) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Celtic people to deepen their understanding of the culture(s).

**06263  Celtic Language III**

Celtic Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06264  Celtic Language IV**

Celtic Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Celtic Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06265  Celtic Language V**

Celtic Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06266  Celtic Language for Native Speakers**

Celtic Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Celtic Language for Native Speakers courses often move faster than do regular Celtic Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06267  Celtic Language Field Experience**

Celtic Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where a Celtic language (e.g., Gaelic or Welsh) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06268  Celtic Language Conversation and Culture**
      Celtic Language Conversation and Culture courses provide students with an introduction to a Celtic language (e.g., Gaelic or Welsh) and the culture(s) of Celtic people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06269  Celtic Literature**
      Celtic Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in a Celtic language (e.g., Gaelic or Welsh).

**06270  IB Language A (non-English)—Celtic Language**
      IB Language A (non-English)—Celtic Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06271  IB Language B—Celtic Language**
      IB Language B—Celtic Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06279  Celtic Language—Other**

## Greek Language

**06281  Greek I**
      Designed to introduce students to Greek language and culture, Greek I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Greek culture is introduced through the art, literature, customs, and history of the Greek-speaking people.

**06282  Greek II**

Greek II courses build upon skills developed in Greek I, extending students' ability to understand and express themselves in Greek and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Greek-speaking people to deepen their understanding of the culture(s).

**06283  Greek III**

Greek III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06284  Greek IV**

Greek IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Greek language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06285  Greek V**

Greek V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06286  Greek for Native Speakers**

Greek for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Greek for Native Speakers courses often move faster than do regular Greek foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06287  Greek Field Experience**

Greek Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Greek is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06288  Greek Conversation and Culture**

Greek Conversation and Culture courses provide students with an introduction to the Greek language and the culture(s) of Greek-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06289  Greek Literature**

Greek Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Greek.

**06290  IB Language A (non-English)—Greek**

IB Language A (non-English)—Greek courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06291  IB Language B—Greek**

IB Language B—Greek courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06299  Greek—Other**

## Classical Languages

**06301  Latin I**

Latin I courses expose students to the Latin language and culture, emphasizing basic grammar and syntax, simple vocabulary, and the influence of Latin on current English words. Students will be able to read and write in Latin on a basic level.

**06302  Latin II**

Latin II courses enable students to expand upon what they have learned in Latin I, increasing their skills and depth of knowledge through the practice of structures, forms, and vocabulary. Reading materials reflect Roman life and culture.

**06303  Latin III**

Latin III courses build students' knowledge of the Latin language and culture, typically focusing on having students express increasingly complex concepts in writing and comprehend and react to original Latin texts.

**06304  Latin IV**

Latin IV courses build students' knowledge of the Latin language and culture, typically focusing on having students express increasingly complex concepts in writing and comprehend and react to original Latin texts.

**06305  Latin V**

Latin V courses build students' knowledge of the Latin language and culture, typically focusing on having students express increasingly complex concepts in writing and comprehend and react to original Latin texts.

**06311  IB Classical Languages—Latin**

IB Classical Languages—Latin courses seek to strike a balance between the study of the classic Latin language itself (structure, meaning, and formulation) and the civilization it reflects (particularly its culture, philosophies, and institutions). Course content enables students to understand, translate, and appreciate a classical Latin text; relate literature to its historical or social background; recognize current relevance of ancient literature; and apply acquired knowledge to other subjects.

**06313  AP Latin (Virgil, Catullus, and Horace)**

Designed to parallel advanced college-level courses in Latin studies, AP Latin courses build upon and increase knowledge of Latin, enabling students to read the language with comprehension, to accurately translate Latin into English, and to appreciate the stylistic literary techniques used by the authors. AP Latin courses also include study of the political, social, and cultural background of the literary works and their authors, as well as their influence on later literature.

**06321  Classical Greek I**

Classical Greek I courses expose students to classic Greek language and culture, emphasizing basic grammar, syntax, and simple vocabulary. Students will be able to read and write in Latin on a basic level.

**06322  Classical Greek II**

Classical Greek II courses enable students to expand upon what they have learned in Classical Greek I, increasing their skills and depth of knowledge through the practice of structures, forms, and vocabulary. Reading materials reflect Greek life and culture.

**06323 Classical Greek III**
Classical Greek III courses build students' knowledge of the classic Greek language and culture, typically focusing on having students express increasingly complex concepts in writing and comprehend and react to original Greek texts.

**06324 Classical Greek IV**
Classical Greek IV courses build students' knowledge of the classic Greek language and culture, typically focusing on having students express increasingly complex concepts in writing and comprehend and react to original Greek texts.

**06325 Classical Greek V**
Classical Greek V courses build students' knowledge of the classic Greek language and culture, typically focusing on having students express increasingly complex concepts in writing and comprehend and react to original Greek texts.

**06331 IB Classical Languages—Greek**
IB Classical Languages—Greek courses seek to strike a balance between the study of the classic Greek language itself (structure, meaning, and formulation) and the civilization it reflects (particularly its culture, philosophies, and institutions). Course content enables students to understand, translate, and appreciate a classical Greek text; relate literature to its historical or social background; recognize current relevance of ancient literature; and apply acquired knowledge to other subjects.

**06359 Classical Languages—Other**

## East Asian Languages

**06401 Chinese I**
Designed to introduce students to Chinese language and culture, Chinese I courses emphasize basic syntax, simple vocabulary, written characters, and spoken tones so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Chinese culture is introduced through the art, literature, customs, and history of Chinese-speaking people.

**06402 Chinese II**
Chinese II courses build upon skills developed in Chinese I, extending students' ability to understand and express themselves in Chinese and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and phrasing, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Chinese-speaking people to deepen their understanding of the culture(s).

**06403  Chinese III**

Chinese III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06404  Chinese IV**

Chinese IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Chinese language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of language rules and a strong vocabulary.

**06405  Chinese V**

Chinese V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06406  Chinese for Native Speakers**

Chinese for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Chinese for Native Speakers courses often move faster than do regular Chinese foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06407  Chinese Field Experience**

Chinese Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Chinese is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06408  Chinese Conversation and Culture**

Chinese Conversation and Culture courses provide students with an introduction to the Chinese language and the culture(s) of Chinese-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06409  Chinese Literature**

Chinese Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Chinese.

**06410  IB Language A (non-English)—Chinese**

IB Language A (non-English)—Chinese courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06411  IB Language B—Chinese**

IB Language B—Chinese courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06421  Japanese I**

Designed to introduce students to Japanese language and culture, Japanese I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Japanese culture is introduced through the art, literature, customs, and history of the Japanese-speaking people.

**06422  Japanese II**

Japanese II courses build upon skills developed in Japanese I, extending students' ability to understand and express themselves in Japanese and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Japanese-speaking people to deepen their understanding of the culture(s).

**06423  Japanese III**

Japanese III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06424  Japanese IV**

Japanese IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Japanese language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06425  Japanese V**

Japanese V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06426  Japanese for Native Speakers**

Japanese for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Japanese for Native Speakers courses often move faster than do regular Japanese foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06427  Japanese Field Experience**

Japanese Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Japanese is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06428  Japanese Conversation and Culture**

Japanese Conversation and Culture courses provide an introduction to the Japanese language and the culture(s) of Japanese-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06429  Japanese Literature**

Japanese Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Japanese.

**06430  IB Language A (non-English)—Japanese**

IB Language A (non-English)—Japanese courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06431  IB Language B—Japanese**

IB Language B—Japanese courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06441  Korean I**

Designed to introduce students to Korean language and culture, Korean I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Korean culture is introduced through the art, literature, customs, and history of the Korean-speaking people.

**06442  Korean II**

Korean II courses build upon skills developed in Korean I, extending students' ability to understand and express themselves in Korean and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Korean-speaking people to deepen their understanding of the culture(s).

**06443  Korean III**

Korean III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06444  Korean IV**

Korean IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Korean language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06445  Korean V**

Korean V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06446  Korean for Native Speakers**

Korean for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Korean for Native Speakers courses often move faster than do regular Korean foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06447  Korean Field Experience**

Korean Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Korean is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.


**06448  Korean Conversation and Culture**

Korean Conversation and Culture courses provide students with an introduction to the Korean language and the culture(s) of Korean-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.


**06449  Korean Literature**

Korean Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Korean.


**06450  IB Language A (non-English)—Korean**

IB Language A (non-English)—Korean courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.


**06451  IB Language B—Korean**

IB Language B—Korean courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.


**06481  East Asian Language I**

Designed to introduce students to an East Asian language not otherwise described (e.g., Tibetan and Mongolian) and culture, East Asian Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.

**06482  East Asian Language II**

East Asian Language II courses build upon skills developed in East Asian Language I, extending students' ability to understand and express themselves in an East Asian language not otherwise described (e.g., Tibetan and Mongolian) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).

**06483  East Asian Language III**

East Asian Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06484  East Asian Language IV**

East Asian Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the East Asian Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06485  East Asian Language V**

East Asian Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06486  East Asian Language for Native Speakers**

East Asian Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue not otherwise described (e.g., Tibetan and Mongolian). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), East Asian Language for Native Speakers courses often move faster than do regular East Asian Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06487  East Asian Language Field Experience**

East Asian Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where an East Asian language (e.g., Tibetan and Mongolian) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06488 East Asian Language Conversation and Culture**

East Asian Language Conversation and Culture courses provide students with an introduction to an East Asian language not otherwise described (e.g., Tibetan and Mongolian) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06489 East Asian Literature**

East Asian Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in an East Asian language not otherwise described (e.g., Tibetan and Mongolian).

**06490 IB Language A (non-English)—East Asian Language**

IB Language A (non-English)—East Asian Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06491 IB Language B—East Asian Language**

IB Language B—East Asian Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06499 East Asian Language—Other**

## Southeast Asian Languages

**06501 Vietnamese I**

Designed to introduce students to Vietnamese language and culture, Vietnamese I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Vietnamese culture is introduced through the art, literature, customs, and history of the Vietnamese-speaking people.

**06502 Vietnamese II**

Vietnamese II courses build upon skills developed in Vietnamese I, extending students' ability to understand and express themselves in Vietnamese and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Vietnamese-speaking people to deepen their understanding of the culture(s).

**06503 Vietnamese III**

Vietnamese III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06504 Vietnamese IV**

Vietnamese IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Vietnamese language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06505 Vietnamese V**

Vietnamese V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06506 Vietnamese for Native Speakers**

Vietnamese for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Vietnamese for Native Speakers courses often move faster than do regular Vietnamese foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06507 Vietnamese Field Experience**

Vietnamese Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Vietnamese is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06508  Vietnamese Conversation and Culture**

Vietnamese Conversation and Culture courses provide students with an introduction to the Vietnamese language and the culture(s) of Vietnamese-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06509  Vietnamese Literature**

Vietnamese Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Vietnamese.

**06510  IB Language A (non-English)—Vietnamese**

IB Language A (non-English)—Vietnamese courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06511  IB Language B—Vietnamese**

IB Language B—Vietnamese courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06521  Filipino I**

Designed to introduce students to Filipino language and culture, Filipino I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Filipino culture is introduced through the art, literature, customs, and history of the people of the Philippines.

**06522  Filipino II**

Filipino II courses build upon skills developed in Filipino I, extending students' ability to understand and express themselves in Filipino and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of the Philippines to deepen their understanding of the culture(s).

**06523 Filipino III**

Filipino III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06524 Filipino IV**

Filipino IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Filipino language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06525 Filipino V**

Filipino V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06526 Filipino for Native Speakers**

Filipino for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Filipino for Native Speakers courses often move faster than do regular Filipino foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06527 Filipino Field Experience**

Filipino Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Filipino is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06528 Filipino Conversation and Culture**

Filipino Conversation and Culture courses provide students with an introduction to the Filipino language and the culture(s) of the people of the Philippines, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06529 Filipino Literature**

Filipino Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Filipino.

**06530 IB Language A (non-English)—Filipino**

IB Language A (non-English)—Filipino courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06531 IB Language B—Filipino**

IB Language B—Filipino courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06581 Southeast Asian Language I**

Designed to introduce students to a Southeast Asian language not otherwise described (e.g., Malay, Thai, and Lao) and culture, Southeast Asian Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.

**06582 Southeast Asian Language II**

Southeast Asian Language II courses build upon skills developed in Southeast Asian Language I, extending students' ability to understand and express themselves in a Southeast Asian language not otherwise described (e.g., Malay, Thai, and Lao) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).

**06583 Southeast Asian Language III**

Southeast Asian Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06584 Southeast Asian Language IV**

Southeast Asian Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Southeast Asian Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06585 Southeast Asian Language V**

Southeast Asian Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06586 Southeast Asian Language for Native Speakers**

Southeast Asian Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue not otherwise described (e.g., Malay, Thai, and Lao). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Southeast Asian Language for Native Speakers courses often move faster than do regular Southeast Asian Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06587 Southeast Asian Language Field Experience**

Southeast Asian Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where a Southeast Asian language (e.g., Malay, Thai, and Lao) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06588 Southeast Asian Language Conversation and Culture**

Southeast Asian Language Conversation and Culture courses provide students with an introduction to a Southeast Asian language not otherwise described (e.g., Malay, Thai, and Lao) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06589 Southeast Asian Literature**

Southeast Asian Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in a Southeast Asian language not otherwise described (e.g., Malay, Thai, and Lao).

**06590 IB Language A (non-English)—Southeast Asian Language**

IB Language A (non-English)—Southeast Asian Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06591  IB Language B—Southeast Asian Language**

IB Language B—Southeast Asian Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06599  Southeast Asian/Austral-Asian Languages—Other**

## Balto-Slavic Languages

**06601  Russian I**

Designed to introduce students to Russian language and culture, Russian I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Russian culture is introduced through the art, literature, customs, and history of the Russian-speaking people.

**06602  Russian II**

Russian II courses build upon skills developed in Russian I, extending students' ability to understand and express themselves in Russian and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Russian-speaking people to deepen their understanding of the culture(s).

**06603  Russian III**

Russian III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06604  Russian IV**

Russian IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Russian language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06605  Russian V**
      Russian V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06606  Russian for Native Speakers**
      Russian for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Russian for Native Speakers courses often move faster than do regular Russian foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06607  Russian Field Experience**
      Russian Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Russian is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06608  Russian Conversation and Culture**
      Russian Conversation and Culture courses provide students with an introduction to the Russian language and the culture(s) of Russian-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06609  Russian Literature**
      Russian Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Russian.

**06610  IB Language A (non-English)—Russian**
      IB Language A (non-English)—Russian courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06611  IB Language B—Russian**
      IB Language B—Russian courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06641 Balto-Slavic Language I**

Designed to introduce students to a Balto-Slavic language not otherwise described (e.g., Polish, Armenian, Serbo-Croatian, and Lithuanian) and culture, Balto-Slavic Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.

**06642 Balto-Slavic Language II**

Balto-Slavic Language II courses build upon skills developed in Balto-Slavic Language I, extending students' ability to understand and express themselves in a Balto-Slavic language not otherwise described (e.g., Polish, Armenian, Serbo-Croatian, and Lithuanian) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).

**06643 Balto-Slavic Language III**

Balto-Slavic Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06644 Balto-Slavic Language IV**

Balto-Slavic Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Balto-Slavic Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06645 Balto-Slavic Language V**

Balto-Slavic Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06646  Balto-Slavic Language for Native Speakers**

Balto-Slavic Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue not otherwise described (e.g., Polish, Armenian, Serbo-Croatian, and Lithuanian). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Balto-Slavic Language for Native Speakers courses often move faster than do regular Balto-Slavic Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06647  Balto-Slavic Language Field Experience**

Balto-Slavic Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where a Balto-Slavic language (e.g., Polish, Armenian, Serbo-Croatian, and Lithuanian) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06648  Balto-Slavic Language Conversation and Culture**

Balto-Slavic Language Conversation and Culture courses provide students with an introduction to a Balto-Slavic language not otherwise described (e.g., Polish, Armenian, Serbo-Croatian, and Lithuanian) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06649  Balto-Slavic Literature**

Balto-Slavic Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in a Balto-Slavic language not otherwise described (e.g., Polish, Armenian, Serbo-Croatian, and Lithuanian).

**06650  IB Language A (non-English)—Balto-Slavic Language**

IB Language A (non-English)—Balto-Slavic Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06651  IB Language B—Balto-Slavic Language**

IB Language B—Balto-Slavic Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06659  Balto-Slavic Language—Other**


## Turkic/Ural-Altaic Languages

**06661  Turkic/Ural-Altaic Language I**
Designed to introduce students to a Turkic/Ural-Altaic language (e.g., Turkish, Finnish, and Hungarian) and culture, Turkic/Ural-Altaic Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.


**06662  Turkic/Ural-Altaic Language II**
Turkic/Ural-Altaic Language II courses build upon skills developed in Turkic/Ural-Altaic Language I, extending students' ability to understand and express themselves in a Turkic/Ural-Altaic language (e.g., Turkish, Finnish, and Hungarian) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).


**06663  Turkic/Ural-Altaic Language III**
Turkic/Ural-Altaic Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.


**06664  Turkic/Ural-Altaic Language IV**
Turkic/Ural-Altaic Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Turkic/Ural-Altaic Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.


**06665  Turkic/Ural-Altaic Language V**
Turkic/Ural-Altaic Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06666  Turkic/Ural-Altaic Language for Native Speakers**
    Turkic/Ural-Altaic Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue (e.g., Turkish, Finnish, and Hungarian). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Turkic/Ural-Altaic Language for Native Speakers courses often move faster than do regular Turkic/Ural-Altaic Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06667  Turkic/Ural-Altaic Language Field Experience**
    Turkic/Ural-Altaic Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where a Turkic/Ural-Altaic language (e.g., Turkish, Finnish, and Hungarian) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06668  Turkic/Ural-Altaic Language Conversation and Culture**
    Turkic/Ural-Altaic Language Conversation and Culture courses provide students with an introduction to a Turkic/Ural-Altaic language (e.g., Turkish, Finnish, and Hungarian) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06669  Turkic/Ural-Altaic Literature**
    Turkic/Ural-Altaic Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in a Turkic/Ural-Altaic language (e.g., Turkish, Finnish, and Hungarian).

**06670  IB Language A (non-English)—Turkic/Ural-Altaic Language**
    IB Language A (non-English)—Turkic/Ural-Altaic Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06671  IB Language B—Turkic/Ural-Altaic Language**
    IB Language B—Turkic/Ural-Altaic Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06679  Turkic/Ural-Altaic Language—Other**

## Iranian/Persian Languages

**06681  Iranian/Persian Language I**
      Designed to introduce students to an Iranian/Persian language (e.g., Persian, Kurdish, and Pashto) and culture, Iranian/Persian Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.

**06682  Iranian/Persian Language II**
      Iranian/Persian Language II courses build upon skills developed in Iranian/Persian Language I, extending students' ability to understand and express themselves in a Iranian/Persian language (e.g., Persian, Kurdish, and Pashto) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).

**06683  Iranian/Persian Language III**
      Iranian/Persian Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06684  Iranian/Persian Language IV**
      Iranian/Persian Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Iranian/Persian Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06685  Iranian/Persian Language V**
      Iranian/Persian Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06686  Iranian/Persian Language for Native Speakers**

Iranian/Persian Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue (e.g., Persian, Kurdish, and Pashto). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Iranian/Persian Language for Native Speakers courses often move faster than do regular Iranian/Persian Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06687  Iranian/Persian Language Field Experience**

Iranian/Persian Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where an Iranian/Persian language (e.g., Persian, Kurdish, and Pashto) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06688  Iranian/Persian Language Conversation and Culture**

Iranian/Persian Language Conversation and Culture courses provide students with an introduction to an Iranian/Persian language (e.g., Persian, Kurdish, and Pashto) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06689  Iranian/Persian Literature**

Iranian/Persian Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in an Iranian/Persian language (e.g., Persian, Kurdish, and Pashto).

**06690  IB Language A (non-English)—Iranian/Persian Language**

IB Language A (non-English)—Iranian/Persian Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06691  IB Language B—Iranian/Persian Language**

IB Language B—Iranian/Persian Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06699  Iranian/Persian Language—Other**

## Semitic and Near/Middle Eastern Languages

**06701  Hebrew I**

Designed to introduce students to Hebrew language and culture, Hebrew I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Hebrew culture is introduced through the art, literature, customs, and history of the Hebrew-speaking people.

**06702  Hebrew II**

Hebrew II courses build upon skills developed in Hebrew I, extending students' ability to understand and express themselves in Hebrew and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Hebrew-speaking people to deepen their understanding of the culture(s).

**06703  Hebrew III**

Hebrew III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06704  Hebrew IV**

Hebrew IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Hebrew language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06705  Hebrew V**

Hebrew V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06706  Hebrew for Native Speakers**

Hebrew for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Hebrew for Native Speakers courses often move faster than do regular Hebrew foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06707  Hebrew Field Experience**

Hebrew Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Hebrew is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06708  Hebrew Conversation and Culture**

Hebrew Conversation and Culture courses provide students with an introduction to the Hebrew language and the culture(s) of Hebrew-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06709  Hebrew Literature**

Hebrew Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Hebrew.

**06710  IB Language A (non-English)—Hebrew**

IB Language A (non-English)—Hebrew courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06711  IB Language B—Hebrew**

IB Language B—Hebrew courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06712  IB Classical Languages—Hebrew**

IB Classical Languages—Hebrew courses seek to strike a balance between the study of the language itself (structure, meaning, and formulation) and the study of the civilization it reflects (particularly its culture, philosophies, and institutions). Course content enables students to understand, translate, and appreciate a classical Hebrew text; relate literature to its historical or social background; recognize current relevance of ancient literature; and apply acquired knowledge to other subjects.

**06721  Arabic I**

Designed to introduce students to Arabic language and culture, Arabic I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Arabic culture is introduced through the art, literature, customs, and history of the Arabic-speaking people.

**06722  Arabic II**

Arabic II courses build upon skills developed in Arabic I, extending students' ability to understand and express themselves in Arabic and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Arabic-speaking people to deepen their understanding of the culture(s).

**06723  Arabic III**

Arabic III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06724  Arabic IV**

Arabic IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Arabic language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06725  Arabic V**

Arabic V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06726  Arabic for Native Speakers**
  Arabic for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Arabic for Native Speakers courses often move faster than do regular Arabic foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.

**06727  Arabic Field Experience**
  Arabic Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Arabic is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06728  Arabic Conversation and Culture**
  Arabic Conversation and Culture courses provide students with an introduction to the Arabic language and the culture(s) of Arabic-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06729  Arabic Literature**
  Arabic Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Arabic.

**06730  IB Language A (non-English)—Arabic**
  IB Language A (non-English)—Arabic courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06731  IB Language B—Arabic**
  IB Language B—Arabic courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06732  IB Classical Languages—Arabic**

IB Classical Languages—Arabic courses seek to strike a balance between the study of the language itself (structure, meaning, and formulation) and the study of the civilization it reflects (particularly its culture, philosophies, and institutions). Course content enables students to understand, translate, and appreciate a classical Arabic text; relate literature to its historical or social background; recognize current relevance of ancient literature; and apply acquired knowledge to other subjects.

**06759  Semitic and Near/Middle Eastern Languages—Other**

## Non-Semitic African Languages

**06761  Swahili I**

Designed to introduce students to Swahili language and culture, Swahili I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions. Swahili culture is introduced through the art, literature, customs, and history of the Swahili-speaking people.

**06762  Swahili II**

Swahili II courses build upon skills developed in Swahili I, extending students' ability to understand and express themselves in Swahili and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of Swahili-speaking people to deepen their understanding of the culture(s).

**06763  Swahili III**

Swahili III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06764  Swahili IV**

Swahili IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Swahili language so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06765  Swahili V**

Swahili V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).


**06766  Swahili for Native Speakers**

Swahili for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue. Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Swahili for Native Speakers courses often move faster than do regular Swahili foreign language courses and emphasize literary development (with a study of literature and composition). These courses may also incorporate more of the culture or history of the people than do regular foreign language courses and introduce translation skills.


**06767  Swahili Field Experience**

Swahili Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where Swahili is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.


**06768  Swahili Conversation and Culture**

Swahili Conversation and Culture courses provide students with an introduction to the Swahili language and the culture(s) of Swahili-speaking people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.


**06769  Swahili Literature**

Swahili Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in Swahili.


**06770  IB Language A (non-English)—Swahili**

IB Language A (non-English)—Swahili courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.


**06771  IB Language B—Swahili**

IB Language B—Swahili courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06781  Non-Semitic African Language I**

Designed to introduce students to a Non-Semitic African language not otherwise described (e.g., Ibo, Yoruba, and Amharic) and culture, Non-Semitic African Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.

**06782  Non-Semitic African Language II**

Non-Semitic African Language II courses build upon skills developed in Non-Semitic African Language I, extending students' ability to understand and express themselves in a Non-Semitic African language not otherwise described (e.g., Ibo, Yoruba, and Amharic) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).

**06783  Non-Semitic African Language III**

Non-Semitic African Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06784  Non-Semitic African Language IV**

Non-Semitic African Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Non-Semitic African Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06785  Non-Semitic African Language V**

Non-Semitic African Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06786  Non-Semitic African Language for Native Speakers**

Non-Semitic African Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue not otherwise described (e.g., Ibo, Yoruba, and Amharic). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Non-Semitic African Language for Native Speakers courses often move faster than do regular Non-Semitic African Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06787  Non-Semitic African Language Field Experience**

Non-Semitic African Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where a Non-Semitic African language (e.g., Ibo, Yoruba, and Amharic) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06788  Non-Semitic African Language Conversation and Culture**

Non-Semitic African Language Conversation and Culture courses provide students with an introduction to a Non-Semitic African language not otherwise described (e.g., Ibo, Yoruba, and Amharic) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06789  Non-Semitic African Literature**

Non-Semitic African Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in a Non-Semitic African language not otherwise described (e.g., Ibo, Yoruba, and Amharic).

**06790  IB Language A (non-English)—Non-Semitic African Language**

IB Language A (non-English)—Non-Semitic African Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06791  IB Language B—Non-Semitic African Language**

IB Language B—Non-Semitic African Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06799  African (non-Semitic) Language—Other**

## American Sign Language

**06801  American Sign Language I**
　　Designed to introduce students to American Sign Language, American Sign Language I courses enable students to communicate with deaf persons through finger spelling, signed words, and gestures. Course topics may include the culture of and issues facing deaf people.

**06802  American Sign Language II**
　　American Sign Language II courses build upon skills developed in American Sign Language I, extending students' ability to understand and express themselves in American Sign Language and increasing their vocabulary and speed. Typically, students learn how to engage in discourse for informative or social purposes and to comprehend the language when signed slowly.

**06803  American Sign Language III**
　　American Sign Language III courses focus on having students express increasingly complex concepts while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when viewing the language signed at normal rates and conversing easily within limited situations.

**06804  American Sign Language IV**
　　American Sign Language IV courses focus on advancing students' skills and abilities to sign and understand the language so that they can maintain simple conversations with sufficient vocabulary and in an acceptable pace and have sufficient comprehension skills to understand the language when signed at a normal pace.

**06805  American Sign Language V**
　　American Sign Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs.

**06819  American Sign Language—Other**

## American Indian Languages

**06821  American Indian Language I**
　　　　Designed to introduce students to a American Indian language not otherwise described (e.g., Navajo, Cherokee, and Kree) and culture, American Indian Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.

**06822  American Indian Language II**
　　　　American Indian Language II courses build upon skills developed in American Indian Language I, extending students' ability to understand and express themselves in a American Indian language not otherwise described (e.g., Navajo, Cherokee, and Kree) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).

**06823  American Indian Language III**
　　　　American Indian Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06824  American Indian Language IV**
　　　　American Indian Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the American Indian Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06825  American Indian Language V**
　　　　American Indian Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06826  American Indian Language for Native Speakers**

American Indian Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue not otherwise described (e.g., Navajo, Cherokee, and Kree). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), American Indian Language for Native Speakers courses often move faster than do regular American Indian Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06827  American Indian Language Field Experience**

American Indian Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where a American Indian language (e.g., Navajo, Cherokee, and Kree) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06828  American Indian Language Conversation and Culture**

American Indian Language Conversation and Culture courses provide students with an introduction to a American Indian language not otherwise described (e.g., Navajo, Cherokee, and Kree) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06829  American Indian Literature**

American Indian Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in a American Indian language not otherwise described (e.g., Navajo, Cherokee, and Kree).

**06830  IB Language A (non-English)—American Indian Language**

IB Language A (non-English)—American Indian Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06831  IB Language B—American Indian Language**

IB Language B—American Indian Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06839  American Indian Language—Other**

## Indic Languages

**06841  Indic Language I**
    Designed to introduce students to an Indic language (e.g., Hindi, Urdu, Panjabi, and Romany) and culture, Indic Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.

**06842  Indic Language II**
    Indic Language II courses build upon skills developed in Indic Language I, extending students' ability to understand and express themselves in an Indic language (e.g., Hindi, Urdu, Panjabi, and Romany) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).

**06843  Indic Language III**
    Indic Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06844  Indic Language IV**
    Indic Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Indic Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06845  Indic Language V**
    Indic Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06846  Indic Language for Native Speakers**

Indic Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue (e.g., Hindi, Urdu, Panjabi, and Romany). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Indic Language for Native Speakers courses often move faster than do regular Indic Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06847  Indic Language Field Experience**

Indic Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where an Indic language (e.g., Hindi, Urdu, Panjabi, and Romany) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06848  Indic Language Conversation and Culture**

Indic Language Conversation and Culture courses provide students with an introduction to an Indic language (e.g., Hindi, Urdu, Panjabi, and Romany) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06849  Indic Literature**

Indic Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in an Indic language (e.g., Hindi, Urdu, Panjabi, and Romany).

**06850  IB Language A (non-English)—Indic Language**

IB Language A (non-English)—Indic Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06851  IB Language B—Indic Language**

IB Language B—Indic Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06859  Indic Language—Other**

## Malayo-Polynesian Languages

**06861  Malayo-Polynesian Language I**
Designed to introduce students to a Malayo-Polynesian language (e.g., Malay, Indonesian, Hawaiian, and Samoan) and culture, Malayo-Polynesian Language I courses emphasize basic grammar and syntax, simple vocabulary, and the spoken accent so that students can read, write, speak, and understand the language at a basic level within predictable areas of need, using customary courtesies and conventions.

**06862  Malayo-Polynesian Language II**
Malayo-Polynesian Language II courses build upon skills developed in Malayo-Polynesian Language I, extending students' ability to understand and express themselves in a Malayo-Polynesian language (e.g., Malay, Indonesian, Hawaiian, and Samoan) and increasing their vocabulary. Typically, students learn how to engage in discourse for informative or social purposes, write expressions or passages that show understanding of sentence construction and the rules of grammar, and comprehend the language when spoken slowly. Students usually explore the customs, history, and art forms of appropriate people to deepen their understanding of the culture(s).

**06863  Malayo-Polynesian Language III**
Malayo-Polynesian Language III courses focus on having students express increasingly complex concepts both verbally and in writing while showing some spontaneity. Comprehension goals for students may include attaining more facility and faster understanding when listening to the language spoken at normal rates, being able to paraphrase or summarize written passages, and conversing easily within limited situations.

**06864  Malayo-Polynesian Language IV**
Malayo-Polynesian Language IV courses focus on advancing students' skills and abilities to read, write, speak, and understand the Malayo-Polynesian Language being studied so that they can maintain simple conversations with sufficient vocabulary and an acceptable accent, have sufficient comprehension to understand speech spoken at a normal pace, read uncomplicated but authentic prose, and write narratives that indicate a good understanding of grammar and a strong vocabulary.

**06865  Malayo-Polynesian Language V**
Malayo-Polynesian Language V courses extend students' facility with the language so that they are able to understand, initiate, and sustain general conversations on topics beyond basic survival needs. Reading and writing tasks will usually include all normal verb tenses (present, past, and future).

**06866  Malayo-Polynesian Language for Native Speakers**

Malayo-Polynesian Language for Native Speakers courses support, reinforce, and expand students' knowledge of their own tongue (e.g., Malay, Indonesian, Hawaiian, and Samoan). Because students understand at least the rudiments and structure of the language and have a working vocabulary (to a greater or lesser degree), Malayo-Polynesian Language for Native Speakers courses often move faster than do regular Malayo-Polynesian Language courses and emphasize literary development (with a study of literature and composition). These courses may also include the culture or history of the people and introduce translation skills.

**06867  Malayo-Polynesian Language Field Experience**

Malayo-Polynesian Language Field Experience courses place students in an environment in which they interact with native speakers, most typically in a setting where a Malayo-Polynesian language (e.g., Malay, Indonesian, Hawaiian, and Samoan) is the main language spoken. Students strengthen their language skills (reading, writing, listening, and speaking) and increase their ability to interact naturally.

**06868  Malayo-Polynesian Language Conversation and Culture**

Malayo-Polynesian Language Conversation and Culture courses provide students with an introduction to a Malayo-Polynesian language (e.g., Malay, Indonesian, Hawaiian, and Samoan) and the culture(s) of the people, placing greater emphasis on speaking and listening skills while de-emphasizing writing and reading the language.

**06869  Malayo-Polynesian Literature**

Malayo-Polynesian Literature courses place an emphasis on reading, understanding, and reacting in writing to literature written in a Malayo-Polynesian language (e.g., Malay, Indonesian, Hawaiian, and Samoan).

**06870  IB Language A (non-English)—Malayo-Polynesian Language**

IB Language A (non-English)—Malayo-Polynesian Language courses prepare students to take the International Baccalaureate Language A exams at either the Subsidiary or Higher level. Course content includes in-depth study of literature chosen from the appropriate IB list of texts and authors, written analyses of this literature, and other oral and written assignments. Course content is designed to improve students' accuracy and fluency in the language, which is usually the students' native tongue.

**06871  IB Language B—Malayo-Polynesian Language**

IB Language B—Malayo-Polynesian Language courses prepare students to take the International Baccalaureate Language B exams at either the Subsidiary or Higher level. These courses focus on improving students' accuracy and fluency in oral and written communication (usually in the students' "second" language). Students preparing to take the Subsidiary level exam will be able to understand native speakers; students preparing for the Higher level exam will be able to communicate fluently at native speed.

**06879  Malayo-Polynesian Language—Other**


## General

**06995  Foreign Language and Literature—Aide**
Foreign Language and Literature—Aide courses offer students the opportunity to assist instructors in preparing, organizing or delivering course curricula. Students may provide tutorial or instructional assistance to other students.


**06997  Foreign Language and Literature—Independent Study**
Foreign Language and Literature—Independent Study courses, often conducted with instructors as mentors, enable students to explore foreign language-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular language, to explore a topic in greater detail, or to develop more advanced skills.


**06998  Foreign Language and Literature—Workplace Experience**
Foreign Language and Literature—Workplace Experience courses provide students with work experience in a field related to foreign language and literature. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**06999  Foreign Language and Literature—Other**

# Subject Area 7: Religious Education and Theology (secondary)

**07001  Religious Foundations**
  Religious Foundations courses' primary objectives include instruction in the history, tenets, and organization of a religion; development of personal faith and conviction; and exposure to the ways in which daily life may reflect personal religious beliefs. These courses typically include various components particular to a specific religion, such as religious sacraments and symbols, food laws, the authority and structure of the church, the church calendar, and so on.

**07002  Comparative Religion**
  Comparative Religion courses survey and compare the various forms and values of several world religions, offering students a basic understanding of the world's diverse religious faiths and practices. Course topics typically include the belief systems of adherents; the relationships among humans, nature, ancestors, and the spiritual world; and the historical development of each religion.

**07003  Eastern Religions**
  Similar to Comparative Religion, Eastern Religions courses provide students with an overview of various religions and belief systems but focus on those of the Eastern World. Particular religious or philosophical systems of study usually include Buddhism, Hinduism, Islam, Taoism, Shintoism, and Confucianism, among others.

**07004  Western Religions**
  Similar to Comparative Religion, Western Religions courses provide students with an overview of various religions and belief systems but focus on those of the Western World. Particular religious or philosophical systems of study usually include Judaism; Christianity (including various faiths such as those of Catholics, Episcopalians, Baptists, Quakers, Mormons, Mennonites, and others); and Native Indian belief systems, among others.

**07005  Scriptures**
  Scriptures courses emphasize understanding and interpreting the sacred writings of a faith (such as the Bible, Torah, Koran, Book of Mormon, and so on) from the standpoint of a religious faith. Course objectives are designed so that students may comprehend the theological, doctrinal, and ethical messages contained within religious scriptures.

**07006  Old Testament**
  Old Testament courses emphasize understanding and interpreting the sacred writings of the Old Testament from the standpoint of a religious faith and may focus on one or several books. Course content typically focuses on themes, theological concepts, and portrayal of ethical messages, but may also include critique and commentary.

**07007  New Testament**

New Testament courses emphasize understanding and interpreting the sacred writings of the New Testament from the standpoint of a religious faith and may focus on one or several religious books. Course content typically focuses on themes, theological concepts, and portrayal of ethical messages, but may also include critique and commentary.

**07008  Bible History**

Bible History courses treat the Bible as a historical document and provide an overview of significant biblical events. The content usually includes geography; the relationship among cultures, belief systems, and the events chronicled in the Bible; and early Jewish or Christian Church history.

**07009  Christology**

Christology courses concern the work and life of Jesus Christ and the literature related to him. Course content is typically based on Christian scriptures, leading to an examination of the message of Jesus Christ and applying His message to daily life.

**07010  Religious Figures**

Religious Figures courses offer students the opportunity to examine the lives and messages of one or several people who are central to a religious faith, such as a prophet, apostle, philosopher, or leader. In addition to a historical study of the person (or people), these courses typically emphasize how the teachings of these individuals influence the faith and culture of a religious group.

**07011  Liturgy and Prayer**

Liturgy and Prayer courses vary widely, usually depending upon the underlying religion, but generally seek to inform students about the meaning and message of public and private worship. Course content typically includes an examination or exploration of common rituals, spoken or sung prayers, and observed sacraments.

**07012  Prayer and Spirituality**

Prayer and Spirituality courses vary widely, but seek to enable students to experience deeper communion with the divine through public and private worship. Course content may include an examination or exploration of traditional and contemporary practices.

**07013  Religious Ethics and Morality**

Usually including an introduction to or examination of the tenets of a particular faith, Religious Ethics and Morality courses seek to enable students to apply the moral teachings of a faith to their own lives, to the larger community, and to their decision-making processes. Course content may focus on such issues as peace and justice, death and dying, human sexuality, professional ethics, and human rights.

**07014  Justice, Peace, and Faith**

 Justice, Peace, and Faith courses examine the scriptural foundations for justice, typically with a historical overview of a faith's social teaching. These courses discuss such topics as poverty, hunger, conflict, discrimination, justice, and environmental issues, with a view toward developing students' ability to critically reflect upon and analyze their own roles and responsibilities.


**07015  Faith and Lifestyle**

 Faith and Lifestyle courses focus on the development of young adults from puberty to adulthood, approached from the perspective of a faith or church. In these courses, the religion's values and traditions provide an underpinning for examining such topics as identity, independence, sexuality, employment, and leisure. Typically, Faith and Lifestyle courses include discussions about adult roles—single life, marriage, religious life, and ordained ministry.


**07016  Ministry**

 Ministry courses introduce students to the vocation of service. Students may learn counseling skills, plan and participate in religious services, and minister to younger students or to members of the local community (assisting in hospitals and convalescent homes, crisis centers, soup kitchens, and so on).


**07995  Religious Education and Theology—Aide**

 Religious Education and Theology—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.


**07997  Religious Education and Theology—Independent Study**

 Religious Education and Theology—Independent Study courses, often conducted with instructors, members of the clergy, or religious leaders as mentors, enable students to explore topics of interest related to religion or theology. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular religion, to explore a topic in greater detail, or to develop more advanced skills.


**07998  Religious Education and Theology—Workplace Experience**

 Religious Education and Theology—Workplace Experience courses provide students with work experience in a field related to religion and theology. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**07999  Religious Education and Theology—Other**

## Subject Area 8: Physical, Health, and Safety Education

### Physical Education

**08001  Physical Education**

Physical Education courses provide students with knowledge, experience, and an opportunity to develop skills in more than one of the following sports or activities: team sports, individual/dual sports, recreational sports, and fitness/conditioning activities.

**08002  Team Sports**

Team Sports courses provide students with knowledge, experience, and an opportunity to develop skills in more than one team sport (such as volleyball, basketball, soccer, and so on).

**08003  Individual/Dual Sports**

Individual/Dual Sports courses provide students with knowledge, experience, and an opportunity to develop skills in more than one individual or dual sport (such as tennis, golf, badminton, jogging/running, racquetball, and so on).

**08004  Recreation Sports**

Recreation Sports courses provide students with knowledge, experience, and an opportunity to develop skills in more than one recreational sport or outdoor pursuit (such as adventure activities, croquet, Frisbee, wall climbing, bocce ball, fishing, hiking, cycling, and so on).

**08005  Fitness/Conditioning Activities**

Fitness/Conditioning Activities courses emphasize conditioning activities that help develop muscular strength, flexibility, and cardiovascular fitness.

**08006  Corps Movement**

Corps Movement courses emphasize physical conditioning, fundamentals of movement, group precision, and public performance. The courses may be intended for members of various teams, including flag corps, rifle corps, cheerleading squads, and so on.

**08007  Adapted Physical Education**

These courses provide physical education activities (sports, fitness, and conditioning) adapted for students with special needs.

**08008  Gymnastics**

Gymnastics courses are designed to help students develop knowledge and skills in gymnastics, stunts, and tumbling while emphasizing safety. Floor gymnastics may be supplemented by the use of gymnastic equipment such as balance beam, uneven bars, parallel bars, rings, and so on. Gymnastic courses may include other components such as the history of gymnastics and conditioning.

**08009  Weight Training**

Weight Training courses help students develop knowledge and skills with free weights and universal stations while emphasizing safety and proper body positioning; they may include other components such as anatomy and conditioning.

**08010  Aquatic/Water Sports**

Aquatic/Water Sports courses help students develop skills useful or necessary in an aquatic environment. They may focus on swimming and competitive strokes, such as freestyle, breaststroke, butterfly, and so on or may involve team-oriented water sports, such as water polo and relay swimming. These courses may also include (or concentrate exclusively on) diving and/or lifesaving skills.

**08011  Tennis**

Tennis courses help students develop knowledge, skills, and abilities related to the sport of singles or doubles tennis, including shots (such as serves, forehand strokes, backhand strokes, and lobs), scoring, and strategy.

**08012  Self-defense**

Self-defense courses help students develop knowledge, skills, and abilities to defend themselves against attack by others, usually incorporating traditional self-defense methods. Students may also be taught techniques from martial arts, addressing the differences among those arts and their contribution to defense and sport.

**08013  Specific Sports Activities**

Courses in Specific Sports Activities help students develop knowledge, experience, and skills in a single sport or activity (such as basketball, volleyball, track and field, and equestrian events) other than those coded within this section. (Dance is included under the Fine and Performing Arts subject area.)

**08014  Physical Education Equivalent**

These courses award physical education credit for other at-school activities, such as marching band or cheerleading. (Dance is included under the Fine and Performing Arts subject area.)

**08015  Off-Campus Sports**
  These courses award physical education credit for off-campus sports activities such as swimming or weight training courses taken at a community center or community college.

**08016  Lifetime Fitness Education**
  These courses emphasize acquiring knowledge and skills regarding lifetime physical fitness; content may include related topics such as nutrition, stress management, and consumer issues. Students may develop and implement a personal fitness plan.

**08017  Sports Physiology**
  Courses in Sports Physiology examine human anatomy and physiology as they pertain to human movement and physical performance in sports activities. These courses may also emphasize the prevention and treatment of athletic injuries.

**08047  Physical Education—Independent Study**
  Courses in Physical Education—Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to physical education. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular sport or activity, to explore a topic in greater detail, or to develop more advanced skills.

**08048  Physical Education—Workplace Experience**
  Physical Education—Workplace Experience courses provide work experience in a field related to physical education. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences encountered in the workplace.

**08049  Physical Education—Other**

## Health Education

**08051  Health Education**
  Topics covered within Health Education courses may vary widely, but typically include personal health (nutrition, mental health and stress management, drug/alcohol abuse prevention, disease prevention, and first aid) and consumer health issues. The courses may also include brief studies of environmental health, personal development, and/or community resources.

**08052  Health and Fitness**

Health and Fitness courses combine the topics of Health Education courses (nutrition, stress management, substance abuse prevention, disease prevention, first aid, and so on) with an active fitness component (typically including aerobic activity and fitness circuits) with the intention of conveying the importance of life-long wellness habits.

**08053  Community Health**

Community Health courses cover not only personal health topics (nutrition, stress management, substance abuse prevention, disease prevention, first aid, and so on), but also more general health issues. These additional topics may include (among others) available community resources, fundamentals of the nation's health care system, contemporary world health issues, and career options within the health field.

**08054  Special Needs Health Education**

Special Needs Health Education courses focus on the health requirements of individuals with special needs and emphasize meeting those needs within the home setting. These courses provide information regarding the elderly and individuals with disabilities, handicaps, and/or debilitating illnesses, along with strategies to prepare students for their possible roles as caretakers.

**08055  Safety and First Aid**

Safety and First Aid courses provide specialized instruction in first aid techniques, cardiopulmonary resuscitation (CPR), relief of obstructed airways, and general safety procedures and behaviors. These courses may include such topics as an overview of community agencies and hotlines providing emergency care and information and opportunities for first aid and CPR certification.

**08056  Health for Parenting Teens**

Designed for pregnant teens and/or parents, topics within Health for Parenting Teens courses cover a wide range of both health and parenting issues, typically including prenatal and postnatal care, health and well-being of young parents, child development, stress management, and parental/adult roles. The courses may also involve academic assistance, career exploration, financial management, and so on.

**08057  Health and Life Management**

Health and Life Management courses focus as much on consumer education topics (such as money management and evaluation of consumer information and advertising) as on personal health topics (such as nutrition, stress management, drug/alcohol abuse prevention, disease prevention, and first aid). Course objectives include helping students develop decision-making, communication, interpersonal, and coping skills and strategies.

**08058  Substance Abuse Prevention**
 Substance Abuse Prevention courses focus specifically on the health risks of drugs, alcohol and tobacco. These courses provide information on the negative consequences of these products and teach students coping strategies to resist the influences (such as peers and media images) that may entice them to use these substances. Students may also explore the community resources available to them.


**08097  Health Education—Independent Study**
 Courses in Health Education—Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to health and health education. Independent Study courses may provide students with opportunity to expand expertise in a particular application, to explore a topic of special interest in greater detail, or to develop more advanced skills.


**08098  Health Education—Workplace Experience**
 Health Education—Workplace Experience courses provide work experience in a field related to health education. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences encountered in the workplace.


**08099  Health Education—Other**


## Drivers' Education

**08151  Drivers' Education—Classroom Only**
 Drivers' Education—Classroom Only courses provide students with the knowledge to become safe drivers on America's roadways. Topics in these courses include legal obligations and responsibility, rules of the road and traffic procedures, safe driving strategies and practices, and the physical and mental factors affecting the driver's capability (including alcohol and other drugs).


**08152  Drivers' Education—Classroom and Laboratory**
 Drivers' Education—Classroom and Laboratory courses provide students with the knowledge and experience to become safe drivers on America's roadways. Topics in these courses cover legal obligations and responsibility, rules of the road and traffic procedures, safe driving strategies and practices, and the physical and mental factors affecting the driver's capability (including alcohol and other drugs). Experience in driving a vehicle is an essential component of these courses.


**08197  Drivers' Education—Independent Study**
 Courses in Drivers' Education—Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to drivers' education. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**08198  Drivers' Education—Workplace Experience**

Drivers' Education—Workplace Experience courses provide work experience in a field related to drivers' education. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**08199  Drivers' Education—Other**

## All Others

**08201  Physical Education/Health/Drivers' Education**

Physical Education/Health/Drivers' Education courses combine a range of activities and topics involving physical skills, human health issues, and safe driving. They are offered in ways that cover two or three of these areas.  The physical education portion of these courses draws on team, individual, dual, recreational, and/or conditioning activities. The human health portion typically covers issues such as nutrition, stress management, drug/alcohol abuse prevention, and first aid. The drivers' education portion usually includes legal obligations and responsibilities, rules of the road and traffic procedures, safe driving strategies, and related topics.

**08995  Physical, Health, and Safety Education—Aide**

Physical, Health, and Safety Education—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**08997  Physical, Health, and Safety Education—Independent Study**

Courses in Physical, Health, and Safety Education—Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to physical, health, and safety education. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced physical, health and/or safety skills.

**08998  Physical, Health, and Safety Education—Workplace Experience**

Physical, Health, and Safety Education—Workplace Experience courses provide work experience in a field related to physical, health, and safety education. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**08999  Physical, Health, and Safety Education—Other**

# Subject Area 9: Military Science

## General

**09001  Introduction to Junior ROTC**
    Introduction to Junior Reserve Officer Training Corps (ROTC) courses introduce students to the purposes and objectives of the Reserve Officer Training Corps program, which seeks to educate high school students in citizenship, promote community service, and instill responsibility. As part of that introduction, course topics typically include a brief history of the military branches in the United States and the basics of military drill, ceremony, and rank structure.

**09002  Military Junior ROTC—unspecified branch**
    Although individual course sequences may vary, the primary objectives of Military Junior Reserve Officer Training Corps (ROTC) courses are to provide students with instruction in the history, organization, role, objectives, and achievements of a particular branch of the U.S. Armed Forces; help them develop personal fitness, strong character, and leadership qualities; and expose them to the career opportunities provided by the U.S. Armed Services. These courses typically cover such topics as military customs, courtesies, rank, drill, and ceremonies and also emphasize citizenship and scholarship. The course content typically includes subjects related to the particular branch being studied (such as map-reading, nautical skills, aerospace technology, or communication technologies), as well as more general subjects (international law, national defense, celestial navigation, and geopolitical strategy).

**09003  ROTC Drill**
    Reserve Officer Training Corps (ROTC) Drill courses provide students with an additional opportunity to improve their skills in military precision. These courses emphasize marching style and formations, firearm manipulation, body coordination and mechanics, and performing as a member of an orchestrated team. Class members typically participate in ceremonies and competitions.

**09004  Military Leadership**
    Military Leadership courses focus solely on increasing students' leadership skills, particularly as they relate to military operations, customs, and hierarchies. These courses are typically a regular part of the ROTC programs described below (typically the final course within a program series); this Military Leadership course code and title should be used when those descriptions do not apply. The principles and skills taught in these courses include supervision, motivation, evaluation, and setting an example, and their application typically include military drill and inspections, athletic events, and other school activities.

## Army

**09051  Army Junior ROTC I**

Army Junior Reserve Officer Training Corps (ROTC) I courses include instruction in the organization and functions of the U.S. Army, leadership skills, and life skills education. The content of these courses cover (but is not limited to) the history and evolution of the Army, including its structure, operations, customs and courtesies; maps and navigation; first aid, personal hygiene, and field sanitation; and substance abuse prevention. These courses also introduce students to principles of leadership and citizenship.

**09052  Army Junior ROTC II**

Army Junior Reserve Officer Training Corps (ROTC) II courses build upon the content of Army Junior ROTC I and include (but are not limited to) ongoing instruction in leadership principles and citizenship; drill and ceremonies; organizational structure; command and staff relationships, functions, and responsibilities; significant military campaigns and leaders; map-reading and orienteering; weapon safety and marksmanship; and survival training.

**09053  Army Junior ROTC III**

Army Junior Reserve Officer Training Corps (ROTC) III courses build upon prior Army Junior ROTC courses, giving more emphasis to leadership development. These courses serve to strengthen students' leadership skills (including planning, problem-solving, motivation, and performance appraisal) and management skills (with regard to time, personnel, and other resources) through allowing them to assume leadership duties. Students study topics introduced in earlier years—such as military history, map-reading and orienteering, marksmanship, and drill and ceremonies—at a more advanced level and are also provided with military service opportunities.

**09054  Army Junior ROTC IV**

Army Junior Reserve Officer Training Corps (ROTC) IV courses focus on practical leadership by assigning students to command and staff positions in which they present instruction to lower Army Junior ROTC classes and continue to study and review staff functions and actions, staff-commander relationships, and leadership principles. Topics introduced in earlier years may be studied at more advanced levels.

## Navy

**09101  Naval Junior ROTC I**

Naval Junior Reserve Officer Training Corps (ROTC) I courses emphasize citizenship and leadership development, as well as maritime heritage, sea power, and Naval operations and customs. These courses include (but are not limited to) an introduction to the Naval Junior ROTC program, U.S. Navy mission and organization, maritime geography, naval history, basic seamanship, oceanography, and health education.

**09102  Naval Junior ROTC II**

Naval Junior Reserve Officer Training Corps (ROTC) II courses build upon the content of Naval Junior ROTC I. These courses include (but are not limited to) leadership principles and discipline, citizenship, naval opportunities and career planning, naval ships and weaponry, seamanship, meteorology and weather, and survival training. Students continue to learn teamwork, naval history, and military principles.

**09103  Naval Junior ROTC III**

Naval Junior Reserve Officer Training Corps (ROTC) III courses build upon prior Naval Junior ROTC courses. These courses include (but are not limited to) leadership principles and discipline, military justice, international law and the sea, naval intelligence/strategies and national security, and sciences involved in naval operations, such as electricity, electronics, communications technologies, and so on. Students continue to learn teamwork, naval history, and military principles.

**09104  Naval Junior ROTC IV**

Naval Junior Reserve Officer Training Corps (ROTC) IV courses are focused on practical leadership, placing students in positions where they can learn, practice, and understand skills involved in leading others, such as supervision, motivation, evaluation, setting examples, and problem-solving. Application of these skills usually includes military drill and inspections, athletic events, and other school activities. Topics introduced in earlier years may be studied at more advanced levels.

## Air Force

**09151  Air Force Junior ROTC I**

Air Force Junior Reserve Officer Training Corps (ROTC) I courses include both aerospace studies and leadership/life skills education. In these courses, leadership/life skills lessons cover the heritage and development of the Air Force, including its structure, operations, customs, and courtesies. Aerospace topics include the development, history, and impact of flight; aircraft and spacecraft; and the environment in which these crafts operate.

**09152  Air Force Junior ROTC II**

Air Force Junior Reserve Officer Training Corps (ROTC) II courses include both aerospace studies and leadership/life skills education. In these courses, leadership/life skills lessons cover intercommunication skills, drill, and military ceremonies. Aerospace topics emphasize the science of flight, including factors of aerospace power, aircraft flight, and navigation.

**09153  Air Force Junior ROTC III**

Air Force Junior Reserve Officer Training Corps (ROTC) III courses include both aerospace studies and leadership/life skills education. These courses continue to develop students' life and leadership skills and the ways in which they apply to military life. Aerospace topics emphasize space technology and exploration; examine national defense systems; and advance students' knowledge of aviation, propulsion, and navigation.

**09154  Air Force Junior ROTC IV**

Air Force Junior Reserve Officer Training Corps (ROTC) IV courses include both aerospace studies and leadership/life skills education. The life skills education portion of these courses concentrates on leadership and management principles and career opportunities, and aerospace topics include advanced aerodynamics and aeronautics. Course content may also cover elements of national power and relationships between the nations of the world.

## Marine Corps

**09201  Marine Corps Junior ROTC I**

Marine Corps Junior Reserve Officer Training Corps (ROTC) I courses introduce the Marine Corps Junior ROTC program, with an emphasis on personal growth and responsibility along with general military subjects. These courses include (but are not limited to) physical training; health education, including hygiene, first aid, nutrition, and substance abuse prevention; and communication skills. In these courses, students are introduced to and study Marine Corps values and code of conduct; drill and ceremony; military uniforms, customs, and courtesies; military history; and the Marine Corps structure and chain of command.

**09202  Marine Corps Junior ROTC II**

Marine Corps Junior Reserve Officer Training Corps (ROTC) II courses build upon Marine Corps Junior ROTC I. These courses emphasize personal growth and responsibility, leadership, and citizenship along with military subjects that typically include the mission, organization, and history of the Marine Corps; geography, maps, and navigation; drill and ceremony; and military justice. Students learn about such leadership skills as authority, responsibility, and accountability and citizenship topics including U.S. government structures, documents, and symbols.

**09203  Marine Corps Junior ROTC III**

Marine Corps Junior Reserve Officer Training Corps (ROTC) III courses build upon prior Marine Corps Junior ROTC courses. These courses include (but are not limited to) leadership practice, including training, inspection and evaluation; public service career opportunities; and citizenship responsibilities. These courses cover such personal skills as financial planning, saving and investing, and evaluating credit and insurance terms. Students learn about the structures of other armed service branches, advance their mapping and navigation skills, and may study firearm use, safety and marksmanship. Students continue to learn teamwork, Marine Corps history, and military principles.

**09204  Marine Corps Junior ROTC IV**

Marine Corps Junior Reserve Officer Training Corps (ROTC) IV courses focus on the practical application of skills learned throughout the program: leadership, communication (written and verbal), personal growth, and public service. These courses emphasize drill and ceremony, physical fitness, marksmanship, land navigation, and military history at more advanced levels than in previous courses.

**Other**

**09995  Military Science—Aide**

Military Science—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**09997  Military Science—Independent Study**

Courses in Military Science—Independent Study, often conducted with instructors/armed services personnel as mentors, enable students to explore topics of interest related to military science. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**09998  Military Science—Workplace Experience**

Military Science—Workplace Experience courses provide students with work experience within the field of military science and are supported by classroom attendance and discussion. In these courses, goals are set for the employment period, and classroom experience may involve further study in the field, improvement of employability skills, or discussion regarding the experiences and problems that students encounter on the job.

**09999  Military Science—Other**

# Subject Area 10: Computer and Information Sciences

## Computer Literacy

### 10001  Introduction to Computers

Introduction to Computer courses introduce students to computers and peripheral devices, the functions and uses of computers, the language used in the computer industry, possible applications of computers, and occupations related to computer hardware and software. These courses typically explore legal and ethical issues associated with computer use, as well as how computers influence modern society. Students may also be required to perform some computer operations.

### 10002  Computing Systems

Computing Systems courses offer a broad exploration of the use of computers in a variety of fields. These courses have a considerable range of content, but typically include the introduction of robotics and control systems, computer-assisted design, computer-aided manufacturing systems, and other computer technologies as they relate to industry applications.

### 10003  Computer and Information Technology

Computer and Information Technology courses teach students to operate and use computer and information technology, emphasizing their role as tools to communicate more effectively, conduct research more efficiently, and increase productivity. Course content includes the legal and ethical issues involved with computer technology and use.

### 10004  Computer Applications

In Computer Applications courses, students acquire knowledge of and experience in the proper and efficient use of previously written software packages. These courses explore a wide range of applications, including (but not limited to) word-processing, spreadsheet, graphics, and database programs, and they may also cover the use of electronic mail and desktop publishing.

### 10005  Business Computer Applications

In Business Computer Applications courses, students acquire knowledge of and experience in the proper and efficient use of previously written software packages, particularly those used in the business world. Generally, these courses explore a wide range of applications, including (but not limited to) word-processing, spreadsheet, graphics, and database programs, and they may also cover topics such as electronic mail, desktop publishing, and telecommunications.

**10006  Telecommunications**
 Telecommunications courses address the growth in global communications and the emerging equipment and systems needed to successfully communicate in a global environment. These courses cover such topics as data communication protocol and systems, government regulations of the communications industry, and the use of cost-effective and productive tools to transmit messages and data. In these courses, students may learn about such communication systems as e-mail, internet or e-commerce, LAN, WAN, voice transmission, cell phone technology, and traditional teleconferencing.

**10007  IB Information Technology in a Global Society**
 IB Information Technology in a Global Society courses prepare students to take the International Baccalaureate Information Technology exams and examine the interaction among information, technology, and society. Course content is designed to help students develop a systematic, problem-solving approach to processing and analyzing information using a range of information tools. In these courses, students also discuss and evaluate how modern information technology affects individuals, relationships among people, and institutions and societies.

**10008  Particular Topics in Computer Literacy**
 These courses examine particular topics related to general computer literacy other than those already described, such as privacy issues or instruction in using a particular software application.

**10047  Computer Literacy—Independent Study**
 Computer Literacy—Independent Study courses, often conducted with instructors as mentors, enable students to explore computer-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**10048  Computer Literacy—Workplace Experience**
 Computer Literacy—Workplace Experience courses provide work experience in fields related to computer literacy. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**10049  Computer Literacy—Other**

## Management Information Systems

**10051  Information Management**
 Information Management courses provide students with the knowledge and skills to develop and implement a plan for an information system that meets the needs of business. Students develop an understanding of information system theory, skills in administering and managing information systems, and the ability to analyze and design information systems.

**10052  Database Management and Data Warehousing**
Database Management and Data Warehousing courses provide students with the skills necessary to design databases to meet user needs. Courses typically address how to enter, retrieve, and manipulate data into useful information. More advanced topics may cover implementing interactive applications for common transactions and the utility of mining data.

**10053  Database Applications**
Database Application courses provide students with an understanding of database development, modeling, design, and normalization. These courses typically cover such topics as SELECT statements, data definition, manipulation, control languages, records, and tables. In these courses, students may use Oracle WebDB, SQL, PL/SQL, SPSS, and SAS and may prepare for certification.

**10054  Data Systems/Processing**
Data Systems/Processing courses introduce students to the uses and operation of computer hardware and software and to the programming languages used in business applications. Students typically use BASIC, COBOL, and/or RPL languages as they write flowcharts or computer programs and may also learn data-processing skills.

**10055  Particular Topics in Management Information Systems**
These courses examine particular topics in management information systems other than those already described.

**10097  Management Information Systems—Independent Study**
Management Information Systems—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to management information systems. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**10098  Management Information Systems—Workplace Experience**
Management Information Systems—Workplace Experience courses provide work experience in fields related to management information systems. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**10099  Management Information Systems—Other**

## Network Systems

**10101  Network Technology**
     Network Technology courses address the technology involved in the transmission of data between and among computers through data lines, telephone lines, or other transmission media (such as hard wiring, cable television networks, radio waves, and so on). These courses may emphasize the capabilities of networks, network technology itself, or both. Students typically learn about network capabilities—including electronic mail, public networks, and electronic bulletin boards—and network technology—including network software, hardware, and peripherals involved in setting up and maintaining a computer network.

**10102  Networking Systems**
     Networking Systems courses are designed to provide students with the opportunity to understand and work with hubs, switches, and routers. Students develop an understanding of LAN (local area network), WAN (wide area network), wireless connectivity, and Internet-based communications with a strong emphasis on network function, design, and installation practices. Students acquire skills in the design, installation, maintenance, and management of network systems that may help them obtain network certification.

**10103  Area Network Design and Protocols**
     Area Network Design and Protocols courses address the role of computers in a network system, the Open Systems Interconnection (OSI) model, structured wiring systems, and simple LAN (local area network) and WAN (wide area network) designs.

**10104  Router Basics**
     Router Basics courses teach students about router components, start-up, and configuration using CISCO routers, switches, and the IOS (Internetwork Operation System). These courses also cover such topics as TCP/IP protocol, IP addressing, subnet masks, and network trouble-shooting.

**10105  NetWare Routing**
     NetWare Routing courses introduce students to such topics as Virtual LANs (VLAN) and switched internetworking, comparing traditional shared local area network (LAN) configurations with switched LAN configurations, and they also discuss the benefits of using a switched VLAN architecture. These courses also may cover routing protocols like RIP, IGRP, Novell IPX, and Access Control Lists (ACLs).

**10106  Wide Area Telecommunications and Networking**
     Wide Area Telecommunications and Networking courses provide students with the knowledge and skills to enable them to design Wide Area Networks (WANs) using ISDN, Frame-Relay, and PPP. Students gain knowledge and skills in network management and maintenance and develop expertise in trouble-shooting and assessing the adequacy of network configuration to meet changing conditions.

**10107  Wireless Networks**
　　　　Wireless Networks courses focus on the design, planning, implementation, operation, and trouble-shooting of wireless computer networks. These courses typically include a comprehensive overview of best practices in technology, security, and design, with particular emphasis on hands-on skills in (1) wireless LAN set-up and trouble-shooting; (2) 802.11a & 802.11b technologies, products, and solutions; (3) site surveys; (4) resilient WLAN design, installation, and configuration; (5) vendor interoperability strategies; and (6) wireless bridging.


**10108  Network Security**
　　　　Network Security courses teach students how to design and implement security measures in order to reduce the risk of data vulnerability and loss. Course content usually includes typical security policies; firewall design, installation, and management; secure router design, configuration, and maintenance; and security-specific technologies, products, and solutions.


**10109  Essentials of Network Operating Systems**
　　　　Essentials of Network Operating Systems courses provide a study of multi-user, multi-tasking network operating systems. In these courses, students learn the characteristics of the Linux, Windows 2000, NT, and XP network operating systems and explore a variety of topics including installation procedures, security issues, back-up procedures, and remote access.


**10110  Microsoft Certified Professional (MCP)**
　　　　Microsoft Certified Professional courses provide students with the knowledge and skills necessary to be employed as a network administrator in the latest Windows server-networking environment. Topics include installing, configuring, and trouble-shooting the Windows server. These courses prepare students to set up network connections; manage security issues and shares; and develop policies. Students are typically encouraged to take the MCP exam.


**10111  Particular Topics in Networking Systems**
　　　　These courses examine particular topics in networking systems other than those already described.


**10147  Networking Systems—Independent Study**
　　　　Networking Systems—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to networking systems. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**10148  Networking Systems—Workplace Experience**
Networking Systems—Workplace Experience courses provide students with work experience in fields related to networking systems. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**10149  Networking Systems—Other**

## Computer Science/Programming

**10151  Business Programming**
Business Programming courses provide students with experience in using previously written software packages as well as designing and writing programs of their own. The word-processing, spreadsheet, graphics, and database exercises in these courses contain a business industry focus, and the original programs are written in languages typical of this industry (Visual Basic (VB), C++, Java, BASIC, COBOL, and/or RPL).

**10152  Computer Programming**
Computer Programming courses provide students with the knowledge and skills necessary to construct computer programs in one or more languages. Computer coding and program structure are often introduced with the BASIC language, but other computer languages, such as Visual Basic (VB), Java, Pascal, C++, and COBOL, may be used instead. Initially, students learn to structure, create, document, and debug computer programs, and as they progress, more emphasis is placed on design, style, clarity, and efficiency. Students may apply the skills they learn to relevant applications such as modeling, data management, graphics, and text-processing.

**10153  Visual Basic Programming**
Visual Basic (VB) Programming courses provide an opportunity for students to gain expertise in computer programs using the Visual Basic (VB) language. As with more general computer programming courses, the emphasis is on how to structure and document computer programs and how to use problem-solving techniques. These courses cover such topics as the use of text boxes, scroll bars, menus, buttons, and Windows applications. More advanced topics may include mathematical and business functions and graphics.

**10154  C++ Programming**
C++ Programming courses provide an opportunity for students to gain expertise in computer programs using the C++ language. As with more general computer programming courses, the emphasis is on how to write logically structured programs, include appropriate documentation, and use problem-solving techniques. More advanced topics may include multi-dimensional arrays, functions, and records.

**10155  Java Programming**
Java Programming courses provide students with the opportunity to gain expertise in computer programs using the Java language. As with more general computer programming courses, the emphasis is on how to structure and document computer programs, using problem-solving techniques. Topics covered in the course include syntax, I/O classes, string manipulation, and recursion.

**10156  Computer Programming—Other Language**
Computer Programming—Other Language courses provide students with the opportunity to gain expertise in computer programs using languages other than those specified (such as Pascal, FORTRAN, or emerging languages). As with other computer programming courses, the emphasis is on how to structure and document computer programs, using problem-solving techniques. As students advance, they learn to capitalize on the features and strengths of the language being used.

**10157  AP Computer Science A**
Following the College Board's suggested curriculum designed to mirror college-level computer science courses, AP Computer Science A courses provide students with the logical, mathematical, and problem-solving skills needed to design structured, well-documented computer programs that provide solutions to real-world problems. These courses cover such topics as programming methodology, features, and procedures; algorithms; data structures; computer systems; and programmer responsibilities.

**10158  AP Computer Science AB**
Following the College Board's suggested curriculum designed to mirror college-level computer science courses, AP Computer Science AB courses (in addition to covering topics included in AP Computer Science A) provide a more formal and extensive study of program design, algorithms, data structures, and execution costs.

**10159  IB Computing Studies**
IB Computer Studies courses prepare students to take the International Baccalaureate Computing Studies exam at either the Subsidiary or Higher level. The courses emphasize problem analysis, efficient use of data structures and manipulation procedures, and logical decision-making. IB Computing Studies courses also cover the applications and effects of the computer on modern society as well as the limitations of computer technology.

**10160  Particular Topics in Computer Programming**
These courses examine particular topics in computer programming other than those already described.

**10197  Computer Programming—Independent Study**

Computer Programming—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to computer programming. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.


**10198  Computer Programming—Workplace Experience**

Computer Programming—Workplace Experience courses provide students with work experience in fields related to computer programming. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**10199  Computer Programming—Other**


## Media Technology

**10201  Web Page Design**

Web Page Design courses teach students how to design web sites by introducing them to and refining their knowledge of site planning, page layout, graphic design, and the use of markup languages—such as Extensible Hypertext Markup, JavaScript, Dynamic HTML, and Document Object Model—to develop and maintain a web page. These courses may also cover security and privacy issues, copyright infringement, trademarks, and other legal issues relating to the use of the Internet. Advanced topics may include the use of forms and scripts for database access, transfer methods, and networking fundamentals.


**10202  Computer Graphics**

Computer Graphics courses provide students with the opportunity to explore the capability of the computer to produce visual imagery and to apply graphic techniques to various fields, such as advertising, TV/video, and architecture. Typical course topics include modeling, simulation, animation, and image retouching.


**10203  Interactive Media**

Interactive Media courses provide students with the knowledge and skills to create, design, and produce interactive media products and services. The courses may emphasize the development of digitally generated and/or computer-enhanced media. Course topics may include 3D animation, graphic media, web development, and virtual reality. Upon completion of these courses, students may be prepared for industry certification.

**10204  Particular Topics in Media Technology**
These courses examine particular topics in internet design and applications other than those already described.

**10247  Media Technology—Independent Study**
Media Technology—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to media technology. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**10248  Media Technology—Workplace Experience**
Media Technology—Workplace Experience courses provide students with work experience in fields related to media technology. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**10249  Media Technology—Other**

## Information Support and Services

**10251  Computer Technology**
Computer Technology courses introduce students to the features, functions, and design of computer hardware and provide instruction in the maintenance and repair of computer components and peripheral devices.

**10252  Computer Maintenance**
Computer Maintenance courses prepare students to apply basic electronic theory and principles in diagnosing and repairing personal computers and input/output devices. Topics may include operating, installing, maintaining, and repairing computers, network systems, digital control instruments, programmable controllers, and related robotics.

**10253  Information Support and Services**
Information Support and Services courses prepare students to assist users of personal computers by diagnosing their problems in using application software packages and maintaining security requirements.

**10254  IT Essentials: PC Hardware and Software**

IT Essentials: PC Hardware and Software courses provide students with in-depth exposure to computer hardware and operating systems. Course topics include the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Students learn to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. In addition, these courses introduce students to networking and often prepare them for industry certification.

**10255  CISCO—The Panduit Network Infrastructure Essentials (PNIE)**

CISCO—PNIE courses provide students with the knowledge to create innovative network infrastructure solutions. These courses offer students basic cable installer information and help them acquire the skills to build and use the physical layer of network infrastructure and develop a deeper understanding of networking devices.

**10256  Particular Topics in Information Support and Services**

These courses examine particular topics in computer support, maintenance, and repair other than those already described.

**10297  Information Support and Services—Independent Study**

Information Support and Services—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to computer information support and services. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**10298  Information Support and Services—Workplace Experience**

Information Support and Services—Workplace Experience courses provide students with work experience in fields related to information support and/or service. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**10299  Information Support and Services—Other**

## All Others

**10995  Computer and Information Sciences—Aide**

Computer and Information Sciences—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**10997  Computer and Information Sciences—Independent Study**

Computer and Information Sciences—Independent Study courses, often conducted with instructors as mentors, enable students to explore computer-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**10998  Computer and Information Sciences—Workplace Experience**

Computer and Information Sciences—Workplace Experience courses provide students with work experience in fields related to computer and/or information sciences. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**10999  Computer and Information Sciences—Other**

## Subject Area 11: Communication and Audio/Visual Technology (secondary)

## Communication

**11001  Introduction to Communication**
Introduction to Communication courses enable students to understand and critically evaluate the role of media in society. Course content typically includes investigation of visual images, printed material, and audio segments as tools of information, entertainment, and propaganda; improvement of presentation and evaluative skills in relation to mass media; recognition of various techniques for delivery of a particular message; and, in some cases, creation of a media product. The course may concentrate on a particular medium.

**11002  Communication Technology**
Communication Technology courses enable students to effectively communicate ideas and information through experiences dealing with drafting, design, electronic communication, graphic arts, printing process, photography, telecommunications, and computers. Additional topics covered in the course include information storage and retrieval. Drafting equipment may be used to make scale drawings, including multi-view drawing, photographs, and poster mock-ups.

**11003  Particular Topics in Communication**
These courses examine specific topics in communication other than those already described.

**11047  Communication—Independent Study**
Communication—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to mass communications. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**11048  Communication—Workplace Experience**
Communication—Workplace Experience courses provide students with work experience in a field related to communication. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**11049  Communication—Other**

## Audio and Video Technology and Film

**11051  Audio/Visual Production**
      Audio/Visual Production courses provide students with the knowledge and skills necessary for television, video, film, and/or radio production. Writing scripts, camera operation, use of graphics and other visuals, lighting, audio techniques, editing, production principles, and career opportunities are typical topics covered within production courses. Students are usually required to produce their own program or segment. Additional topics such as broadcast industry regulations, radio/TV operation, power of the medium, photography, transmission technology, and so on may be included.

**11052  Commercial Photography**
      Commercial Photography courses provide instruction in the use of cameras and laboratory film-processing techniques. Topics covered in the course include composition and color dynamics; contact printing; enlarging; developing film; use of camera meters, air brushes, and other photographic equipment; portrait, commercial, and industrial photography; processing microfilm; and preparing copy for printing or for graphic-arts processing.

**11053  Photographic Laboratory and Darkroom**
      Photographic Laboratory and Darkroom courses prepare students to develop and print still or motion picture film. Topics covered in the course may include controlling resultant prints; touching up negatives; and finishing, coloring, restoring, and copying prints.

**11054  Photo Imaging**
      Photo Imaging courses provide students with the opportunity to effectively communicate ideas and information via digital, film, still and video photography. Topics covered typically include composition, layout, lighting and supplies. More advanced courses may include instruction in specialized camera and equipment maintenance, application to commercial and industrial need and photography business operations.

**11055  Video**
      Video courses enable students to explore video communications, incorporating both the technical and artistic aspects of video media. Topics covered in the course include the use of video equipment and techniques, and students typically create a video presentation. Advanced course topics may include creating various forms of film media including silent film; sport and music video; and self portrait video.

**11056  Particular Topics in Audio/Video Technology and Film**
      These courses examine specific topics in audio and video technology and film other than those already described.

**11097  Audio/Video Technology and Film—Independent Study**

      Audio/Video Technology and Film—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to A/V technology or film. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**11098  Audio/Video Technology and Film—Workplace Experience**

      Audio/Video Technology and Film—Workplace Experience courses provide students with work experience in a field related to audio/visual technology and/or film. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**11099  Audio/Video Technology and Film—Other**

## Journalism and Broadcasting

**11101  Journalism**

      Journalism courses (typically associated with the production of a school newspaper, yearbook, or literary magazine) emphasize writing style and technique as well as production values and organization. Journalism courses introduce students to the concepts of newsworthiness and press responsibility; develop students' skills in writing and editing stories, headlines, and captions; and teach students the principles of production design, layout, and printing. Photography and photojournalism skills may be included.

**11102  Photojournalism**

      Photojournalism courses expose students to the manner in which photography is used to convey information and experiences. Typically coordinated with production of the school newspaper, yearbook, or other media product, photojournalism courses provide students with the opportunity to improve their photo composition and film development skills, and to apply their art to journalistic endeavors.

**11103  Broadcasting Technology**

      Broadcasting Technology courses provide students with the knowledge and skills to produce television broadcast programs. Typically, students prepare and produce short programs, learning the technical aspects of the operation and how to evaluate programming and assess audience reaction and impact.

**11104  Publication Production**
      Publication Production courses provide students with the knowledge and skills necessary to produce the school newspaper, yearbook, literary magazine, or other printed publication. Students may gain experience in several components (writing, editing, layout, production, and so on) or may focus on a single aspect while producing the publication.

**11105  Particular Topics in Journalism and Broadcasting**
      These courses examine specific topics in journalism and broadcasting other than those already described.

**11147  Journalism and Broadcasting—Independent Study**
      Journalism and Broadcasting—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to journalism, broadcasting, and mass media. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**11148  Journalism and Broadcasting—Workplace Experience**
      Journalism and Broadcasting—Workplace Experience courses provide students with work experience in a field related to journalism or broadcasting. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**11149  Journalism and Broadcasting—Other**

## Printing Technology and Production

**11151  Digital Media Technology**
      These courses are designed to give students the skills necessary to support and enhance their learning about digital medial technology. Topics covered in the course may include internet research, copyright laws, web-publishing, use of digital imagery, electronic forums, newsgroups, mailing lists, presentation tools, and project planning.

**11152  Desktop Publishing**
      Desktop Publishing courses integrate the knowledge and skills learning in word processing with the concepts, procedures and application of desktop publishing. Students learn to format, create and proofread brochures, programs, newsletters, web pages, presentations and manuscripts.

**11153  Digital Media Design and Production**

Digital Media Design and Production courses teach students the fundamentals of graphic design and production and provide students with the opportunity to apply these principles to printed media, digital presentation media, and interactive media.


**11154  Commercial Graphic Design**

Commercial Graphic Design courses teach students to use artistic techniques to effectively communicate ideas and information to business and customer audiences via illustration and other forms of digital or printed media. Topics covered may include concept design, layout, paste-up and techniques such as engraving, etching, silkscreen, lithography, offset, drawing and cartooning, painting, collage and computer graphics.


**11155  Graphic Technology**

Graphic Technology courses help students apply artistic and computer techniques to the interpretation of technical and commercial concepts. Topics covered may include computer assisted art and design, printmaking, concept sketching, technical drawing, color theory, imaging, studio techniques, still life modeling, and commercial art business operations. Advanced topics may include topographic arrangements of print and/or electronic graphic and textual products, printing and lithographic equipment and operations, digital imaging, print preparation, desktop publishing and web page design.


**11156  Photography and Printing Technology**

Photography and Printing Technology courses expose students to the tools, materials and processes involved in mass production of photography and printing. Types of printing covered in the course may include intaglio, relief, planographic, screen processes printing, silk screening, serigraphy processes and thermograph. Additional topics may include the use of cameras, composition, imposition, presswork, and computer aided publishing.


**11157  Photoengraving**

Photoengraving courses teach students to photograph illustration and other copy that cannot be set in type, to develop negatives, and to prepare photosensitized metal plates for use in printing.


**11158  Print Press Operations**

These courses expose students to the necessary skills for operating a print press. Topics covered in this course include how to prepare, operate and maintain printing processes.


**11159  Particular Topics in Printing Technology and Production**

These courses examine specific topics in printing production, such as book binding or silk screen print making, other than those already described.

**11197  Printing Technology—Independent Study**

Printing Technology—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to the print medium. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**11198  Printing Technology—Workplace Experience**

Printing Technology—Workplace Experience courses provide students with work experience in a field related to printing. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**11199  Printing Technology—Other**

## All Others

**11995  Communication and Audio/Video Technology—Aide**

Communication and Audio/Video Technology—Aide courses offer students the opportunity to assist instructors in preparing, organizing or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**11997  Communication and Audio/Video Technology—Independent Study**

Communication and Audio/Video Technology—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to mass communication and its technologies. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**11998  Communication and Audio/Video Technology—Workplace Experience**

Communication and Audio/Video Technology—Workplace Experience courses provide students with work experience in a field related to communication or audio/visual technology. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**11999  Communication and Audio/Video Technology—Other**

# Subject Area 12: Business and Marketing (secondary)

## Administration

**12001  Business/Office Career Exploration**

Business/Office Career Exploration courses expose students to the occupational opportunities available in the accounting, administration, data processing, management, and secretarial fields. Emphasis is placed on responsibilities, qualifications, work environment, and career paths. These courses may also include consumer education topics, keyboard exposure, and/or hands-on experience within the various occupational areas.

**12002  Office Procedures—Comprehensive**

Office Procedures—Comprehensive courses provide students with numerous opportunities to explore and understand the responsibilities and duties common to most office personnel. These comprehensive courses cover such topics as communication skills, reception and transmission of information via data processing equipment, filing and record management, mail handling, scheduling meetings and conferences, creating itineraries, and word processing.

**12003  Office and Administrative Technologies**

Office and Administrative Technologies courses provide students with instruction and experience in developing technical, problem-solving, and decision-making skills essential for office and/or administrative occupations. Emphasis is placed on integrating and applying knowledge and skills to realistic office and administrative situations utilizing current and relevant technology.

**12004  Office Services**

Office Services courses introduce students to and help them refine clerical and receptionist skills. Course content typically covers filing, telephone, and keyboarding skills; reprographic machinery and procedures; communications skills; and so on.

**12005  Keyboarding**

Keyboarding courses provide students with an introduction to the keyboard (letters, numbers, and symbols), basic machine operation, and proper keystroke technique. As students progress, they improve their speed and accuracy and produce increasingly complex documents. Such courses help students develop keyboard proficiency, document production skills, and problem-solving skills.

## 12006  Word Processing

Word Processing courses introduce students to automated document production using one or more software packages. These courses may introduce keyboarding techniques or may require prior experience; in either case, speed and accuracy are emphasized. A parallel focus is placed on the use of software commands and functions to create, edit, format, and manipulate documents, capitalizing on the power offered by word processing software programs. These courses may also cover file and disk management and other computer-related skills.

## 12007  Recordkeeping

Recordkeeping courses help students to develop knowledge and skills related to the principles and procedures involved in recording personal financial transactions as well as transactions typically undertaken by small businesses. Partial emphasis may be placed on personal banking, budgeting, and income tax calculations; additional emphasis is usually placed on cashier and clerk procedures, inventory control for small businesses, database management, merchandising, and payroll.

## 12008  Particular Topics in Administration

These courses examine specific topics related to business administration not otherwise described, such as a focus on dictation or office machinery, rather than provide a general study of office administration principles and techniques.

## 12009  Business Communications

Business Communications courses help students to develop an understanding and appreciation for effective communication in business situations and environments. Emphasis is placed on all phases of communication: speaking, listening, thinking, responding, reading, writing, communicating non-verbally, and utilizing technology for communication. Business communication functions, processes, and applications in the context of business may be practiced through problem-based projects and real-world application.

## 12047  Administration—Independent Study

Administration—Independent Study courses, often conducted with instructors as mentors, enable students to explore business administration-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

## 12048  Administration—Workplace Experience

Administration—Workplace Experience courses provide students with work experience in fields related to business administration. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**12049 Administration—Other**

## Management

**12051 Introductory Business**

Introductory Business courses survey an array of topics and concepts related to the field of business. These courses introduce business concepts such as banking and finance, the role of government in business, consumerism, credit, investment, and management. They usually provide a brief overview of the American economic system and corporate organization. Introductory Business courses may also expose students to the varied opportunities in secretarial, accounting, management, and related fields.

**12052 Business Management**

Business Management courses acquaint students with management opportunities and effective human relations. These courses provide students with the skills to perform planning, staffing, financing, and controlling functions within a business. In addition, they usually provide a macro-level study of the business world, including business structure and finance, and the interconnections among industry, government, and the global economy. The course may also emphasize problem-based, real-world applications of business concepts and use accounting concepts to formulate, analyze, and evaluate business decisions.

**12053 Entrepreneurship**

Entrepreneurship courses acquaint students with the knowledge and skills necessary to own and operate their own businesses. Topics from several fields typically form the course content: economics, marketing principles, human relations and psychology, business and labor law, legal rights and responsibilities of ownership, business and financial planning, finance and accounting, and communication. Several topics surveyed in Business Management courses may also be included.

**12054 Business Law**

Business Law courses emphasize legal concepts that are relevant to business and business organizations. Topics examined in these courses typically include contracts, buying/renting property, installment buying, insurance, buyer/seller relationships, negotiable instruments, employment, taxes, insurance, commercial papers, legal organizational structures, and consumer liabilities.

**12055 Business Principles and Management**

Business Principles and Management courses are designed to provide students with an understanding of the American business system, its organizations, and its management. These courses examine the various leadership and management styles of a variety of successful business organizations, large or small.

**12056  International Business and Marketing**

International Business and Marketing courses examine business management and administration in a global economy. Topics covered in this course typically include the principles and processes of export sales, trade controls, foreign operations and related problems, monetary issues, international business and policy, and applications of doing business in specific countries and markets.


**12057  Human Resources and Labor Relations**

Human Resources and Labor Relations courses analyze the functions of conflict resolution and collective bargaining. Typically, students examine the history of the labor movement within the United States, the relationship between management and labor, and how organized labor currently operates.


**12058  Human Resources Management**

Human Resources Management courses provide students with an understanding of the effective use of interpersonal skills in achieving the goals of an organization.


**12059  IB Business and Management**

IB Business and Management courses prepare students to take the International Baccalaureate Business and Management exam at either the Subsidiary or Higher level. In keeping with Individual and Society courses, IB Business and Management promotes problem-solving by identifying the problem, selecting and interpreting data, applying appropriate analytical tools, and recommending solutions by evaluating their quantitative and qualitative implications. These courses also equip students with knowledge and understanding of business terminology, concepts and principles.


**12097  Management—Independent Study**

Management—Independent Study courses, often conducted with instructors as mentors, enable students to explore business management-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.


**12098  Management—Workplace Experience**

Management—Workplace Experience courses provide students with work experience in fields related to business management. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**12099  Management—Other**

## Finance

**12101  Banking and Finance**

Banking and Finance courses provide students with an overview of the American monetary and banking system as well as types of financial institutions and the services and products that they offer. Course content may include government regulations; checking, savings, and money market accounts; loans; investments; and negotiable instruments.

**12102  Banking**

Banking courses are similar to Banking and Finance courses, but they focus specifically on banking. These courses may also address examining and applying the methods used for measuring the financial performance of banks in addition to examining specialized brokerage products, current issues, and future trends in banking.

**12103  Finance**

Finance courses are similar to Banking and Finance courses, but they focus specifically on finance, addressing how businesses raise, distribute, and use financial resources while managing risk. Course content typically involves modeling financial decisions (such as borrowing, selling equity or stock, lending or investing) typically undertaken by businesses.

**12104  Accounting**

Accounting courses introduce and expand upon the fundamental accounting principles and procedures used in businesses. Course content typically includes the full accounting cycle, payroll, taxes, debts, depreciation, ledger and journal techniques, and periodic adjustments. Students may learn how to apply standard auditing principles and to prepare budgets and final reports. Calculators, electronic spreadsheets, or other automated tools are usually used. Advanced topics may include elementary principles of partnership and corporate accounting and the managerial uses of control systems and the accounting process.

**12105  Business Economics**

Business Economics courses integrate economic principles (such as free market economy, consumerism, and the role of American government within the economic system) with entrepreneurship/business concepts (such as marketing principles, business law, and risk).

**12106  Risk Management and Insurance**

Risk Management and Insurance courses analyze risk management techniques from the viewpoints of those employed in the industry as well as of business owners seeking to meet risk management needs. Insurance products are evaluated in relation to cost and effectiveness.

**12107  Investing**

Investing courses emphasize the formulation of business and individual investment decisions by comparing and contrasting the investment qualities of cash, stock, bonds, and mutual funds. Students typically review annual reports, predict growth rates, and analyze trends. Stock market simulations are often incorporated into Investing courses.

**12147  Finance—Independent Study**

Finance—Independent Study courses, often conducted with instructors as mentors, enable students to explore business finance-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**12148  Finance—Workplace Experience**

Finance—Workplace Experience courses provide students with work experience in fields related to finance. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**12149  Finance—Other**

## Marketing

**12151  Marketing Career Exploration**

Geared for students with an interest in marketing, sales, or small business operation, Marketing Career Exploration courses expose students to the opportunities available in retail, wholesale, advertising, and other occupational fields using marketing principles.

**12152  Marketing—Comprehensive**

Marketing—Comprehensive courses focus on the wide range of factors that influence the flow of goods and services from the producer to the consumer. Topics may include (but are not limited to) market research, the purchasing process, distribution systems, warehouse and inventory control, salesmanship, sales promotions, shoplifting and theft control, business management, and entrepreneurship. Human relations, computers, and economics are often covered as well.

**12153  Marketing—Fashion**

Marketing—Fashion courses typically cover the same scope of topics as Marketing—Comprehensive courses (purchasing and distribution systems, advertising, display and sales, management and entrepreneurship, and so on) but do so with particular attention to the fashion industry. In keeping with the focus on the fashion industry, course topics may also include fashion cycles, fashion history, design, style, and coordination.

**12154  Marketing—Real Estate**

Marketing—Real Estate courses typically cover the same scope of topics as Marketing—Comprehensive courses (purchasing, advertising, sales, human relations, management and entrepreneurship, and so on) but do so with particular attention to the real estate industry. In keeping with the focus on real estate, course topics may also include financing, investment, ownership rights, ethics, and other real estate principles.


**12155  Marketing—Transportation**

Marketing—Transportation courses typically cover the same scope of topics as Marketing—Comprehensive courses (purchasing and distribution systems, advertising, display and sales, management, entrepreneurship, and so on) but do so with particular attention to the transportation industry. In keeping with the focus on this industry, topics include identification and proper use of auto parts and accessories and the sales and service of new and used cars, vans, trucks, and related parts.


**12156  Marketing—Food/Beverage Industry**

Marketing—Food/Beverage Industry courses typically cover the same scope of topics as Marketing—Comprehensive courses (purchasing and distribution systems, advertising, display and sales, management, entrepreneurship, and so on) but do so with particular attention to the food and beverage industry. In keeping with the focus on this industry, topics include the unique characteristics and functions of the food and beverage service industry.


**12157  Marketing—Insurance**

Marketing—Insurance courses typically cover the same scope of topics as Marketing—Comprehensive courses (purchasing and distribution systems, advertising, display and sales, management, entrepreneurship, and so on) but do so with particular attention to the sale or underwriting of accident, health, life, marine, automobile, and causality insurance.


**12158  Marketing—Floristry**

Marketing—Floristry courses typically cover the same scope of topics as Marketing—Comprehensive courses (purchasing and distribution systems, advertising, display and sales, management, entrepreneurship, and so on) but do so with particular attention to the floristry industry. In keeping with the focus on this field, topics include the unique characteristics and functions of retail and wholesale floral operations.


**12159  Marketing—Hospitality/Tourism**

Marketing—Hospitality/Tourism courses typically cover the same scope of topics as Marketing—Comprehensive courses (purchasing and distribution systems, advertising, display and sales, management, entrepreneurship, and so on) but do so with particular attention to the travel, tourism, and lodging industry. In keeping with the focus on this field, topics include the unique characteristics and functions of travel services and hotel/motel operations.

**12160  Marketing—Merchandising**
  Marketing—Merchandising courses are designed to provide students with practical backgrounds in retailing, with emphasis on merchandising, promotion/display, selling, and career planning. The content of this course may also include fundamental principles of human relations.

**12161  Retail Marketing**
  Retail Marketing courses cover marketing principles and concepts related to the provision of goods or services directly to the consumer, emphasizing store operation, advertisement and display of goods, store security, human relations, and business management and ownership.

**12162  Internet Marketing**
  Internet Marketing covers the principles and functions of marketing from the standpoint of conducting business on the internet. Typically, students develop such skills as using the internet as a marketing tool, conducting a marketing analysis via the internet, planning marketing support activities, managing an electronic marketing campaign, managing/owning a business via the internet, and analyzing the impact of the internet on global marketing.

**12163  Sports and Entertainment Marketing**
  Sports and Entertainment Marketing courses introduce students to and help them refine marketing and management functions and tasks that can be applied in amateur or professional sports or sporting events, entertainment or entertainment events, and the sales or rental of supplies and equipment.

**12164  Principles of Marketing**
  Principles of Marketing courses offer students insight into the processes affecting the flow of goods and services from the producer to the consumer. Course content ranges considerably as general marketing principles such as purchasing, distribution, and sales are covered; however, a major emphasis is often placed on kinds of markets; market identification; product planning, packaging, and pricing; and business management.

**12165  Principles of Advertising**
  Principles of Advertising courses expose students to the varied concepts underlying the promotion of products. The topics included in Principles of Advertising courses range considerably, but typically include the psychology of advertising, a study of various media, advertising planning and budgeting, and advertising layout and design principles. Course topics may also include an overview of commercial art and packaging.

## 12166 Marketing Management

Marketing Management courses typically cover the same scope of topics as Marketing—Comprehensive courses (purchasing and distribution systems; advertising and sales; and so on) but place a particular emphasis on business management and entrepreneurship, providing exposure to common techniques and problems of management.

## 12167 Marketing—Other Specialization

Marketing—Other Specialization courses typically cover the same scope of topics as Marketing—Comprehensive courses (purchasing and distribution systems, advertising, display and sales, management, entrepreneurship, and so on) but do so with attention to a particular industry not specified above. The course may also cover specific topics related to the particular industry being covered.

## 12197 Marketing—Independent Study

Marketing—Independent Study courses, often conducted with instructors as mentors, enable students to explore marketing-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

## 12198 Marketing—Workplace Experience

Marketing—Workplace Experience courses provide students with work experience in fields related to marketing. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

## 12199 Marketing—Other

# Sales

## 12201 Cashier/Checker Operations

Cashier/Checker Operations courses provide students with the knowledge and skills to operate a cash register and to handle numerous transactions. Topics typically include cash register procedures; handling cash, credit, checks, food stamps, and other forms of legal tender; human relations; stocking and marking merchandise; and theft prevention. Job search and employability skills are often an integral part of the course.

## 12202 Principles of Selling

Principles of Selling courses provide students with the knowledge and opportunity to develop in-depth sales competencies. Course content typically includes types of selling, steps in a sale, sales strategies, and interpersonal skills and techniques.

**12247  Sales—Independent Study**
       Sales—Independent Study courses, often conducted with instructors as mentors, enable students to explore sales-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**12248  Sales—Workplace Experience**
       Sales—Workplace Experience courses provide students with work experience in fields related to sales. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**12249  Sales—Other**

## All Others

**12995  Business and Marketing—Aide**
       Business and Marketing—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**12997  Business and Marketing—Independent Study**
       Business and Marketing—Independent Study courses, often conducted with instructors or professionals as mentors, enable students to explore business or marketing-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**12998  Business and Marketing—Workplace Experience**
       Business and Marketing—Workplace Experience courses provide students with work experience in fields related to business and marketing. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**12999  Business and Marketing—Other**

# Subject Area 13: Manufacturing (secondary)

## Manufacturing Technology

### 13001  Exploration of Manufacturing Occupations

Exploration of Manufacturing Occupations courses introduce and expose students to the career opportunities pertaining to the processing and production of goods. Course topics vary and may include (but are not limited to) systems pertinent to the manufacturing process, properties of various raw materials, and the methods used to transform materials into consumer products. Course activities depend upon the careers being explored; course topics may include entrepreneurship, labor laws, and customer service.

### 13002  Manufacturing—Comprehensive

Manufacturing—Comprehensive courses introduce students to the various methods used to process and transform materials. Processing techniques covered usually include casting, forming, separating, assembling, and finishing. The courses may also include an overview of management techniques in planning, organizing, and controlling various segments of the manufacturing process, including design, engineering, production, and marketing.

### 13003  Industrial Arts

Industrial Arts courses expose students to the tools and machines that they may encounter in manufacturing-related occupations and enable them to develop the skills they need to use these tools in various applications. Course topics typically include (but are not limited to) drawing and planning, electricity, graphic arts, woodwork, leatherwork, metalwork, plastics, and power technology. These courses typically cover general safety and career exploration as well.

### 13004  Industrial Safety/First Aid

Industrial Safety/First Aid courses provide students with instruction in safe operating procedures related to various trades, as well as more general training in emergency first aid and CPR. Course topics may include the importance of standard operation procedures, agencies and regulations related to occupational safety and hazard prevention, and the dangers of particular materials.

### Processing/Production
### 13052  Materials and Processes

Materials and Processes courses expose students to the tools, machines, and processes that may be encountered in manufacturing-related occupations. In particular, these courses stress the analysis, testing, and processing of metals, plastics, woods, ceramics, and composite materials.

**13053  Metal and Wood Processing/Production**

Metal and Wood Processing/Production courses include studying the properties of metals, woods, and composites and using these materials to construct usable products. These courses enable students to experience the process of translating an idea into a finished product, with instruction in planning, designing, selecting materials, and using tools and machines.


**13054  Wood Processing/Production**

Wood Processing/Production courses include studying the properties of woods and composites made from woods and using these materials to construct usable products. These courses enable students to experience the process of translating an idea into a finished product, with instruction in planning, designing, selecting materials, and using tools and machines.


**13055  Metal Processing/Production**

Metal Processing/Production courses include studying the properties of metals and metal alloys and using these materials to construct usable products. These courses enable students to experience the process of translating an idea into a finished product, with instruction in planning, designing, selecting materials, and using tools and machines.


**13056  Plastics Processing/Production**

Plastics Processing/Production courses include studying the properties of plastics and composites and using these materials to construct usable products. These courses enable students to experience the process of translating an idea into a finished product, with instruction in planning, designing, selecting materials, and using tools and machines.


**13057  Ceramic Processing/Production**

Ceramic Processing/Production courses include studying the properties of ceramics and heat-resistant composites and using these materials to construct usable products. These courses enable students to experience the process of translating an idea into a finished product, with instruction in planning, designing, selecting materials, and using tools and machines.


**13058  Particular Topics in Processing and Production**

These courses examine specific topics in processing and production, such as substance analysis, other than those already described.


**13097  Processing/Production—Independent Study**

Processing/Production—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to processing and production. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**13098  Processing/Production—Workplace Experience**

Processing/Production—Workplace Experience courses provide students with work experience in fields related to manufacturing processing and production. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**13099  Processing/Production—Other**

## Production Systems

**13101  Production Systems**

Production Systems courses provide students with knowledge and skills related to manufacturing technologies from conception through production. Although courses vary, students typically analyze markets, design and develop prototypes, plan a marketing or sales strategy, manage a production plan, and manufacture useful products. These courses may also explore the evolution and impact of technology on society's social, cultural, and economic systems and institutions.

**13102  Electro-Mechanical Systems**

Electro-Mechanical Systems courses provide students with instruction and experience in components and equipment that use electricity and the power of physical forces. Students gain an understanding of the principles of electricity and mechanics and their application to gears, cams, levers, circuits, and other devices used in the manufacturing process or within manufactured goods.

**13103  Product Development**

Product Development courses provide students with the opportunity to focus on one or more areas of industrial technology, creatively pursuing new knowledge or solving a technological problem, by designing and building prototypes and working models. Students learn and apply appropriate information in order to complete a project.

**13147  Production Systems—Independent Study**

Production Systems—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to manufacturing systems and/or research. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**13148  Production Systems—Workplace Experience**
Production Systems—Workplace Experience courses provide students with work experience in fields related to manufacturing systems and/or research. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**13149  Production Systems—Other**


## Metalwork

**13201  Metalwork Occupations**
Metalwork Occupations courses provide students with theoretical principles and laboratory experiences related to the planning, manufacturing, assembling, testing, and repairing of parts, mechanisms, and structures in which materials are cast, formed, treated, cut, fused, or otherwise processed in some fashion.


**13202  Metalworking**
Metalworking courses introduce students to the qualities and applications of various metals and the tools used to manipulate and form metal into products. Through one or more projects involving metals, students develop planning, layout, and measurement skills; gain experience in cutting, bending, forging, casting, and/or welding metal; complete projects according to blueprints or other specifications; and may also learn to polish and finish metals. Correct use of metalworking tools and equipment is stressed.


**13203  Machining**
Machining courses enable students to create metal parts using various machine tools and equipment. Course content may include interpreting specifications for machines using blueprints, sketches, or descriptions of parts; preparing and using lathes, milling machines, shapers, and grinders with skill, safety, and precision; developing part specifications; and selecting appropriate materials.


**13204  Particular Topics in Machining**
These courses examine specific topics related to machining, emphasizing a particular type of machine, tool, or procedure, or concentrating on a particular application of machining techniques.


**13205  Sheet Metal**
Sheet Metal courses expose students to the skills and information necessary to lay out, fabricate, assemble, install, maintain, and repair items and structures created from sheet metal components. Students learn the safe and efficient operation of various tools and typically gain skill in blueprint reading, welding, and finishing and polishing metals.

**13206  Particular Topics in Sheet Metal**

In these courses students gain knowledge and skills in particular aspects of sheet metal. Examples include individual courses in radial line development, triangulation fabrication, and so on.


**13207  Welding**

Welding courses enable students to gain knowledge of the properties, uses, and applications of various metals, skills in various processes used to join and cut metals (such as oxyacetylene, shielded metal, metal inert gas, and tungsten arc processes), and experience in identifying, selecting, and rating appropriate techniques. Welding courses often include instruction in interpreting blueprints or other types of specifications.


**13208  Particular Topics in Welding**

In these courses students gain knowledge and skills in particular aspects of welding. Examples include individual courses in each of the following types of welding: gas metal, gas tungsten, and shielded metal and flux core arc welding.


**13209  Particular Topics in Metalwork**

In these courses students gain knowledge and skills in particular aspects of metalwork (such as foundry work or metallurgy) not otherwise described.


**13247  Metalwork—Independent Study**

Metalwork—Independent Study courses, often conducted with instructors as mentors, enable students to explore metalwork-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.


**13248  Metalwork—Workplace Experience**

Metalwork—Workplace Experience courses provide students with work experience in the welding, machine technologies, or metalwork fields. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**13249  Metalwork—Other**

## Repair

### 13301 Appliance Repair
Appliance Repair courses provide students with the knowledge and experience to repair, install, service, and inspect appliances such as stoves, refrigerators, washers, dryers, air conditioners, water heaters, and so on. Students gain an understanding of the mechanics and working systems of these appliances, the skills to read blueprints and specifications, and proficiency in using related tools and products.

### 13302 Equipment Maintenance and Repair
Equipment Maintenance and Repair courses prepare students to adjust, maintain, replace, and repair parts of machinery and to repair tools, equipment, and machines. The courses may have a general emphasis or may focus on a specific type of machinery or equipment related to a particular industry. Depending upon the intent, course topics may include electric, hydraulic, or mechanic systems; control devices, valves, and gates; or supplemental equipment such as fans, hoses, and pipes.

### 13347 Repair—Independent Study
Repair—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to repair. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

### 13348 Repair—Workplace Experience
Repair—Workplace Experience courses provide students with work experience in the fields involving repair, supported by classroom attendance and discussion. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

### 13349 Repair—Other

## All Others

### 13995 Manufacturing—Aide
Manufacturing—Aide courses offer interested students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**13997  Manufacturing—Independent Study**

Manufacturing—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to manufacturing. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.


**13998  Manufacturing—Workplace Experience**

Manufacturing—Workplace Experience courses provide students with work experience in fields involving manufacturing, supported by classroom attendance and discussion. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**13999  Manufacturing—Other**

# Subject Area 14: Health Care Sciences (secondary)

## Comprehensive

### 14001 Exploration of Health Care Occupations

Exploration of Health Care Occupations courses expose students to the variety of opportunities available within the health care industry (e.g., such as nursing, therapy, dental care, administrative services, and lab technology). These courses provide experiences in several of these occupational clusters, along with information and knowledge related to the health care industry as a whole.

### 14002 Health Care Occupations—Comprehensive

Health Care Occupations—Comprehensive courses provide students with an orientation to the health care industry and help refine their health care-related knowledge and skills. Topics covered usually include (but are not limited to) an overview of health care delivery; patient care, including assessment of vital signs, body mechanics, and diet; anatomy and physiology; identification and use of medical equipment and supplies; medical terminology; hygiene and disease prevention; first aid and CPR procedures; laboratory procedures; and ethical and legal responsibilities.

## Therapeutic Services

### 14051 Nursing

Nursing courses place a special emphasis on the particular knowledge and skills required of nurses and/or nursing assistants and aides while covering general health care topics (i.e., patient care, anatomy and physiology, medical terminology, hygiene and disease prevention, first aid and CPR, and laboratory procedures). Topics covered typically include normal growth and development; bathing, feeding, dressing, and transporting patients; basic pharmacology; doctor, nurse, and patient relationships and roles; medical and professional ethics; death and dying; and care of various kinds of patients (e.g., chronically ill, children, new mothers, and so on).

### 14052 Nursing—LPN

Covering the same scope of topics as Nursing courses, Nursing—LPN courses delve into more depth in order to prepare students for the state's practical nurse licensing examination. Nursing—LPN courses offer the knowledge and experience needed to provide nursing care for patients of all ages, in various stages of sickness or health, and with a variety of disease conditions. Additional topics covered may include community health, nutrition, drug therapy and administration, and mental illness.

### 14053 Home Health Care

Home Health Care courses teach students how to care for individuals within their homes. Course content relates health care practices and procedures to the home environment, and typically includes patient care, comfort, and safety; anatomy and physiology; the prevention of disease and infection; nutrition and meal preparation; human relations; and first aid and CPR. Topics covered may also include therapy strategies, household management, and employability.

**14054  Dental Science**

Dental Science courses expose students to the tools, terminology, and procedures necessary for a career in the dental industry. Course content covers a wide range of topics and typically includes dental anatomy and terminology; the identification and use of dental equipment; dental pathologies and procedures; asepsis; dental laboratory procedures; emergency first aid; and the ethical and legal responsibilities of dental care workers. These courses often explore dental specialties and career options.

**14055  Emergency Medical Technology**

Emergency Medical Technology courses place a special emphasis on the knowledge and skills needed in medical emergencies. Topics typically include clearing airway obstructions, controlling bleeding, bandaging, methods for lifting and transporting injured persons, simple spinal immobilization, infection control, stabilizing fractures, and responding to cardiac arrest. The courses may also cover the legal and ethical responsibilities involved in dealing with medical emergencies.

**14056  Surgical Technology**

Surgical Technology courses emphasize the care and needs of patients undergoing surgery while covering general health care topics (i.e., patient care, anatomy and physiology, medical terminology, hygiene and disease prevention, first aid and CPR, and laboratory procedures). In keeping with that focus, topics may include operation room materials, tools, and procedures; aseptic surgical techniques; preparation and handling of surgical instruments; efficiency in the operating room; and the roles of various medical personnel who are present during surgery.

**14057  Vision Care**

Vision Care courses expose students to the tools, terminology, and procedures necessary for a career in the optometric or optic field. Vision Care courses typically include the physics of light and refraction; the anatomy, physiology, and terminology associated with the eyes; identification and use of optometric and/or optical equipment; optical procedures; human relations; and the ethical and legal responsibilities of vision care workers.

**14058  Optometrics**

Optometrics courses provide students with the knowledge, ability, and experiences to prepare, assemble, and/or fit corrective lenses prescribed by a physician or optometrist. Topics covered may include layout and marking, cutting and chipping, edging and beveling, inspection, alignment, dispensing, and selection of eyewear.

**14059  Gerontology**

Gerontology courses provide students with knowledge and understanding of the processes of adult development and aging. Topics covered may include the study of the biological, economic, psychological, social, and health/fitness aspects of the aging process.

**14060  Physical Therapy**
Physical Therapy courses provide students with the knowledge and skills necessary to work with patients who need to achieve and maintain functional rehabilitation and to prevent malfunction or deformity. Topics covered typically include therapeutic exercises and activities (such as stretching and strengthening), how to train patients to perform the activities of daily living, the use of special equipment, and evaluation of patient progress.


**14061  Respiratory Therapy**
Respiratory Therapy courses provide students with the knowledge and skills necessary to work with patients who have breathing or other cardiopulmonary difficulties or disorders. Topics covered typically include identifying deficiencies and abnormalities of the cardiopulmonary system, understanding the various methods of therapies, and understanding how to use special equipment.


**14062  Care of Athletes**
Care of Athletes courses provide students with the knowledge and skills to understand and perform therapeutic tasks that would be designated by an athletic or fitness trainer. Topics covered may include taping and bandaging, proper use of protective padding, treatment modalities, anatomy and physiology, and medical terminology. Students may learn to measure cardiorespiratory endurance, muscular strength and endurance, flexibility, body composition, and blood pressure. More advanced topics may include injury assessment, the phases of healing, and the use of exercise and equipment to help in the reconditioning of injured athletes.


**14063  Particular Topics in Therapeutic Services**
These courses examine particular topics in medical therapeutic services other than those already described.


**14097  Therapeutic Services—Independent Study**
Therapeutic Services—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to therapeutic services. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.


**14098  Therapeutic Services—Workplace Experience**
Therapeutic Services—Workplace Experience courses provide students with work experience in fields related to therapeutic services. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**14099  Therapeutic Services—Other**

## Diagnostic Services

**14101  Dental Laboratory Technology**
　　　Dental Laboratory Technology courses expose students to the principals, tools, terminology, and procedures necessary for a career in a dental laboratory. These courses typically cover many of the same topics as Dental Science, but emphasize making mouth guards, taking impressions, creating various types of dental molds and models, and fabricating prostheses and dental appliances.

**14102  Medical Lab Technology**
　　　Medical Lab Technology courses provide students with the knowledge and skills necessary for employment in health care-related laboratories. Topics include basic principles of anatomy and physiology, relevant concepts in microbiology and chemistry, and laboratory techniques (including preparation and analysis of various cultures and specimens). The courses may also cover such components as venipuncture, EKG, and CPR procedures.

**14103  EKG Technology**
　　　In EKG Technology courses, students acquire the knowledge and skills to perform electrocardiograph activities and learn about the cardiovascular system (including its function, diseases, and rhythms); EKG machinery; and the use of drugs and their effects. These courses usually include general health care topics as well, such as basic anatomy and physiology, patient care, first aid and CPR, identification and use of medical equipment, and medical terminology.

**14104  Phlebotomy**
　　　In Phlebotomy courses, students acquire knowledge, skills, and experiences related to the drawing of blood and typically learn about such topics as infection control, sterilization practices, medical/hospital procedures and environments, diagnostic procedures, and the process of drawing blood.

**14105  Particular Topics in Diagnostic Services**
　　　These courses examine particular topics in diagnostic services other than those already described.

**14147  Diagnostic Services—Independent Study**
　　　Diagnostic Services—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to diagnostic services. Independent Study courses may provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**14148 Diagnostic Services—Workplace Experience**

Diagnostic Services—Workplace Experience courses provide students with work experience in fields related to diagnostic services. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**14149 Diagnostic Services—Other**

## Health Information

**14151 Medical/Clerical Assisting**

Medical/Clerical Assisting courses enable students to develop knowledge and skills that combine the medical and clerical fields. Students typically develop skills such as patient exam preparation, assessment of vital signs, routine lab procedures, medical transcription, financial accounting, patient and insurance company billing, and record-keeping.

**14152 Pharmacy Assisting**

Pharmacy Assisting courses emphasize the knowledge and skills necessary to assist a pharmacist or pharmacy technician. Course topics and experiences enable students to understand medical terminology, keep and maintain records, label medications, perform computer patient billing, perform stock inventory, and order supplies. These courses also emphasize pharmaceutical classification, drug interactions, and interpersonal/communication skills.

**14153 Medical Office Procedures**

Medical Office Procedures courses expose students to clerical knowledge, abilities, and procedures as they apply to the medical field. These courses typically include (but are not limited to) topics such as medical transcription, medical insurance, financial accounting, scheduling, and patient record-keeping. Medical terminology and routine medical procedures are covered to provide a context for clerical duties.

**14154 Medical Terminology**

In Medical Terminology courses, students learn how to identify medical terms by analyzing their components. These courses emphasize defining medical prefixes, root words, suffixes, and abbreviations. The primary focus is on developing both oral and written skills in the language used to communicate within health care professions.

**14155 Particular Topics in Health Information**

These courses examine particular topics in health Information other than those already described.

**14197  Health Information—Independent Study**

Health Information—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to health information systems. Independent Study courses may provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**14198  Health Information—Workplace Experience**

Health Information—Workplace Experience courses provide students with work experience in fields related to health Information. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**14199  Health Information—Other**

## Support Services

**14201  Central Service Technology**

Central Service Technology courses provide students with knowledge and skills related to the procurement, handling, storage, and distribution of sterile goods and equipment. Course components usually include quality assurance, infection control and isolation techniques, medical terminology and processes, decontamination and sterilization, microbiology, and chemistry.

**14202  Health Support Services**

Health Support Services courses provide students with knowledge and skills to be used in activities that support patients' primary health care, such as counseling, health education, disease management, and risk reduction. Because support services can be widely defined, course topics typically also include general health care, such as anatomy and physiology, medical terminology, first aid and CPR procedures, and ethical and legal responsibilities.

**14203  Health Unit Coordination**

Health Unit Coordination courses provide students with instruction and experiences so that they can manage components of nonpatient care activities in health care facilities. Topics covered usually include medical terminology, transcription, and general reception duties and responsibilities; record-keeping; and stocking medical and office supplies and equipment.

**14204  Particular Topics in Health Support Services**

These courses examine particular topics in health support services other than those described.

**14247  Health Support Services—Independent Study**

Health Support Services—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics related to health support services. Independent Study courses may provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**14248  Health Support Services—Workplace Experience**

Health Support Services—Workplace Experience courses provide students with work experience in careers related to health support services. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**14249  Health Support Services—Other**

## Health Sciences

**14251  Health Science**

Health Science courses integrate chemistry, microbiology, chemical reactions, disease processes, growth and development, and genetics with anatomy and physiology of the body systems. Typically, these courses reinforce science, mathematics, communications, health, and social studies principles and relate them to health care.

**14252  Biotechnology**

Biotechnology courses involve the study of the bioprocesses of organisms, cells, and/or their components and enable students to use this knowledge to produce or refine products, procedures, and techniques. Course topics typically include laboratory measurement, monitoring, and calculation; growth and reproduction; chemistry and biology of living systems; quantitative problem-solving; data acquisition and display; and ethics. Advanced topics may include elements of biochemistry, genetics, and protein purification techniques.

**14253  Pharmacology**

Pharmacology courses involve a study of how living animals can be changed by chemical substances, especially by the actions of drugs and other substances used to treat disease. Basic concepts of physiology, pathology, biochemistry, and bacteriology are typically brought into play as students examine the effects of drugs and their mechanisms of action.

**14254  Particular Topics in Health Sciences**

These courses examine particular topics in health sciences other than those already described.

**14297  Health Sciences—Independent Study**

Health Sciences—Independent Study courses, often conducted with instructors as mentors, enable students to explore health-related topics of interest. Independent Study courses may provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**14298  Health Sciences—Workplace Experience**

Health Sciences—Workplace Experience courses provide students with work experience in fields involving the health sciences. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**14299  Health Sciences—Other**

## All Others

**14995  Health Care Sciences—Aide**

Health Care Sciences—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**14997  Health Care Sciences—Independent Study**

Health Care Sciences—Independent Study courses, often conducted with instructors as mentors, enable students to explore health-related topics of interest. Independent Study courses may provide students with an opportunity to expand their expertise in a particular specialization, to explore a topic in greater detail, or to develop more advanced skills.

**14998  Health Care Sciences—Workplace Experience**

Health Care Sciences—Workplace Experience courses provide students with work experience in the health care industry. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**14999  Health Care Sciences—Other**

## Subject Area 15: Public, Protective, and Government Services (secondary)

**15001  Exploration of Public Service Careers**
  Exploration of Public Service Careers courses expose students to the duties, responsibilities, requirements, and career opportunities within public service. Course topics vary and may include (but are not limited to) protective services; correction, judicial, and probation services; fire protection and fire fighting; public administration; and social work. Course activities depend upon the career clusters that students explore.

## Law Enforcement

**15051  Criminal Justice**
  Criminal Justice courses train students to understand and apply the principles and procedures essential to the U.S. criminal justice system. These courses explore the principles and structure of the justice system and the law, and course content also typically includes investigation, search and arrest, and laboratory, forensic, and trial procedures. Students may also learn CPR and first aid skills, personal defense tactics, and crime prevention techniques.

**15052  Corrections**
  Corrections courses provide instruction regarding the principles and techniques used by institutions that incarcerate, rehabilitate, and monitor people accused or convicted of crimes.

**15053  Particular Topics in Law Enforcement**
  These courses examine specific topics related to law enforcement (such as forensic science), rather than provide a general study of the field.

**15097  Law Enforcement—Independent Study**
  Law Enforcement—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to law enforcement. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**15098  Law Enforcement—Workplace Experience**
  Law Enforcement—Workplace Experience courses provide work experience in fields related to law enforcement. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**15099  Law Enforcement—Other**

## Security and Protection

**15101  Public Safety**

Public Safety courses introduce students to the field of public safety and extend their knowledge and skills pertaining to the safety and security of homes, workplaces, and the community. These courses cover such topics as policing, law enforcement, emergency service, and private security and corrections and may cover all or a subset of these services.

**15102  Security Services**

Security Services courses provide instruction regarding the safety and security of buildings and facilities and may extend these lessons to include the security and safety of one's self and other human beings.

**15103  Particular Topics in Security**

These courses examine specific topics related to security and protective services, rather than provide a general study.

**15147  Security and Protection—Independent Study**

Security and Protection—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related the security and protection of the public. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**15148  Security and Protection—Workplace Experience**

Security and Protection—Workplace Experience courses provide work experience in fields related to security and protection. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**15149  Security and Protection—Other**

## Fire Management

**15151  Fire Science**

Fire Science courses introduce students to the field of fire prevention and control and enable them to extend their knowledge through the use of chemical, physical, and engineering principles to understand factors involved in fires. Course topics typically include the chemistry of combustion, factors that influence fire (such as structural design and meteorology), and safety procedures.

**15152  Fire Fighting**
　　Fire Fighting courses offer students the opportunity to learn fire prevention and control under controlled conditions. Typically, students learn about the organization, rules, requirements, and regulations of fire departments; study and practice the tools and techniques used by firefighters to control or extinguish fires; and examine the behavior of fires. These courses also usually include emergency medical procedures and present fire investigation techniques.

**15153  Particular Topics in Fire Management**
　　These courses examine specific topics related to fire management (such as hazardous materials handling), rather than provide a general study of the field.

**15197  Fire Management—Independent Study**
　　Fire Management—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related fire management. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**15198  Fire Management—Workplace Experience**
　　Fire Management—Workplace Experience courses provide work experience in fields related to fire management. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**15199  Fire Management—Other**

## Government Service

**15201  Public Administration**
　　Public Administration courses provide an overview of the structure, roles, and duties of public governments and associated agencies. These courses explore the foundation and evolution of the public service sector, issues related to the provision of services by governmental bodies, and the missions and constraints of various departments within local and state governments. In addition, students may explore a particular public administration topic (such as the tax base and structure, the legislative process, selection of public servants, resource management, and so on) in greater detail.

**15202  Community Protection**

Community Protection courses provide students with information regarding the personnel and agencies concerned with protection of the home, city, state, and nation. Topics covered typically include civil defense and disaster preparedness; crime prevention; pollution control; fire prevention and control; legal and social systems and principles; and public health. These topics may be explored from the viewpoint of a community resident and citizen using these services or of that of one interested in pursuing a public service career.

**15203  Public Policy**

Public Policy courses provide students with the opportunity to design, propose, and analyze programs and policies implemented by government agencies. Activities typically include identifying social issues and problems, generating recommendations, using data to quantify the extent of a problem or evaluate its solution, communicating ideas and findings, and understanding decision-making processes.

**15247  Government Service—Independent Study**

Government Service—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related the provision of government services. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**15248  Government Service—Workplace Experience**

Government Service—Workplace Experience courses provide work experience in fields related to government service. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**15249  Government Service—Other**

## All Others

**15995  Public, Protective, and Government Service—Aide**

Public, Protective, and Government Service—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**15997  Public, Protective, and Government Service—Independent Study**

      Public, Protective, and Government Service—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to public, protective, and government service. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.


**15998  Public, Protective, and Government Service—Workplace Experience**

      Public, Protective, and Government Service—Workplace Experience courses provide students with work experience in a field related to public, protective, and/or government service. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**15999  Public, Protective, and Government Service—Other**

# Subject Area 16: Hospitality and Tourism (secondary)

## 16001 Exploration of Hospitality Careers

Exploration of Hospitality Careers courses survey a wide array of topics while exposing students to the variety of career opportunities in hospitality fields (such as food service, lodging, tourism, and recreation). These courses serve to introduce students to the general field of hospitality, providing an opportunity to identify a focus for continued study.

## Restaurant, Food and Beverage Services

## 16051 Exploration of Restaurant, Food, and Beverage Services

Exploration of Restaurant, Food, and Beverage Services courses provide students with an overview of the restaurant, food, and beverage service industry. Topics covered include industry terminology, the history of restaurant, food, and beverage services, introduction to marketing, and the various careers available in the industry.

## 16052 Restaurant, Food, and Beverage Services—Comprehensive

Restaurant, Food, and Beverage Services—Comprehensive courses provide students with knowledge and skills related to commercial and institutional food service establishments. Course topics range widely, but usually include sanitation and safety procedures, nutrition and dietary guidelines, food preparation (and quantity food production), and meal planning and presentation. Restaurant, Food, and Beverage Service courses may include both "back-of-the-house" and "front-of-the-house" experiences, and may therefore also cover reservation systems, customer service, and restaurant/business management.

## 16053 Food Service

Food Service courses provide instruction regarding nutrition, principles of healthy eating, and the preparation of food. Among the topics covered are large-scale meal preparation, preserving nutrients throughout the food preparation process, use and care of commercial cooking equipment, food storage, advances in food technology, sanitation, management, and the careers available in the food service industry.

## 16054 Nutrition and Food Preparation

Nutrition and Food Preparation courses provide students with knowledge and skills about food preparation and/or production, with a strong emphasis on nutrition, balanced diets, and satisfying special dietary needs. Topics typically include assessing nutrient content, the science of food and nutrition, physiology and utilization of nutrients. Course content may also cover additives, contaminants, food-borne illnesses, and food technology.

**16055  Restaurant Management and Operations**

Restaurant Management and Operations courses provide students with knowledge and skills related to commercial and institutional food service establishments, with an emphasis on management. Course topics therefore include guest service and relationships, planning, resource management, and other topics related to managing and operating restaurants.

**16056  Culinary Art Specialty**

Culinary Art Specialty courses provide instruction in a particular type of cooking or culinary style. Examples of such specialty fields include baking, creating and decorating wedding cakes, Middle Eastern cuisine, and so on. These courses emphasize skills specific to the type of culinary art being studied.

**16057  Particular Topics in Restaurant, Food, and Beverage Services**

These courses examine specific topics related to Restaurant, Food, and Beverage Services, such as catering, rather than provide a general study of the industry or of specific topics already described.

**16097  Restaurant, Food, and Beverage Services—Independent Study**

Restaurant, Food, and Beverage Services—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within the restaurant, food, and beverage services industry. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**16098  Restaurant, Food, and Beverage Services—Workplace Experience**

Restaurant, Food, and Beverage Services—Workplace Experience courses provide work experience in fields related to restaurant, food, and beverage services. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**16099  Restaurant, Food, and Beverage Services—Other**

## Lodging

**16101  Exploration of Lodging Careers**

Exploration of Lodging Careers courses provide an overview of the lodging industry. Topics covered include lodging terminology, the history of lodging, introduction to marketing, and the various careers available in the lodging industry.

**16102  Lodging—Comprehensive**

Lodging—Comprehensive courses introduce students to the lodging industry and refine their related knowledge and skills. Topics covered typically include property management, guest psychology and relationships, lodging operations, food and beverage services, and other topics related to support services within the lodging industry.

**16103  Institutional Maintenance**

Institutional Maintenance courses present the knowledge and skills required for service work within institutions. Topics covered typically include housekeeping and laundry services, care and cleaning of facilities, and safety and sanitation procedures, in addition to career opportunities, business responsibilities, and other types of ongoing maintenance.

**16104  Particular Topics in Lodging**

These courses examine specific topics in lodging such as convention planning or hotel management rather than provide a general study of the industry or of specific topics already described.

**16147  Lodging—Independent Study**

Lodging—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within the lodging industry. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**16148  Lodging—Workplace Experience**

Lodging—Workplace Experience courses provide work experience in fields related to lodging. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**16149  Lodging—Other**

## Travel and Tourism

**16151  Introduction to Travel and Tourism**

Introduction to Travel and Tourism courses provide an overview of the travel and tourism industry. Topics covered in this course may include travel and tourism terminology, the history of travel, introduction to marketing, and the various careers available in travel and tourism.

**16152  Travel and Tourism—Comprehensive**

Travel and Tourism—Comprehensive courses provide the knowledge and skills necessary to work in the travel industry such as sales techniques, marketing principles, and entrepreneurial skills. Additional skills learned in these courses typically include travel agency procedures, airline reservation systems, public relations, hotel/motel registration systems and services, and conference and convention planning.

**16153  World Travel and Tourism**

World Travel and Tourism courses provide the knowledge and skills necessary to work in the travel industry, with a focus on travel outside of the United States. Topics covered may include geography of the continents; customs, cultures, and tourist destinations in other countries; special documentation needed for international travel; and planning events to client specifications.

**16154  Eco-tourism**

Eco-tourism courses provide the knowledge and skills necessary to work in the travel industry, with particular attention paid to conservation and environmental issues surrounding travel and tourism. Topics covered may include recreational opportunities related to on- and off-site attractions and environmental and ecological principles.

**16155  Particular Topics in Travel and Tourism**

These courses examine specific topics in travel and tourism such as the airline reservation and ticketing system rather than provide a general study of the industry or of specific topics already described.

**16197  Travel and Tourism—Independent Study**

Travel and Tourism—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within the travel and tourism industry. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**16198  Travel and Tourism—Workplace Experience**

Travel and Tourism—Workplace Experience courses provide work experience in fields related to travel and tourism. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**16199  Travel and Tourism—Other**

## Recreation, Amusement and Attractions

**16201 Exploration of Recreation, Amusement, and Attractions**
Exploration of Recreation, Amusement, and Attractions courses provide an overview of the recreation industry. Topics covered in this course may include industry terminology; the history of recreation, amusement, and attractions; introduction to marketing; and the various careers available in the industry.

**16202 Recreation, Amusement, and Attractions—Comprehensive**
Recreation, Amusement, and Attractions—Comprehensive courses provide students with the attitudes, skills, and knowledge needed for employment in theme parks, attractions and outdoor recreation facilities, exhibitions, and event planning. Topics covered may include planning trade shows, fairs, and conferences; outdoor recreation and management; financial transactions; salesmanship; guest services and satisfaction; culture and customs; computer and industry technology; eco-tourism; client information; and planning specialized events while incorporating themes, timelines, budgets, target audiences, agendas, and public relations.

**16203 Particular Topics in Recreation, Amusement, and Attractions**
These courses examine specific topics in recreation, amusement, and attractions such as local opportunities rather than provide a general study of the industry.

**16247 Recreation, Amusement, and Attractions—Independent Study**
Recreation, Amusement, and Attractions—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within the recreation, amusement, and attractions industry. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**16248 Recreation, Amusement, and Attractions—Workplace Experience**
Recreation, Amusement, and Attractions—Workplace Experience courses provide work experience in fields related to recreation, amusement, and attractions. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**16249 Recreation, Amusement, and Attractions—Other**

**All Others**

**16995  Hospitality and Tourism—Aide**
     Hospitality and Tourism—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**16997  Hospitality and Tourism—Independent Study**
     Hospitality and Tourism—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest within the hospitality and tourism industry. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**16998  Hospitality and Tourism—Workplace Experience**
     Hospitality and Tourism—Workplace Experience courses provide work experience in fields related to hospitality and tourism. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

16999  **Hospitality and Tourism—Other**

# Subject Area 17: Architecture and Construction (secondary)

## Construction-General

**17001 Construction Careers Exploration**
Construction Career Exploration courses expose students to the opportunities available in construction-related trades, such as carpentry, masonry, air conditioning/refrigeration, plumbing, and so on. Students learn about the processes involved in construction projects and may engage in a variety of small projects. These courses emphasize responsibilities, qualifications, work environment, rewards, and career paths within construction-related fields.

**17002 Construction—Comprehensive**
Construction—Comprehensive courses provide students with basic knowledge and skills required for construction of commercial, residential, and institutional structures. These courses provide experiences and information (typically including career opportunities and training requirements) regarding construction-related occupations such as carpentry, cabinetmaking, bricklaying, electrical trades, plumbing, concrete masonry, and so on. Students engage in activities such as reading blueprints, preparing building sites, starting foundations, erecting structures, installing utilities, finishing surfaces, and providing maintenance.

**17003 Carpentry**
Carpentry courses provide information related to the building of wooden structures, enabling students to gain an understanding of wood grades and construction methods and to learn skills such as laying sills and joists; erecting sills and rafters; applying sheathing, siding, and shingles; setting door jambs; and hanging doors. Carpentry courses may teach skills for rough construction, finish work, or both. Students learn to read blueprints, draft, use tools and machines properly and safely, erect buildings from construction lumber, perform finish work inside of buildings, and do limited cabinet work. Carpentry courses may also include career exploration, good work habits, and employability skills.

**17004 Framing Carpentry**
Framing Carpentry courses provide students with much of the same knowledge as general carpentry courses (knowledge of various types and grades of woods, proper and safe use of hand and power tools, and site selection and preparation), but place a special emphasis on construction methods applicable to floor, wall, roof, and/or stair framing. Course content may also include insulation installation and painting.

**17005 Particular Topics in Carpentry**
These courses cover specific aspects of building construction or carpentry. All coursework focuses upon a particular skill or set of skills related to one subtopic, such as floor framing, wall and partition framing, interior finishing, or exterior finishing.

**17006  Woodworking**

Woodworking courses introduce students to the various kinds of woods used in industry and offer experience in using selected woodworking tools. Students design and construct one or more projects and may prepare a bill of materials. Correct and safe use of tools and equipment is emphasized. As students advance, they focus on learning the terminology necessary to use power tools successfully, developing skills to safely use these tools in the workshop and becoming familiar with various kinds of wood-finishing materials. Advanced students typically design a project, prepare bills of materials, construct, and finish proposed projects.

**17007  Cabinetmaking**

Cabinetmaking courses provide students with experience in constructing cases, cabinets, counters, and other interior woodwork. Students learn to distinguish between various types of furniture construction and their appropriate applications, and how to use various woodworking machines and power tools for cutting and shaping wood. Cabinetmaking courses cover the different methods of joining pieces of wood, how to use mechanical fasteners, and how to attach hardware. Initial topics may resemble those taught in Woodworking courses; more advanced topics may include how to install plastic laminates on surfaces and how to apply spray finishes.

**17008  Masonry**

Masonry courses enable students to learn to construct interior and exterior walls, columns, doorways, window openings, fireplaces, chimneys, and foundations from brick and concrete block. Along with other activities, students may mix and spread cement and mortar, read blueprints and plans, and estimate materials needed for a project. Other topics may also include how to layout buildings on footings and how to establish grades using a surveying transit.

**17009  Building Maintenance**

Building Maintenance courses train students to maintain commercial, industrial, and residential buildings and homes. Instruction is provided in the basic maintenance and repair of air conditioning, heating, plumbing, electrical, and other mechanical systems. Topics covered may include identifying and using hand and power tools safely; installing and repairing floor coverings, walls, and ceilings; installing and repairing doors, windows, screens, and cabinets; applying finishes to prepared surfaces; and repairing roofs, masonry, plumbing, and electrical systems.

**17010  Home Maintenance**

Home Maintenance courses provide students with knowledge and skills related to devices and systems found in the home. Course content may include electrical wiring, plumbing, window and door repair and installation, wall and floor repair and finishing, furniture repair and finishing, and small appliance repair.

**17011  Wall Finishings**

Wall Finishings courses prepare students to finish exterior or interior surfaces by applying protective coating materials such as paint, lacquer, wallpaper, plaster, or stucco. Course topics may include instruction in making, mixing, and matching paint colors; applying coating with various types of equipment; applying wallpaper; lathing, preparing surfaces, smoothing, and finishing.


**17012  Upholstering**

Upholstering courses prepare students in all aspects of upholstering furniture. Topics covered may include installing, repairing, arranging, and securing the springs, filler, padding and cover materials of chairs, couches and mattresses; cutting, sewing and trimming; cushion filling, tufting, and buttoning; and wood refinishing.


**17047  General Construction—Independent Study**

General Construction—Independent Study courses, often conducted with instructors as mentors, enable students to explore construction-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.


**17048  General Construction—Workplace Experience**

General Construction—Workplace Experience courses provide work experience in a field related to construction. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**17049  General Construction—Other**


## Air Conditioning, Heating, and Plumbing

**17051  Air Conditioning**

Air Conditioning courses offer students specialized training related to the design, installation, and repair of air conditioning systems for residential and commercial use. These courses may emphasize the theory and design of electrical, electronic, mechanical, and pneumatic control systems used in air conditioning systems; they might also (or instead) focus on procedures used in troubleshooting, servicing, and installing components of air conditioning systems.


**17052  Refrigeration**

Refrigeration courses provide students with exposure to and training in the theories, equipment, and skills needed to design, install, and repair commercial and residential refrigeration systems. Course topics typically include the theory of thermodynamics, measurement of pressures and temperatures, components and common accessories of refrigeration systems, and repair and safety procedures.

**17053  Heating**

Heating courses offer students training specific to the design, installation, and repair of heating systems for residential use. Topics typically include electric, gas, and/or steam systems; ventilation procedures; safety practices; and installation and trouble-shooting techniques.


**17054  Air Conditioning/Refrigeration**

Air Conditioning/Refrigeration courses enable students to develop the combined skills and knowledge to install, maintain, adjust, and repair both air conditioning and refrigeration systems.


**17055  Air Conditioning, Heating, and Refrigeration**

In Air Conditioning, Heating, and Refrigeration courses, students learn the basic principles of these systems, along with how to identify and safely use tools/equipment used in the trade.


**17056  Heating, Ventilation, and Air Conditioning**

These courses synthesize basic and advanced principles in heating, ventilation, and air conditioning and include topics such as air filtration methods, humidity control, and the installation and maintenance of heat pumps, furnaces, and air conditioners. Students also learn about climate control systems; electrical wiring; systems design; sizing, fabricating, and installing ductwork; installing and maintaining climate control systems; and safety.


**17057  Particular Topics in HVACR**

These courses offer students specialized training in aspects or topics that are common to various climate control systems (heating, ventilation, air conditioning, and refrigeration systems); such topics may include electrical components, diagrams and blueprints, welding and soldering techniques, and so on.


**17058  Plumbing**

Plumbing courses provide students with instruction in installing waste and vent systems, water and gas pipes, trim, and fixtures. Skills taught include cutting and joining various types of pipe (for instance, steel, plastic) using various methods (cement, seat method, and so on).


**17059  Plumbing and Heating**

Plumbing and Heating courses address the installation, assembly, maintenance, and repair of piping, plumbing, heating equipment, and water and drainage systems. Topics covered include the computation of heat losses and BTU requirements and blueprint reading. Students gain experience with electric, gas, and oil furnaces; vacuum pumps; air compressors; and mechanical and pneumatic testing equipment.

**17097  Air Conditioning, Heating, and Plumbing—Independent Study**

Air Conditioning, Heating, and Plumbing—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to air conditioning, heating and plumbing. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**17098  Air Conditioning, Heating, and Plumbing—Workplace Experience**

Air Conditioning, Heating, and Plumbing—Workplace Experience courses provide work experience in a field related to air conditioning, heating, and/or plumbing. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

17099  **Air Conditioning, Heating, and Plumbing—Other**

## Electricity/Electronics

**17101  Exploration of Electricity/Electronics**

Exploration of Electricity/Electronics courses offer instruction in the theory of electricity and in the terminology, skills, and safety procedures common to careers involving electricity and electronics. Topics include (but are not limited to) Ohm's law, electrical equipment, wire systems, and so on; career exploration is often (but not always) an integral part of these courses.

**17102  Electricity—Comprehensive**

Electricity—Comprehensive courses provide a survey of the theory, terminology, equipment, and practical experience in the skills needed for careers in the electrical field. These courses typically include AC and DC circuitry, safety, and the National Electrical Code and may cover such skills as those involved in building circuits; wiring residential, commercial, and/or industrial buildings; installing lighting, power circuits, and cables; and estimating job costs. As students progress, their projects become more complex and expansive. In these courses, safety is stressed, and a career exploration component may be offered.

**17103  Residential Wiring**

Covering many of the same topics as Electricity—Comprehensive courses, Residential Wiring courses apply the knowledge and skills that students acquire to the electrical systems found in family dwellings. Because these courses emphasize residential electricity, topics may also include cable installation, telephone systems, and the installation of lighting fixtures, outlets, and so on. Maintenance and repair skills are often included as course topics.

**17104  Industrial Electricity**

Covering many of the same topics as Electricity—Comprehensive courses, Industrial Electricity courses apply the knowledge and skills that students acquire to the electrical systems used in industry. Because of this emphasis, these courses may also cover the installation of transformers and control devices, emergency generator systems, and other industrial applications.

**17105  Particular Topics in Electricity**

These courses provide students with specialized knowledge and help them develop skills in particular topics concerning the nature, behavior, and application of electrical current.

**17106  Electronics—Comprehensive**

Electronics—Comprehensive courses provide a survey of the theory, terminology, equipment, and practical experience in the skills needed for careers in the electronic field as well as typically cover the theory of electricity. Course topics may include AC, DC, analog, and integrated circuitry and solid state and digital devices, amplifiers, and semiconductors. Skills covered may involve the repair, maintenance, and building of electronic equipment such as radios, television sets, and industrial equipment.

**17107  Particular Topics in Electronics**

Individual courses in this category offer specialized training in topics related to electronics such as diodes, transistors, digital techniques, solid-state devices, analog circuits, and microprocessors.

**17108  Electricity/Electronics—General**

Electricity/Electronics—General courses teach fundamental concepts of electricity and electronics, including safety procedures, and may introduce students to the available occupations in electrical and electronic industries. Topics covered typically include components of circuits; reading schematics and diagrams; electricity and electronics as sources of energy; signal transmission; and using equipment common to these occupations, such as ammeters, voltmeters, capacitor checkers, transistor testers, signal generators, and ohmmeters.

**17109  Particular Topics in Electricity/Electronics**

These courses provide instruction in the theory and skills needed in fields involving electricity and electronics and related fields that focus on electrical wiring or electronic signals.

**17110  Analog and Digital Circuits**

In these courses, analog and digital circuits and systems are compared. Topics covered include binary and continuously variable currents and signals (typically in the context of voltage), waveforms, signal loss and distortion, modulation, and signal processing. These courses may also introduce other media, such as sound waves and liquids.

**17111  Analog Circuits**

Analog Circuit courses emphasize currents and voltages that have continuously variable signals and, due to that emphasis, concentrate on signal modulation, transmission and reception, signal loss and distortion, and waveforms. These courses may also address conversion techniques.


**17112  Digital Circuits**

Digital Circuit courses emphasize currents and voltages that have binary states and, due to that emphasis, concentrate on transmission and reception of binary data, signal loss, and processing circuitry. These courses may also address conversion techniques.


**17147  Electricity/Electronics—Independent Study**

Electricity/Electronics—Independent Study courses, often conducted with instructors as mentors, enable students to explore electricity- or electronics-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.


**17148  Electricity/Electronics—Workplace Experience**

Electricity/Electronics—Workplace Experience courses provide students with work experience in a field related to electricity and/or electronics. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**17149  Electricity/Electronics—Other**


## All Others


**17995  Architecture and Construction—Aide**

Architecture and Construction—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.


**17997  Architecture and Construction—Independent study**

Architecture and Construction—Independent Study courses, often conducted with instructors as mentors, enable students to explore architecture and construction-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**17998  Architecture and Construction—Workplace Experience**

Architecture and Construction—Workplace Experience courses provide students with work experience in a field related to architecture or construction. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**17999  Architecture and Construction—Other**

## Subject Area 18: Agriculture, Food, and Natural Resources (secondary)

## Comprehensive

### 18001  Introduction to Agriculture and Natural Resources

Introduction to Agriculture courses survey a wide array of topics within the agricultural industry, exposing students to the many and varied types of agriculture and livestock career opportunities and to those in related fields (such as natural resources). These courses serve to introduce students to the agricultural field, providing them an opportunity to identify an area for continued study or to determine that their interest lies elsewhere. They often focus on developing communication skills, business principles, and leadership skills.

### 18002  Agriculture—Comprehensive

Agriculture—Comprehensive courses cover a wide range of agricultural topics, including plant and animal science, production, and processing; agricultural mechanics, including tool and machine operation and repair; construction and repair of farm structures; business operations and management; and the careers available in the agricultural industry. They may also include topics such as chemical and soil science, ecology, agricultural marketing, and veterinary science.

### 18003  Agriculture and Natural Resources—Comprehensive

Agriculture and Natural Resources—Comprehensive courses cover a wide range of topics concerning agriculture and natural resources, including plant and animal science, production, and processing; environmental science and conservation; ecology; agricultural mechanics; agricultural construction; business operations and management; and the careers available in the agricultural/natural resources industry. They may also include topics such as chemical and soil science, forestry, agricultural marketing, and veterinary science.

## Plant Systems

### 18051  Plant Production/Science

Plant Production/Science courses provide knowledge about the propagation of plants for food and fiber. These courses may cover such topics as soil science, irrigation, pest and weed control, food and fiber processing, and farm operations. They may also cover the knowledge and skills needed to produce all types of crops or may emphasize a particular area of the agricultural industry.

### 18052  General Horticulture

General Horticulture courses expose students to the art and science of growing plants, shrubs, trees, flowers, fruits, and vegetables. In doing so, they cover a wide variety of topics, including greenhouse and nursery operations, soils and media mixtures, fruit and vegetable production, turf/golf course management, interior and exterior plantscaping, irrigation systems, weed and pest control, and floral design.

## 18053 Ornamental Horticulture

Similar to General Horticulture, Ornamental Horticulture courses provide information regarding the care and propagation of plants, flowers, trees, and shrubs, but place a special emphasis on those used for decorative and aesthetic purposes. Because of this particular emphasis, Ornamental Horticulture courses usually concentrate on nurseries and greenhouses and on the floristry industry.

## 18054 Turf and Landscape Management

Turf and Landscape Management courses provide instruction that incorporates plant science, soil and media mixtures, plant identification and optimal environments, and landscape design. These courses emphasize applying such knowledge and skill to the design, establishment, and maintenance of lawns, parks, open space, and similar environments.

## 18055 Soil Science

Soil Science courses involve the study of soil properties, including soil chemistry, biology, fertility, mineralogy, and hydrology. Topics covered may also include soil conservation, irrigation, and management.

## 18056 Particular Topics in Plant Systems

These courses examine specific topics related to Plant Systems, such as floral design, hydroponics, or landscaping, rather than provide a general study of plant systems or horticulture.

## 18097 Plant Systems—Independent Study

Courses in Plant Systems—Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to plant systems. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

## 18098 Plant Systems—Workplace Experience

Plant Systems—Workplace Experience courses provide work experience in fields related to plant systems (care, propagation, and processing). Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

## 18099 Plant Systems—Other

## Animal Systems

**18101  Animal Production/Science**

Animal Production/Science courses impart information about the care and management of domestic and farm animals. These courses may cover animal nutrition, health, behavior, selection, reproduction, anatomy and physiology, facilities, product processing, and marketing. Students may study a particular species (swine, cattle, horses, fowl, sheep, and so on), or they may learn how to care for and maintain livestock as a more inclusive study.

**18102  Small Animal Care**

Small Animal Care courses focus on the care and management of small animals. Animal nutrition, health, behavior, reproduction and breeding, anatomy and physiology, facilities, handling and training, and grooming are typical areas of study. Course topics may include kennel operations and sales.

**18103  Large Animal Care**

Large Animal Care courses focus on the care and management of large animals. Animal nutrition, health, behavior, reproduction and breeding, anatomy and physiology, facilities, handling and training, and grooming are typical areas of study. Course topics may include product processing and marketing.

**18104  Equine Science**

Equine Science courses focus on the care and management of horses. Animal nutrition, health, behavior, reproduction and breeding, anatomy and physiology, facilities, handling and training, and grooming are typical areas of study.

**18105  Veterinary Science**

Veterinary Science courses impart information about the causes, diagnosis, and treatment of diseases and injuries of animals, typically emphasizing domestic and farm animals. Course topics focus on anatomy and physiology, nutrition, behavior, and reproduction, but may also include other areas of study as appropriate.

**18106  Particular Topics in Animal Systems**

These courses examine specific topics related to animal care and management, production, or processing, such as equine training or animal waste management, rather than provide a general study of animal care and the systems related to their growth and management.

**18147  Animal Systems—Independent Study**

Courses in Animal Systems—Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to animal systems. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**18148  Animal Systems—Workplace Experience**

Animal Systems—Workplace Experience courses provide work experience in fields related to animal systems (management, care, and/or processing). Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**18149  Animal Systems—Other**

## Agribusiness

**18201  Agribusiness Management**

Agribusiness Management courses provide students with the information and skills necessary for success in agribusiness and in operating entrepreneurial ventures in the agricultural industry. These courses may cover topics such as economic principles, budgeting, risk management, finance, business law, marketing and promotion strategies, insurance, and resource management. Other possible topics include developing a business plan, employee/employer relations, problem-solving and decision-making, commodities, and building leadership skills. These courses may also incorporate a survey of the careers within the agricultural industry.

**18202  Agricultural Entrepreneurship**

Agricultural Entrepreneurship courses focus on the personal skills necessary for success in entrepreneurial ventures in the agricultural industry. Topics include setting goals, assessing and solving problems, evaluating financial progress and success, business planning, information management and evaluation, and recordkeeping.

**18203  Agricultural Leadership**

Agricultural Leadership courses help students develop leadership skills with a focus on opportunities in the food, fiber, and natural resources industries. Topics may include but are not limited to human relationships and effective communication, decision-making and problem-solving, leadership qualities and styles, and ensuring successful completion of group activities.

**18204  Particular Topics in Agribusiness**

These courses examine specific topics related to Agribusiness, such as international agriculture or commodities, rather than provide a general study of agribusiness principles.

**18247 Agribusiness—Independent Study**

     Courses in Agribusiness—Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to agribusiness. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**18248 Agribusiness—Workplace Experience**

     Agribusiness—Workplace Experience courses provide work experience in fields related to agribusiness. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**18249 Agribusiness—Other**

## Agricultural Production/Processing

**18301 Agricultural Production**

     Agricultural Production courses combine content related to animal and plant production, providing comprehensive coverage of the production functions of the agricultural industry. These courses typically cover such topics as care and management of farm animals, crop production and harvesting, plant and animal insect and disease control, efficient resource management, and farm management.

**18302 Agricultural Processing**

     Agricultural Processing courses impart the knowledge and skills needed to bring animal and plant products to market. They may cover a wide variety of topics, including care and maintenance of animals or plants, quality selection and preservation, equipment care and sanitation, government regulations, and marketing and consumer trends. Agricultural Processing courses may present an overview of agricultural processing or may specialize in particular types of products.

**18303 Plant Processing**

     Plant Processing courses impart the knowledge and skills needed to bring plant products to market. They may cover a wide variety of topics, including plant production, quality selection and preservation, equipment care and sanitation, government regulations, and marketing and consumer trends. Plant Processing courses may present an overview of product processing or may specialize in specific plant products.

**18304  Animal Processing**
Animal Processing courses impart the knowledge and skills needed to bring animal products to market. Although these courses may present an overview of animal care and maintenance, they typically emphasize quality selection, product preservation, equipment care and sanitation, government regulations, and marketing and consumer trends. Animal Processing courses may present an overview of several types of animal products or may specialize in particular products, such as meat, leather, wool, dairy products, and so on.

**18305  Food Product Processing**
Food Product Processing courses impart the knowledge and skills needed to produce and manufacture food products for the consumer market. These courses focus on food products while covering a variety of topics, such as quality selection and preservation, equipment care and sanitation, government regulations, marketing, consumer trends, and product research and development.

**18306  Aquaculture**
Aquaculture courses impart the knowledge and skills needed for producing fish, plants, and other species living in an aquatic environment, and course topics typically include the selection, propagation, harvesting, and marketing of those species. Instruction may also address aquatic and marine biology, ecosystems, water quality and management, and business practices.

**18307  Agriculture and Society**
Agriculture and Society courses provide an overview of the importance of, impact on, and relationships between agricultural endeavors and society at large. These courses typically emphasize economic and environmental factors and impacts (such as urban and agricultural water use) and the influences of society on agricultural endeavors (including production, processing, and distribution). Current technological advances (such as genetic engineering) may also be discussed.

**18308  Agricultural Biotechnology**
Agricultural Biotechnology courses apply biological principles and understanding to plant and animal science in order to produce or refine agricultural products. Course topics typically include but are not limited to microbiology, genetics, growth and reproduction, structural basis of function in living systems, chemistry of living systems, quantitative problem-solving, and data acquisition and display. These courses also often cover the ethics of biotechnology.

**18309  Particular Topics in Agricultural Production/Processing**
These courses examine specific topics related to producing and processing agricultural products (such as meat cutting) rather than provide a general study of production or processing.

**18347  Agricultural Production and Processing—Independent Study**

    Courses in Agricultural Production and Processing—Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to agricultural production and processing. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**18348  Agricultural Production and Processing—Workplace Experience**

    Agricultural Production and Processing—Workplace Experience courses provide students with work experience in fields related to agricultural production and processing. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**18349  Agricultural Production and Processing—Other**

## Agricultural Mechanics and Construction

**18401  Agriculture Mechanics/Equipment/Structures**

    Agriculture Mechanics/Equipment/Structures courses provide students with the skills and knowledge that are specifically applicable to the tools and equipment used in the agricultural industry. While learning to apply basic industrial knowledge and skills (engine mechanics, power systems, welding, and carpentry, among others), students may explore a broad range of topics, including the operation, mechanics, and care of farm tools and machines; the construction and repair of structures integral to farm operations; a study of electricity and power principles; and safety procedures.

**18402  Agriculture Mechanics and Equipment**

    Agriculture Mechanics and Equipment courses provide students with the engineering and power technology principles, skills, and knowledge that are specifically applicable to the agricultural industry. Typical topics include the operation, maintenance, and repair of power, electrical, hydraulic, and mechanical systems.

**18403  Agriculture Structures**

    Agriculture Structures courses provide students with the skills and knowledge that are specifically applicable to the construction, maintenance, and repair of structures integral to the agricultural industry, including but not limited to animal enclosures, irrigation systems, and storage facilities. In these courses, students typically study design, planning, and construction knowledge and skills (such as survey, carpentry, plumbing, concrete, and electrical systems), in addition to the safe operation of tools and machines.

**18404  Agriculture Welding**

Agriculture Welding courses provide students with the skills and knowledge that are specifically applicable to the tools and equipment used in the agricultural industry. In learning to apply basic industrial knowledge and skills (engines, power, welding, and carpentry, among others), students may explore a broad range of topics, including the operation, mechanics, and care of farm tools and machines; the construction and repair of structures integral to farm operations; an introduction or review of electricity and power; and safety procedures.

**18405  Particular Topics in Agricultural Mechanics and Construction**

These courses examine specific topics related to agricultural mechanics and construction, such as specific vehicles or structures, rather than provide a general study of mechanics and construction techniques.

**18447  Agricultural Mechanics and Construction—Independent Study**

Courses in Agricultural Mechanics and Construction—Independent Study, often conducted with instructors as mentors, enable students to topics of interest related to agricultural mechanics and/or construction. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**18448  Agricultural Mechanics and Construction—Workplace Experience**

Agricultural Mechanics and Construction—Workplace Experience courses provide work experience in fields related to agricultural mechanics and construction. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**18449  Agricultural Mechanics and Construction—Other**

## Natural Resources

**18501  Wildlife Management**

Often with an emphasis on the conservation of natural resources and frequently including outdoor recreation topics, Wildlife Management courses provide students with the opportunity to understand and appreciate the importance of maintaining the land and ecological systems that enable nondomesticated animals to thrive. Wildlife Management courses emphasize how humans and animals may both take advantage of the same land or how to gain economic benefits from the land while not degrading its natural resources or depleting plant or animal populations.

**18502  Forestry**

      Forestry courses provide students with the information and experience necessary for the cultivation, management, and care of forests or timberlands. Forestry courses cover topics such as the processes of regeneration and reforestation, harvesting and conservation of natural resources, erosion and pest control, trail development and maintenance, mapping and surveying, operation of forestry tools, government regulations, environmental stewardship, and recreational use of forests.


**18503  Forestry Harvesting**

      Forestry Harvesting courses involve the study of methods to manage, protect, and harvest timber stands and specialty forest crops; equipment maintenance and repair; the selection, planting, transplanting, and harvesting of trees; forest management; and safety procedures.


**18504  Natural Resources Management**

      Natural Resources Management courses combine the fields of ecology and conservation with planning for the efficient use and preservation of land, water, wildlife, and forests. Within the general area of natural resources management, these courses usually cover specific topics and uses, such as hunting or fishing preserves, forest production and management, wildlife preservation, and human outdoor recreation.


**18505  Particular Topics in Natural Resources**

      These courses examine specific topics related to natural resources, such as urban forestry or hunter education, rather than provide a general study of natural resource principles and topics.


**18547  Natural Resources—Independent Study**

      Courses in Natural Resources—Independent Study, often conducted with instructors as mentors, enable students to explore topics of interest related to natural resources. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.


**18548  Natural Resources—Workplace Experience**

      Natural Resources—Workplace Experience courses provide students with work experience in fields related to natural resources. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**18549  Natural Resources—Other**

## All Others

**18995  Agriculture, Food, and Natural Resources—Aide**
  Agriculture, Food, and Natural Resources—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.


**18997  Agriculture, Food, and Natural Resources—Independent Study**
  Courses in Agriculture, Food, and Natural Resources—Independent Study, often conducted with instructors as mentors, enable students to explore topic of interest related to agriculture, food, and natural resources. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.


**18998  Agriculture, Food, and Natural Resources—Workplace Experience**
  Agriculture, Food, and Natural Resources—Workplace Experience courses provide students with work experience in fields related to agriculture, food, and natural resources. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**18999  Agriculture, Food, and Natural Resources—Other**

# Subject Area 19: Human Services (secondary)

**19001  Human Services Career Exploration**

Human Services Career Exploration courses introduce and expose students to the career opportunities pertaining to the provision of personal and consumer services for other human beings. Course topics vary and may include (but are not limited to) caring for others, education, cosmetology, apparel/textiles, entrepreneurship, labor laws, and customer service. Course activities depend upon the careers being explored.

## Child and Elder Care

**19051  Child Care**

Child Care courses provide students with knowledge about the physical, mental, emotional, and social growth and development of children from birth through childhood. Main topics include the fundamentals of working with infants, toddlers, and older children; providing healthy environments; evaluating child care settings; and the practices, regulations, and opportunities in the child care industry. Often, Child Care courses provide students with practical experience in a child care center. Advanced topics may include various learning theories; development of activities; operation of a child care center; recognition of childhood diseases, abuse, and neglect; and first aid/emergency training.

**19052  Child Development**

Child Development classes provide students with knowledge about the physical, mental, emotional, and social growth and development of children from conception to pre-school age, emphasizing the application of this knowledge in child care settings. These courses typically include related topics such as the appropriate care of infants, toddlers, and young children.

**19053  Elder Care**

Elder Care courses emphasize the care of human beings as they grow older. These courses involve the study of the biological, physiological, social, and psychological needs and concerns of the elderly, and deal with the aging process, death, and dying in a realistic manner. Elder Care courses may cover work and personal habits appropriate to the field, and may also offer the opportunity to explore various careers.

**19054  Caregiving Service**

Caregiving Service courses emphasize the care of human beings who are unable or who need assistance to care for themselves. These courses involve the study of the biological, physiological, social, and psychological needs and concerns of young children, the elderly, and/or the disabled. Additional topics may include planning daily routines; appropriate environments and activities; growth and aging processes; and techniques for managing a center or working in others' homes.

**19055  Particular Topics in Child and Elder Care**

These courses examine specific topics related to child and elder care, such as regulations of the industry or caring for people with special needs, rather than providing a general study of child and elder care.

**19097  Child and Elder Care—Independent Study**

Child and Elder Care—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to child and elder care. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**19098  Child and Elder Care—Workplace Experience**

Child and Elder Care—Workplace Experience courses provide students with work experience in fields related to caring for others. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**19099  Child and Elder Care—Other**

## Cosmetology

**19101  Cosmetology—Licensing**

Cosmetology—Licensing courses provide students with the knowledge and skills applicable to the care of hair, skin, and nails, and prepare students for the state's Board of Cosmetology examinations. Almost always a series of courses with a specified number of instructional hours, Cosmetology—Licensing courses also require applied experience. Course content covers such topics as human anatomy and skin conditions, chemistry and bacteriology, sanitation and sterilization, state laws and regulations, and shop management. These courses provide students with experiences in shampooing, cutting, styling, bleaching, coloring, tinting, waving, and relaxing hair and providing facials and manicures.

**19102  Barbering**

Barbering courses provide students with the skills and experience to shave, style, and trim mustaches and beards and to cut, shampoo, and style hair. Course topics include hygiene, skin and scalp disease, and use of equipment. Barbering courses may aim to prepare students for the state's licensing examinations, and may include topics similar to those included in Cosmetology courses.

**19103  Hair Styling**

Hair Styling courses provide students with the skills and experience to cut, shampoo, and style hair. Course topics include hygiene, skin and scalp disease, and use of equipment. These courses provide students with experiences in shampooing, cutting, styling, bleaching, coloring, tinting, waving, and relaxing hair.

**19104  Cosmetology—Non-licensing**

      Cosmetology—Non-licensing courses provide students with the knowledge and skills applicable to the care of hair, skin, and nails, but do not necessarily prepare students for the state's Board of Cosmetology examinations. Students gain experience in hair care, facials, and manicures; course topics usually include human anatomy, sanitation and sterilization, and related chemistry and bacteriology. Shop management and state regulations may also be included.

**19105  Cosmetology—Nail Specialization**

      Cosmetology—Nail Specialization courses offer students experience in providing manicures, pedicures, and nail extension treatments. These courses may also include topics such as hygiene, entrepreneurship, human relations, and other related subject matter.

**19106  Cosmetology—Facial Specialization**

      Cosmetology—Facial Specialization courses offer students information and experience related to skin care, the provision of facials, make-up application, and facial massage. These courses may also include topics such as hygiene and sanitation, human anatomy and skin conditions, entrepreneurship, and/or human relations.

**19107  Particular Topics in Cosmetology**

      These courses examine specific topics related to cosmetology not otherwise described, such as electrolysis, rather than providing a general study.

**19147  Cosmetology—Independent Study**

      Cosmetology—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to cosmetology. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**19148  Cosmetology—Workplace Experience**

      Cosmetology—Workplace Experience courses provide students with work experience in the cosmetology field. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**19149  Cosmetology—Other**

## Education

**19151  Teaching Profession**
   Teaching Profession courses introduce students to the principles underlying teaching and learning, the responsibilities and duties of teachers, and the techniques of imparting knowledge and information. These courses typically expose students to and train them in classroom management, student behavior, leadership and human relations skills, assessment of student progress, teaching strategies, and various career opportunities in the field of education.

**19152  Educational Methodology**
   Educational Methodology courses prepare students to teach and guide others. These courses typically provide opportunities for students to develop their own teaching objectives, to design lesson plans, and to experience teaching in a controlled environment. Students examine and practice teaching strategies, learning styles, time management and planning strategies, presentation and questioning skills, classroom management, and evaluation techniques.

**19153  Early Childhood Education**
   Early Childhood Education courses address child development, care, and education issues, so that students can guide the development of young children in an educational setting. Study typically includes planning and implementing developmentally appropriate activities, basic health and safety practices, and legal requirements for teaching young children.

**19154  Particular Topics in Education**
   These courses examine specific topics in education other than those already described, such as management of school-age children, rather than providing a general study of the teaching profession.

**19197  Education—Independent Study**
   Education—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to education. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**19198  Education—Workplace Experience**
   Education—Workplace Experience courses provide students with work experience in fields related to education. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**19199  Education—Other**

## Apparel and Furnishings

**19201  Clothing and Textiles**
      Clothing and Textiles courses introduce students to and expand upon the various aspects of apparel, garment construction, and the textile industry, conveying the commercial application of design principles, production processes, and maintenance techniques. These courses usually address the selection, characteristics, care, and repair of various textiles; operation and care of commercial sewing machines; design, construction, and production of fabrics and/or garments; and career opportunities in the garment or textile industry.

**19202  Clothing/Textile Maintenance**
      Clothing/Textile Maintenance courses provide students with the knowledge and skills to clean, care for, and maintain clothing and textiles. Course topics typically include dry cleaning and laundering techniques, identifying fabrics and the optimal cleaning agents and processes, instruction in altering and repairing garments, and the safe use of the equipment, tools, and agents.

**19203  Apparel Construction**
      Apparel Construction courses provide students with the knowledge and skill to construct, alter, and repair clothing and textile products. Course topics typically include taking measurements, creating and preparing patterns, and various sewing techniques; topics may also include customer service, fashion design principles, and business management. These courses may also offer specialized knowledge in a particular type of garment.

**19204  Apparel and Textile Services**
      Apparel and Textile Services courses introduce students to and expand upon various services that concern the care and maintenance of apparel, textiles, and furnishing. Course topics may include upholstery, dry cleaning, commercial sewing, and tailoring.

**19205  Home Furnishing**
      Home Furnishing courses provide students with basic knowledge regarding furnishing and decorating home environments. While exploring design principles, personal needs and style, and decision-making, students may also explore the following topics: color, texture, furniture styles and arrangement, lighting, window treatments, floor and wall coverings, and home improvement/modification. Home Furnishing courses may also cover architectural style and design and take a larger look at housing problems or current housing issues.

**19206  Home Furnishings Production**
      Home Furnishings Production courses enable students to plan, select, and construct upholstery, slip covers, draperies and other window treatments, and other home accessories. Some courses may emphasize upholstery exclusively. Course content typically includes proper use of equipment, interior decorating principles, and employability skills.

**19207  Particular Topics in Apparel and Furnishings**

These courses examine specific topics in apparel and furnishings other than those already described, such as tailoring or shoe repair, rather than providing a general study.

**19247  Apparel and Furnishings—Independent Study**

Apparel and Furnishings—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to apparel, textiles, and furnishings. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**19248  Apparel and Furnishings—Workplace Experience**

Apparel and Furnishings—Workplace Experience courses provide students with work experience in fields related to apparel, textiles, and furnishings. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**19249  Apparel and Furnishings—Other**

## All Others

**19995  Human Services—Aide**

Human Services—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**19997  Human Services—Independent Study**

Human Services—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to providing human services. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**19998  Human Services—Workplace Experience**

Human Services—Workplace Experience courses provide students with work experience in a field related to the provision of human services. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**19999  Human Services—Other**

## Subject Area 20: Transportation, Distribution, and Logistics (secondary)

## Transportation Technology

### 20001 Exploration of Transportation, Distribution, and Logistics

Exploration of Transportation, Distribution, and Logistics courses introduce students to careers that involve the planning, management, and movement of people, materials, and products using any of several modes of transport. Such careers may also involve infrastructure, vehicular maintenance and repair, and operating or managing facilities that hold what is being transported. Therefore, specific course topics vary widely and depend upon the careers being explored.

## Operation

### 20051 Truck and Bus Driving

Truck and Bus Driving courses instruct students in the proper and safe handling and operation of trucks and buses. Strategies for driving in hazardous conditions, observing laws and regulations, loading cargo or passengers, documenting cargo loads, and expectations of driving careers are all typical course topics.

### 20052 Heavy Equipment Operation

Heavy Equipment Operation courses enable students to safely operate the heavy equipment used for mining, construction, and utility industries. Typically, courses also include light maintenance principles and techniques.

### 20053 Aviation

Aviation courses provide students with an understanding of the science of flight and typically include the history, regulations, and possible career paths within the aviation industry. Aviation courses usually cover physics, the relationships of weight and balance, principles of navigation and flight control, ground and airport operations and services, and Federal Aviation Agency regulations.

### 20054 Boat Operation

Boat Operation courses typically cover operation and maintenance of marine vehicles, marine navigation, and emergency procedures, as well as other skills necessary or useful for work or life at sea (e.g., loading and unloading or cooking). Specific topics may include docking and undocking a vessel, engine maintenance, commercial fishing, firefighting aboard ship, and CPR.

### 20097 Operation—Independent Study

Operation—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to the operation of vehicles. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**20098  Operation—Workplace Experience**

Operation—Workplace Experience courses provide students with work experience in fields related to the operation of vehicles. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**20099  Operation—Other**

## Mechanics and Repair

**20101  Energy/Power**

Energy/Power courses focus on one or several aspects of energy and power in transportation and work. Course content may include various sources of energy and their use in society (for example, characteristics, availability, conversion, storage, environmental impact, and socioeconomic aspects of various energy sources); principles involved in various means of energy transfer, such as electricity/electronics, hydraulics, pneumatics, heat transfer, and wind/nuclear/solar energies; and the transmission and control of power through mechanical or electrical devices such as motors and engines.

**20102  Power and Mechanics**

Power and Mechanics courses enable students to understand the principles underlying various kinds of mechanics (aircraft, auto, diesel, and marine) and how energy is converted, transmitted, and controlled. Topics typically include maintaining and servicing machines, engines, and devices while emphasizing energy sources, electricity, and power transmission. The courses may also provide information on career opportunities within the field of mechanics and/or transportation.

**20103  Introduction to Automobiles**

Primarily intended as a personal automobile mechanics course, but also useful for students exploring future careers in automotive technologies, Introduction to Automobiles courses expose students to the various mechanical systems in automobiles and provide basic experience in maintenance tasks. The course may also cover career opportunities in the automotive and/or transportation fields.

**20104  Automotive Mechanics—Comprehensive**

Automotive Mechanics—Comprehensive courses emphasize the diagnosis and repair of automobile engines and support systems such as brakes, cooling, drive trains, electrical/electronics components, emission, fuel, ignition, steering, suspension, and transmissions. Course topics often include the comprehension and use of repair manuals, safety, and employability skills (including shop management and entrepreneurship).

**20105  Particular Topics in Automotive Mechanics**
These courses provide instruction in the mechanics of a particular system or condition, such as transmissions, brakes, fuel, exhaust, or electrical systems, rather than providing a general study of diagnosis and repair of automobile mechanics.


**20106  Automotive Service**
Automotive Service courses emphasize preventative auto maintenance and automobile troubleshooting. Course content typically includes tune-up, oil change, and lubrication skills; tire replacement, alignment, and balancing; and basic knowledge of brake, cooling, electrical, emission, fuel, ignition, steering, suspension, and transmission systems. These courses may also include public relations, sales techniques, and service station management.


**20107  Diesel Mechanics—Comprehensive**
Diesel Mechanics—Comprehensive courses prepare students to maintain and repair diesel engines and related systems. Specific course topics may include principles underlying diesel engines, analyzing electrical circuits and systems, troubleshooting and repairing cooling systems, testing and repairing air conditioning charging systems, reading and interpreting service manuals, and identifying the principles and components of fuel injection systems. Courses may also cover safety, employability skills, and entrepreneurship.


**20108  Particular Topics in Diesel Mechanics**
These courses cover specific topics relevant to occupations involving the maintenance and repair of vehicles with diesel engines, such as buses and trucks. One topic (or several closely related topics) concerning diesel mechanics is covered in specific detail in this type of course.


**20109  Small Vehicle Mechanics**
Small Vehicle Mechanics courses equip students with the knowledge and skill to repair and maintain engines in small vehicles (e.g., motorcycles, all-terrain vehicles, snowmobiles, and mopeds). Topics include (but are not limited to) maintaining frames and suspension, wheels and brakes, and drive trains; servicing fuel, exhaust, and electrical systems; performing tune-ups; and maintaining and repairing engines. Students may also learn safety on the job, employability skills, and entrepreneurship.


**20110  Small Engine Mechanics**
Small Engine Mechanics courses provide students with the opportunity to learn how to service and recondition small engines, typically emphasizing two- and four-cycle engines. These courses provide students with opportunities to troubleshoot and repair speed controls, lubrication, ignition, fuel, power transfer, cooling, exhaust, and starting systems; use hand, power, and overhaul tools; and read and interpret service manuals and parts' catalogs. Applications may include lawn mowers, tractors, tillers, power tools, and so on.

**20111  Marine Mechanics**

The content of Marine Mechanics courses includes the service and repair of electrical, mechanical, power transfer, hydraulic, fuel, and cooling systems as applied to boat and/or ship engines; boat rigging; trailers; and marine-related merchandise. Courses may also cover communication, human relations, and employability skills, as well as safe, efficient work practices.


**20112  Heavy Equipment Mechanics**

Heavy Equipment Mechanics courses include the service and repair of electrical, mechanical, power transfer, hydraulic, fuel, and cooling systems of heavy equipment such as that used in mining, construction, and utility industries.


**20113  Aircraft Power Plant**

Aircraft Power Plant courses provide students with the information necessary to troubleshoot, test, repair, and install aircraft engines. Course content usually includes engine ignition, electrical, lubrication, cooling, exhaust, and fuel systems, along with aircraft instrumentation and safety features.


**20114  Aircraft Airframe**

Aircraft Airframe courses offer students information and instruction related to the structure and mechanics of aircraft, typically including hydraulic, pneumatic, instrumental, fuel, electrical, cabin atmosphere, and landing gear systems. Aircraft Airframe courses may also cover aircraft metals and coverings and related welding skills.


**20115  Automotive Detailing and Reconditioning**

Automotive Detailing and Reconditioning courses provide students with knowledge and skills related to repairing, refinishing, and detailing automobiles. Course topics typically include painting and refinishing, plastics and adhesives, damage analysis, and repair, in addition to occupational safety, employability, and entrepreneurship skills.


**20116  Automotive Body Repair and Refinishing—Comprehensive**

Automotive Body Repair and Refinishing courses provide students with knowledge and skills regarding the repair and refinishing of damaged or used cars. Course content may include (but is not limited to) stretching and shrinking auto body sheet metal; welding skills; frame and metal straightening; repair of fiberglass and synthetic materials; removing, repairing, and installing auto body parts such as panels, hoods, doors, and windows/glass; preparing vehicles and vehicle surfaces for refinishing; painting; applying body fillers; and estimating material and labor costs.


**20117  Particular Topics in Automotive Body Repair and Refinishing**

These courses provide specific instruction in individual topics relevant to the repair and refinishing of automobile bodies and surfaces. One topic or several closely related topics (such as non-structural part replacement, auto body welding, or plastic repair) receive particular attention in this type of course.

**20118  Boat Repair/Refinishing**

Boat Repair/Refinishing courses convey a broad range of information and skills about how to repair and refinish boat mechanics, structures, and surfaces. In these courses, students become proficient in marine terminology, learn how to describe types of marine manufacturing and occupations, and prepare new and existing wood, fiberglass, and metal surfaces for painting or refinishing. These courses often cover safety, employability skills, and entrepreneurship.

**20147  Mechanics and Repair—Independent Study**

Mechanics and Repair—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to the maintenance of vehicles and engines. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**20148  Mechanics and Repair—Workplace Experience**

Mechanics and Repair—Workplace Experience courses provide students with work experience in fields related to the maintenance of vehicles and engines. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**20149  Mechanics and Repair—Other**

## Distribution and Logistics

**20151  Distribution—Comprehensive**

Distribution—Comprehensive courses provide students with knowledge and skills related to the safe and efficient delivery of commodities to various markets. Course content typically includes the comparative advantages of various forms of transportation, distribution networks, processes for tracking large shipments of material, transportation of goods in a safe and secure manner, and packaging.

**20152  Warehouse Operations**

Warehouse Operations courses convey the principles and processes underlying the receiving, loading and unloading, tracking, and storing of large quantities of materials. Course topics typically include a variety of logistical implications for moving materials by several different modes of transportation, safety and security, and appropriate storage techniques.

**20197  Distribution and Logistics—Independent Study**

Distribution and Logistics—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to distribution and logistics. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**20198  Distribution and Logistics—Workplace Experience**

Distribution and Logistics—Workplace Experience courses provide students with work experience in fields related to distribution and logistics. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**20199  Distribution and Logistics—Other**

## All Others

**20995  Transportation, Distribution, and Logistics—Aide**

Transportation, Distribution, and Logistics—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**20997  Transportation, Distribution, and Logistics—Independent Study**

Transportation, Distribution, and Logistics—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to transportation, distribution, and logistics. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**20998  Transportation, Distribution, and Logistics—Workplace Experience**

Transportation, Distribution, and Logistics—Workplace Experience courses provide students with work experience in fields related to transportation, distribution, and logistics. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences encountered in the workplace.

**20999  Transportation, Distribution, and Logistics—Other**

# Subject Area 21: Engineering and Technology (secondary)

## Engineering

### 21001  Pre-Engineering Technology

Pre-Engineering Technology courses integrate technology-oriented applications of mathematics and science into pre-engineering activities for students. Course topics may include material sciences, technology processes, enterprises, and career opportunities.

### 21002  Engineering Applications

Engineering Applications courses provide students with an overview of the practical uses of a variety of engineering applications. Topics covered usually include hydraulics, pneumatics, computer interfacing, robotics, computer-aided design, computer numerical control, and electronics.

### 21003  Engineering Technology

Engineering Technology courses provide students with the opportunity to focus on one or more areas of industrial technology. Students apply technological processes to solve real engineering problems; develop the knowledge and skills to design, modify, use, and apply technology; and may also design and build prototypes and working models. Topics covered in the course include the nature of technology, use of technology, and design processes.

### 21004  Principles of Engineering

Principles of Engineering courses provide students with an understanding of the engineering/technology field. Students typically explore how engineers use various technology systems and manufacturing processes to solve problems; they may also gain an appreciation of the social and political consequences of technological change.

### 21005  Engineering—Comprehensive

Engineering—Comprehensive courses introduce students to and expand their knowledge of major engineering concepts such as modeling, systems, design, optimization, technology-society interaction, and ethics. Particular topics often include applied engineering graphic systems, communicating technical information, engineering design principles, material science, research and development processes, and manufacturing techniques and systems. The courses may also cover the opportunities and challenges in various branches of engineering.

### 21006  Engineering Design

Engineering Design courses offer students experience in solving problems by applying a design development process. Often using solid modeling computer design software, students develop, analyze, and test product solutions models as well as communicate the features of those models.

**21007  Engineering Design and Development**
 Engineering Design and Development courses provide students with the opportunity to apply engineering research principles as they design and construct a solution to an engineering problem. Students typically develop and test solutions using computer simulations or models but eventually create a working prototype as part of the design solution.


**21008  Digital Electronics**
 Digital Electronics courses teach students how to use applied logic in the development of electronic circuits and devices. Students may use computer simulation software to design and test digital circuitry prior to the actual construction of circuits and devices.


**21009  Robotics**
 Robotics courses develop and expand students' skills and knowledge so that they can design and develop robotic devices. Topics covered in the course may include mechanics, electrical and motor controls, pneumatics, computer basics, and programmable logic controllers.


**21010  Computer Integrated Manufacturing**
 Computer Integrated Manufacturing courses involve the study of robotics and automation. Building on computer solid modeling skills, students may use computer numerical control (CNC) equipment to produce actual models of their three-dimensional designs. Course topics may also include fundamental concepts of robotics, automated manufacturing, and design analysis.


**21011  Civil Engineering**
 Civil Engineering courses expose students to the concepts and skills used by urban planners, developers, and builders. Students may be trained in soil sampling and analysis, topography and surveying, and drafting or blueprint-reading. Additional course topics may include traffic analysis, geologic principles, and urban design.


**21012  Civil Engineering and Architecture**
 Civil Engineering and Architecture courses provide students with an overview of the fields of Civil Engineering and Architecture while emphasizing the interrelationship of both fields. Students typically use software to address real world problems and to communicate the solutions that they develop. Course topics typically include the roles of civil engineers and architects, project-planning, site-planning, building design, project documentation, and presentation.


**21013  Aerospace Engineering**
 Aerospace Engineering courses introduce students to the world of aeronautics, flight, and engineering. Topics covered in the course may include the history of flight, aerodynamics and aerodynamics testing, flight systems, astronautics, space life systems, aerospace materials, and systems engineering.

**21014  Biotechnical Engineering**

Biotechnical Engineering courses enable students to develop and expand their knowledge and skills in biology, physics, technology, and mathematics. Course content may vary widely, drawing upon diverse fields such as biomedical engineering, biomolecular genetics, bioprocess engineering, agricultural biology, or environmental engineering. Students may engage in problems related to biomechanics, cardiovascular engineering, genetic engineering, agricultural biotechnology, tissue engineering, biomedical devices, human interfaces, bioprocesses, forensics, and bioethics.

**21015  Particular Topics in Engineering**

These courses examine specific topics in engineering other than those already described.

**21047  Engineering—Independent Study**

Engineering—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to engineering. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**21048  Engineering—Workplace Experience**

Engineering—Workplace Experience courses provide students with work experience in an engineering-related field. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**21049  Engineering—Other**

## Technology

**21051  Technological Literacy**

Technological Literacy courses expose students to the communication, transportation, energy, production, biotechnology, and integrated technology systems and processes that affect their lives. The study of these processes enables students to better understand technological systems and their applications and uses.

**21052  Technological Processes**

Technological Processes courses provide students with the opportunity to focus on one or more areas of industrial technology, applying technological processes to solve real problems and developing the knowledge and skills to design, modify, use, and apply technology appropriately. Students may examine case studies, explore simulations, or design and build prototypes and working models.

**21053  Emerging Technologies**

Emerging Technologies courses emphasize students' exposure to and understanding of new and emerging technologies. The range of technological issues varies widely but typically include lasers, fiber options, electronics, robotics, computer technologies, CAD/CAM, communication modalities, and transportation technologies.


**21054  Technology Innovation and Assessment**

Technology Innovation and Assessment courses use engineering design activities to help students understand how criteria, constraints, and processes affect design solutions and provide students with the skills to systematically assess technological developments or solutions. Course topics may include brainstorming, visualizing, modeling, simulating, constructing, testing, and refining designs.


**21055  Aerospace Technology**

Aerospace Technology courses introduce students to the technology systems used in the aerospace industry and their interrelationships. Examples of such systems include satellite communications systems, composite materials in airframe manufacturing, space station constructions techniques, space shuttle propulsion systems, aerostatics, and aerodynamics.


**21056  Particular Topics in Technology Applications**

These courses examine specific topics in technology applications other than those already described.


**21097  Technology—Independent Study**

Technology—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to technology systems and processes. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.


**21098  Technology—Workplace Experience**

Technology—Workplace Experience courses provide students with work experience in a field related to technological systems and structures. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**21099  Technology—Other**

## Drafting

**21101  Drafting Careers Exploration**

Geared for students with an interest in careers that use drafting skills and applications, Drafting Careers Exploration courses expose students to the opportunities available for draftspeople (engineering, architectural, industrial, and so on). These courses serve to introduce basic skills and the field in general, providing students with the opportunity to identify a focus for continued study or to determine that their interests lie elsewhere.

**21102  Drafting—General**

Drafting—General courses, usually offered as a sequence of courses, introduce students to the technical craft of drawing illustrations to represent and/or analyze design specifications and then refine the skills necessary for this craft. Drafting—General courses use exercises from a variety of applications to provide students with the knowledge and experience to develop the ability to perform freehand sketching, lettering, geometric construction, and multiview projections and to produce various types of drawings (working, detail, assembly, schematic, perspective, and so on). Computer-aided drafting (CAD) systems (if available) are typically introduced and used to fulfill course objectives.

**21103  Drafting—Architectural**

Drafting—Architectural courses introduce students to and help them refine the technical craft of drawing illustrations to represent and/or analyze design specifications, using examples drawn from architectural applications. These courses are intended to help students develop general drafting skills, but place a particular emphasis on interior and exterior residential (and light commercial) design, site orientation, floor plans, electrical plans, design sketches, and presentation drawings. In addition, students may prepare scale models.

**21104  Drafting—Civil/Structural**

Drafting—Civil/Structural courses introduce students to and help them refine the technical craft of drawing illustrations to represent and/or analyze design specifications, using examples drawn from civil engineering and/or structural applications. These courses are intended to help students develop general drafting skills, but place a particular emphasis on skills needed for typography and survey work.

**21105  Drafting—Electrical/Electronic**

Drafting—Electrical/Electronic courses introduce students to and help them refine the technical craft of drawing illustrations to represent and/or analyze design specifications, using examples drawn from electric and/or electronic fields. These courses are intended to help students develop general drafting skills, but place a particular emphasis on those skills needed for electrical and electronic schematics.

**21106  Drafting—Technical/Mechanical**

Drafting—Technical/Mechanical courses introduce students to and help them refine the technical craft of drawing illustrations to represent and/or analyze design specifications, using examples drawn from industrial applications. These courses are intended to help students develop general drafting skills, but place a particular emphasis on sectioning, auxiliary views, revolutions, and surface development. In these courses, students typically learn basic machining and fabrication processes as they draw schematic diagrams featuring cams, gears, linkages, levers, pulleys, and so on.

**21107  CAD Design and Software**

Frequently offered as an intermediary step to more advanced drafting courses (or as a concurrent course), CAD Design and Software courses introduce students to the computer-aided drafting systems available in the industry.

**21108  Blueprint Reading**

Blueprint Reading courses provide students with the knowledge and ability to interpret the lines, symbols, and conventions of drafted blueprints. They generally emphasize interpreting, not producing, blueprints, although the courses may provide both types of experiences. Blueprint Reading courses typically use examples from a wide variety of industrial and technological applications.

**21147  Drafting—Independent Study**

Drafting—Independent Study courses, often conducted with instructors as mentors, enable students to explore drafting-related topics of interest. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**21148  Drafting—Workplace Experience**

Drafting—Workplace Experience courses provide work experience in a field related to drafting. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.

**21149  Drafting—Other**

## All Others

**21995  Engineering and Technology—Aide**

Engineering and Technology—Aide courses offer students the opportunity to assist instructors in preparing, organizing or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**21997  Engineering and Technology—Independent Study**

Engineering and Technology—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to engineering and/or technology. Independent Study courses may serve as an opportunity for students to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.


**21998  Engineering and Technology—Workplace Experience**

Engineering and Technology—Workplace Experience courses provide students with work experience in a field related to engineering or technology. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.


**21999  Engineering and Technology—Other**

# Subject Area 22: Miscellaneous (secondary)

## Academic Enrichment

### 22001  Standardized Test Preparation
Standardized Test Preparation courses help prepare students for national standardized tests such as the PSAT, SAT, and ACT. In particular, these courses assist students in developing and/or expanding their vocabulary, test-taking, and reasoning skills through study, lecture, and practice drills. Course topics may include vocabulary review; root words, prefixes, and suffixes; mathematical concepts, logic, and rules; and general problem-solving and test-taking strategies.

### 22002  State Test Preparation
State Test Preparation courses prepare students for particular state tests required for graduation. These courses may cover specific content areas (such as citizenship, mathematics, language arts, and so on) according to individual student needs, or they may provide a more general course of study, similar to the Standardized Test Preparation course described above.

### 22003  Study Skills
Study Skills courses prepare students for success in high school and/or for postsecondary education. Course topics may vary according to the students involved, but typically include reading improvement skills, such as scanning, note-taking, and outlining; library and research skills; listening and note-taking; vocabulary skills; and test-taking skills. The courses may also include exercises designed to generate organized, logical thinking and writing.

### 22004  Dropout Prevention Program
Dropout Prevention Program courses vary widely, but typically are targeted at students who have been identified as being at risk of dropping out of or failing in school. Course content may include study skills and individual tutorials; job preparation, readiness, application, or interview skills; communication skills; personal assessment and awareness activities; speaker presentations; and small group seminars.

### 22005  Tutorial
Tutorial courses provide students with the assistance they need to successfully complete their coursework. Students may receive help in one or several subjects.

### 22006  Study Hall
Study Hall courses provide students with the opportunity and time to complete classroom assignments or school projects. Students typically work on their own, without the help of a tutor; however, they are supervised and usually remain in the classroom.

## Staff Assistance

### 22051  Office Aide
Office Aide courses provide students with the opportunity to work in campus offices, developing skills related to clerical office work. Duties may include typing, filing, record-keeping, receiving visitors, answering the telephone, and duplicating, among others. These courses emphasize appropriate work attitudes, human relations, and proper office procedures.

### 22052  Guidance Aide
Guidance Aide courses provide students with the opportunity to work in the campus guidance office. Duties may include typing, filing, record-keeping, assisting students, answering the telephone, and duplicating, among others. Students may also act as guides to new students. These courses emphasize appropriate work attitudes, human relations, and proper office procedures.

### 22053  Library/AVC Aide
Library/AVC Aide courses provide students with the opportunity to work in the library or in media and audiovisual centers. Duties may include collecting, distributing, and categorizing materials; operating audiovisual equipment; assisting students and teachers; and performing clerical duties. Students typically gain experience in library science and/or media and audiovisual technology.

### 22054  Tutoring Practicum
Tutoring Practicum courses provide students with the opportunity to offer tutorial assistance to their peers or to younger students. After an initial training period during which students learn how to work with other students and how to make use of the available resources (e.g., staff, written material, audiovisual aids, and so on), students engage in tutoring and assisting others who need or request help.

## School Organization/Leadership

### 22101  Leadership
Leadership courses are designed to strengthen students' personal and group leadership skills. Typically intended for students involved in extracurricular activities (especially as officers of organizations or student governing bodies), these courses may cover such topics as public speaking, effective communication, human relations, parliamentary law and procedures, organization and management, and group dynamics.

### 22102  School Orientation
School Orientation courses provide students with an introduction to the culture of their school so that they understand staff expectations and the school's structure and conventions. These courses may vary widely according to the philosophy, aims, and methods of each school.

**22103  School Governance**

School Governance courses convene students as an entire student body to discuss common concerns, organize groups for action, make decisions, and solve school-related problems. Because of the nature of these courses, they are typically offered at private, alternative, or experimental schools.

**22104  Community Service**

Community Service courses provide students with the opportunity to volunteer their time, energy, and talents to serve a community project or organization. These courses are usually (but not always) conducted with a seminar component, so that students can use their volunteer experiences to learn how to solve problems, make decisions, and communicate effectively.

**22105  Values Clarification**

Values Clarification courses enable students to explore individual and societal actions and implications in order to help them develop personal values and make decisions about their lives. Examples of discussion topics include philosophy and religion, world resource allocation, genetic engineering, environmental issues, and death-related issues (euthanasia, suicide, and abortion).

**22106  Seminar**

Seminar courses vary widely, but typically offer a small peer group the opportunity to investigate areas of interest. Course objectives may include improvement of research and investigatory skills, presentation skills, interpersonal skills, group process skills, and problem-solving and critical-thinking skills. Seminars aimed at juniors and seniors often include a college and career exploration and planning component.

## Career Exploration/Development

**22151  Career Exploration**

Career Exploration courses help students identify and evaluate personal goals, priorities, aptitudes, and interests with the goal of helping them make informed decisions about their careers. These courses expose students to various sources of information on career and training options and may also assist them in developing job search and employability skills.

**22152  Employability Skills**

Employability Skills courses help students match their interests and aptitudes to career options with a focus on using employment information effectively, acquiring and improving job-seeking and interview skills, composing job applications and resumes, and learning the skills needed to remain in and advance within the workplace. Course content may also include consumer education and personal money management topics.

**22153  Diversified Occupations**

Diversified Occupations courses help students enter the workforce through career exploration, job search and application, and the development of positive work attitudes and work-related skills. These courses typically cover such topics as career planning and selection, money management, communication skills, interpersonal business relationships and behaviors, and personal responsibility. Employment may be a required component of these courses, or students may be required to enroll concurrently in a work experience course.

## Family and Consumer Science

**22201  Family and Consumer Science—Comprehensive**

Family and Consumer Science—Comprehensive courses are inclusive studies of the knowledge and skills that are useful for the efficient and productive management of the home. Course topics typically include foods and nutrition; clothing; child development and care; housing design, decoration, and maintenance; consumer decisions and personal financial management; and interpersonal relationships.

**22202  Food and Nutrition**

Food and Nutrition courses provide students with an understanding of food's role in society, instruction in how to plan and prepare meals, experience in the proper use of equipment and utensils, and background on the nutritional needs and requirements for healthy living. Some classes place a heavier emphasis on the nutritional components of a balanced diet, while others concentrate on specific types of food preparation. Although these courses may present career opportunities in the food service industry, their emphasis is not career-related.

**22203  Food Science**

Food Science courses offer opportunities to study the composition, structure, and properties of foods and the chemical changes that occur during the processing, storage, preparation, and consumption of food. These courses often explore the effects of various materials, microorganisms, and processes on food products through laboratory experiments.

**22204  Child Development/Parenting**

Child Development/Parenting courses provide students with knowledge about the physical, mental, emotional, and social growth and development of children from conception to pre-school age. In addition, these courses help students discover how parents should respond to the various stages of childhood. Course content typically includes topics such as prenatal and birth processes; responsibilities and difficulties of parenthood; fundamentals of children's emotional and physical development; and the appropriate care of infants, toddlers, and young children.

**22205  Clothing/Sewing**

Clothing/Sewing courses introduce students to and expand their knowledge of various aspects of wearing apparel, sewing, and fashion. These courses typically include wardrobe planning; selection, care, and repair of various materials; and construction of one or more garments. They may also include related topics, such as fashion design, fashion history, the social and psychological aspects of clothing, careers in the clothing industry, and craft sewing.


**22206  Life Skills**

Life Skills courses provide students with information about a wide range of subjects to assist them in becoming wise consumers and productive adults. These courses often emphasize such topics as goal-setting, decision-making, and setting priorities; money and time management; relationships; and the development of the self. Practical exercises regarding selecting and furnishing houses, meeting transportation needs, preparing food, selecting clothing, and building a wardrobe are often integral to these classes. In addition, specific topics such as insurance, taxation, and consumer protection may also be covered.


**22207  Self-Management**

Self-Management courses introduce students to the skills and strategies helpful in becoming more focused, productive individuals. These courses typically emphasize goal-setting; decision-making; managing time, energy, and stress; and identifying alternatives and coping strategies. They may also allow students to explore various career and lifestyle choices.


**22208  Family Living**

Family Living courses emphasize building and maintaining healthy interpersonal relationships among family members and other members of society. These courses often emphasize (but are not limited to) topics such as social/dating practices, human sexuality and reproduction, marriage preparation, parenthood and the function of the family unit, and the various stages of life. They may also cover topics related to individual self-development, career development, personal awareness, and preparation for the responsibilities of a family member and wage earner.


**22209  Personal Development**

Similar to Family Living courses, but more focused on the individual, Personal Development courses emphasize strengthening self-esteem, recognizing and resisting negative peer pressure, and developing coping skills for dealing with changes within one's self and within others. These courses may also have a substance-abuse prevention component.


**22210  Consumer Economics/Personal Finance**

Consumer Economics/Personal Finance courses provide students with an understanding of the concepts and principles involved in managing one's personal finances. Topics may include savings and investing, credit, insurance, taxes and social security, spending patterns and budget planning, contracts, and consumer protection. These courses may also provide an overview of the American economy.

**22211  Home Décor**

Home Décor courses provide students with knowledge and skills regarding interior design and decoration of the home for the individual or family. While exploring design principles, personal needs and style, and decision-making, students may have an opportunity to explore such topics as color, texture, furniture styles and arrangement, lighting, window treatments, floor and wall coverings, and home improvement/modification. These courses emphasize personal (rather than commercial) use and application of home décor principles.

**22245  Family and Consumer Science—Aide**

Family and Consumer Science—Aide courses offer students the opportunity to assist instructors in preparing, organizing or delivering course curricula. Students may provide tutorial or instructional assistance to other students.

**22247  Family and Consumer Science—Independent Study**

Family and Consumer Science—Independent Study courses, often conducted with instructors as mentors, enable students to explore topics of interest related to home- and self-management. Independent Study courses may provide students with an opportunity to expand their expertise in a particular application, to explore a topic in greater detail, or to develop more advanced skills.

**22249  Family and Consumer Science—Other**

## Support Services

**22251  Community Living**

Community Living courses place a special emphasis on the student's relationship to the surrounding community. Instruction varies with the students and their needs; however, these courses provide the skills necessary for independent functioning within the surrounding environment. Course topics may also include available community resources and how to access them, emergency skills, and independent living strategies.

**22252  Communication Instruction**

Communication Instruction courses are typically individualized according to each student's condition and needs. Increasing the student's communication skills—oral expression, listening comprehension, reading, and writing—is emphasized; communication techniques in several areas (educational, social, and vocational) are often explored.

**22253  Social Development Instruction**

Social Development Instruction courses teach students the social skills needed for independent functioning within the community. Topics may include self-control, self-expression, obeying rules, decision-making, appropriate situational behavior, interacting with others, and maintaining relationships. Students may develop independence, self-confidence, and self-reliance.

## 22254  Developmental Support

Developmental Support courses are customized according to each student's condition and needs, emphasizing an increase in skill or control of body and mind function. Examples of support may include refinement of gross and fine motor skills, development of visual perception, and improvement in eye-hand coordination.

## All Others

### 22995  Miscellaneous—Aide

Miscellaneous—Aide courses offer students the opportunity to assist instructors in preparing, organizing, or delivering course curricula or to assist other staff members in fulfilling their duties. Students may provide tutorial or instructional assistance to other students.
Note: if the particular subject area is known, use the code associated with the Aide course within that subject area.

### 22997  Miscellaneous—Independent Study

Miscellaneous—Independent Study courses, typically organized as a mentorship with a teacher or outside professional, enable students to conduct investigations related to their field(s) of interest.
Note: if the particular subject area is known, use the code associated with the Independent Study course within that subject area.

### 22998  Miscellaneous—Workplace Experience

Miscellaneous—Workplace Experience courses provide students with work experience in a field related to their interests. Goals are typically set cooperatively by the student, teacher, and employer (although students are not necessarily paid). These courses may include classroom activities as well, involving further study of the field or discussion regarding experiences that students encounter in the workplace.
Note: if the particular subject area is known, use the code associated with the Workplace Experience course within that subject area.

### 22999  Miscellaneous—Other

# Appendix A. Development of SCED

**Systemic Differences in Course Classification Systems**

As noted above, the SCED framework draws on the two existing course classification systems supported by NCES. Examining those systems and the declared needs and concerns of different users led to a number of questions (and resulting assumptions and implications) about how the new system might function and be maintained. This appendix reviews these factors.

The CSSC and the SNCCS were created for different purposes; because of this, each has certain advantages and disadvantages. NCES developed the CSSC in 1982 to classify courses taken by students participating in the High School and Beyond (HS&B) Longitudinal Study, and has used it for major national transcript studies since then. The CSSC provides six-digit codes for approximately 2,200 secondary school courses (and about 60 7th- and 8th-grade courses). Because the framework is based on the Classification of Instructional Programs (CIP),[5] it retains the vestiges of an organization reflecting postsecondary programs of study. Thus, there is often more distinction or separation than might be warranted for secondary studies (e.g., Experimental Psychology in addition to, and separate from, Clinical Psychology). The first four digits of CSSC codes conform to CIP categories and subcategories, leaving the last two digits to specify particular secondary courses. The CIP categories and subcategories provide a description of the program areas, while each individual course code is accompanied by descriptive phrases that indicate course content. Indications of the level of the course and sequencing are sometimes nonexistent or inflexible.

NCES developed the SNCCS in 1995 to support the electronic exchange of student transcripts. The SNCCS is included in the SPEEDE/ExPRESS transcript standards, which were maintained by the Data Interchange Standards Association and accepted by the American National Standards Institute. The SNCCS coding structure, which consists of 13 digits, includes descriptions of roughly 600 courses attached to the first four digits of the code, with the first two digits signifying a major category or subject area and the next two specifying a particular course within the category. The use of four additional "common" fields—to indicate course level, credit available, and course sequencing (term and year)—increases the number of courses included in the system exponentially. The meaning of the remaining three subject area option fields varies by subject area. The SNCCS can be unwieldy to use, and the three "subject area fields" are too specific to apply across all instances of a described course within a school or district.

Exhibit A-1 summarizes the major characteristics of these two systems.

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[5] Due to the 2000 updating of the CIP, some connections between the CSSC and CIP have been lost.

**Exhibit A-1. Major characteristics of the Classification of Secondary School Courses (CSSC) and the Pilot Standard National Course Classification System for Secondary Education (SNCCS)**

|  | CSSC | SNCCS |
|---|---|---|
| **Origin** | 1982 | 1995 |
| **Purpose** | transcript studies: to systematically code courses taken by students sampled for national transcript studies conducted as part of longitudinal surveys and National Assessment of Educational Progress (NAEP) testing programs | electronic transmission: to enable the electronic transfer of student coursetaking data between districts and schools through SPEEDE/ExPRESS |
| **Structure** | CIP-based | department-based |
| **Updates** | Revisions are made as part of each transcript collection by the firm or office coding the transcripts, roughly every two years. | The pilot system has not been updated since its conception. |
| **Categories** | 54 | 29 |
| **Description of categories** | Descriptions come from the CIP and pertain to both major and minor categories; however, not every category has a description. | Brief descriptions exist for the major categories (i.e., the 29 subject areas). Defined subcategories do not exist in the SNCCS. |
| **Coding of courses** | 6 digits/3 elements | 13 digits/9 elements |
| **Course description** | Accomplished through the category and subcategory descriptions, as well as the phrases included with each code. | Accomplished through the subject area description, as well as the individual course descriptions. Courses may be further described with the option elements (three fields that vary based on subject area). |
| **Indication of course level** | uneven | expansive |
| **Credit available** | not indicated (typically) | indicated |
| **Course sequencing** | uneven/inflexible | available |

**Projecting the use of course classification systems**

As initial conversations with potential users wound down, and as decisions regarding the system became more concrete, the developers searched the Internet to determine how many states had already created statewide course classification systems, and what structures they were using as the basis for those systems. At the time of this search, in early 2004, roughly half of the states had, or were implementing, a course classification system, a few of which included only career/technical education (designed for Perkins accountability programs). Of the 27 state systems in place, 17 were based on state-developed coding structures, eight used the Classification of Instructional Programs (CIP) coding structure, and the remaining two were based on the SNCCS[6].

If the results of this research are any indication of the degree to which states maintain standard course classification systems, using the SCED will be a new endeavor for many states. However, growing national and state interest in building longitudinal databases that can measure the added value of education over time, as well as the accountability requirements of No Child Left Behind, suggest that SCED will be a useful tool for state and local education agencies. SCED will also be useful when school districts exchange transcript information electronically. On receipt of an electronic transcript, the course coding structure combined with course descriptions enable new students to be placed in appropriate classes with no delay.


**Identifying the Requirements for a Course Classification System**

Developing the SCED classification structure involved comparing and cross walking the SNCCS and CSSC systems, talking to representative users, and developing and testing ideas. The crosswalk exercise highlighted desirable features of the CSSC and the SNCCS as well as flaws, inconsistencies, and apparent inadequacies that needed to be addressed within the SCED. Numerous conversations with different types of users reinforced those lessons and clarified the following points.

- Any course coding system must be flexible enough to meet the varying needs of local school systems.

- It is a major undertaking for any school (or any other agency) to change student data systems.

- The new course coding system needs to be cross-walked to the CSSC so that trend data can be maintained.

- There must be a process to coordinate and manage continuous input and change nonstandard coursework (for example, private education, magnet and charter school offerings, and educational institutions that do not base their systems on credit-bearing coursework).

During the discussions with users, it became clear that the SNCCS subject area fields (those with definitions that varied by subject area) were burdensome to use, while the CSSC included too many courses, and in many cases, too little distinction between them for use by school districts or state departments of education. A comparison of SNCCS and CCSSC provided insight on how to create a comprehensive and effective common course classification system and magnified five topics to address in developing the SCED system:

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[6] This number may underestimate the extent of classification systems. Some existing classification systems might not have been accessible through public state education agency websites.

- standardization of codes across subject areas;

- issues involving special education offerings;

- modifications/additions to SNCCS subject areas as they are incorporated into the SCED;

- the need for curriculum expertise to ensure appropriate courses are included; and

- miscellaneous issues pertaining to specific subject areas.

## Development of the SCED Classification Structure

The major sources for the development of SCED were analyses of school districts' course catalogs; interviews with individuals who worked with course classification systems; and small group meetings to discuss and revise the work as it progressed.

## Participation by User Communities

In late winter of 2003–04 consultants met with persons who were actively engaged in using or developing secondary course classification systems (see exhibit A-2). These advisors represented state education agencies, school districts, the US Department of Education, postsecondary groups, and education research enterprises.

The project began with a review of existing perceptions about the need for a course code taxonomy with accompanying course descriptions.

## Testing the Framework

The review of the framework was an iterative process, conducted throughout the development of the SCED. At the outset of the work, an External Review Committee was convened. During 2004 and 2005 versions of this proposal were presented to attendees of sessions at NCES Data Conferences; to the Technology Committee of the National Forum on Education Statistics; and to the Student Information Systems Work Group of the Schools Interoperability Framework Association. Comments received from these groups were generally positive, and their suggestions were incorporated into the system.[7] In addition, all those who had been interviewed during the early months of the project were provided with an invitation to comment. The comments received were supportive and suggested no substantive changes to the framework. In November 2005, the External Review Committee met again to review the SCED framework.

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[7] A number of factors of interest—some mentioned in the report and some suggested by reviewers or meeting participants—have been suggested as additional elements or entities to be added to the *Handbooks Online* at a later point in time. These items relate to course offerings, but will not be considered part of the SCED course code itself. Examples include language of instruction and delivery method (e.g., delivered via distance education or at a postsecondary institution).

**Source of Course Descriptions**

The identified courses and their descriptions were drawn from three major sources. The first source was existing descriptions from the CSSC or Pilot SNCCS, although some of these descriptions needed to be expanded or otherwise revised. The professional standards set by some education groups were the second source of courses. In particular, the courses and accompanying descriptions for vocational/technical areas follow the career clusters endorsed by the National Association of State Directors of Career Technical Education Consortium, while the College Board defined Advanced Placement courses and the International Baccalaureate Organization defined those for International Baccalaureate credit.

Finally, many courses and definitions came from a review of existing course catalogs. In addition to catalogs previously collected by the contractor, MPR Associates, 25 course catalogs from states and districts of diverse sizes were provided by members of the National Forum on Education Statistics. Staff of MPR and of the Education Statistics Services Institute then conducted a review of these catalogs to identify courses that needed to be added to the subject areas.

After the subject areas were defined and course descriptions applied, the External Review Committee, all members of the National Forum on Education Statistics, and nine additional educators were asked to review the courses and course descriptions. The comments received were supportive of the overall structure. There were recommendations to add, redefine, or remove specific courses. Where necessary, reviewers were contacted to make sure their comments were interpreted correctly.

**Exhibit A-2. Developing the classification structure for School Codes for the Exchange of Data (SCED): Interviews, meetings, and presentations**

| Date | Telephone Interviewees |
|---|---|
| Nov 2003 | Lee Tack, Iowa Department of ED |
|  | Cliff Adelman |
|  | Barbara Andrepont |
|  | Jeff Owings, NCES |
|  | Steve Ingels, RTI, and Leslie Scott, AIR |
| Dec 2003 | Raymond Yeagley, Superintendent, Rochester, New Hampshire |
|  | Janis Brown, NCES, Shep Roey, and Rob Perkins, WESTAT |
|  | Nancy Adelman and Karen Mitchell, SRI |
|  | Lee Tack and staff of Project EASIER, Iowa Department of Education |
|  | Eileen Wetzel, NCAA Initial Eligibility Clearinghouse |
| Jan 2004 | Charles Masten, University of California Office of the President |
|  | Rupa Datta, NORC |
|  | Myrna Holgate, Mark Kuskie, and Greg Berg, Idaho Department of Education |

**Meetings and presentations**

| Date | Activity | Purpose | Participants |
|---|---|---|---|
| Dec 2003 | Meetings in Des Moines, Iowa | Review SNCCS implementation of Iowa Department of Ed. and meet with NCAA personnel to see how they use high school transcripts. | Lee Tack and Colleen McClanahan, Iowa Dept. of Ed. and Eileen Wetzel, NCAA. |
| Feb 2004 | Presentation and discussion in Norfolk, VA | | TECH Committee of NCES Forum |
| | Presentation and discussion in Norfolk, VA | | SIS Workgroup of the School Interoperability Framework Association |
| | Presentation in Norfolk, VA | | Session I-B at the MIS Data Conference |
| | Meeting in Norfolk, VA | Discussion of proposed uses of a course code taxonomy | Barbara Clements, ESP Solutions Group |
| March 2004 | Meeting in Portland, OR | Discussing how the Draft SNNCS was being used and reviewed the proposed course coding structure | Portland, OR area Dept. of Education personnel |
| July 2004 | Presentation in Washington, DC | | TECH Committee of Forum |
| Oct/Nov 2004 | Telephone discussion | Discussion of pending review group meeting and comments | Shep Roey, Rob Perkins, and Stan Legum |

The project continued to involve the education community by requesting input on the proposed course coding structure. During this phase of the project, Subject Areas were defined and course catalogs were reviewed to determine courses and descriptions. These meetings were held throughout the first half of 2005. Exhibit A-3 presents the schedule and major purpose of each meeting.

**Exhibit A-3. Developing the content for School Codes for the Exchange of Data (SCED): Meetings and presentations**

| Date | Activity | Purpose | Participants |
|------|----------|---------|--------------|
| Jan 2005 | External Review Panel in Washington, DC | Examine the proposed course coding structure and explore issues relating to the development of the SCED.<br>—Determine if the logic behind the coding structure is valid.<br>—Ensure that the audiences for the proposed system have been identified correctly. | (See Acknowledgments for the list of participants.) |
| Feb 2005 | Presentation in New Orleans, LA | Present the course code structure and request feedback to assist MPR in determining the viability of the proposed system. (Phase I complete.) | MIS Conference session attendees |
| Feb 2005 | Presentation and discussion in New Orleans, LA | Present the course code structure and request feedback to assist MPR in determining the viability of the proposed system. | Forum TECH Committee members |
| Feb 2005 | Meeting in New Orleans, LA | Discussion of how the proposed course code structure can be integrated into SIF. | SIFA Workgroup members |
| Feb 2005 | Meeting in New Orleans, LA | Discussion of the relationship of course code project to the NCES Online Handbook. | Deborah Newby and Tara McLarnon, CCSSO |
| Mar 2005 | Listserv Message | Course catalogs requested from states and districts. | Forum members |
| July 2005 | Presentation in Washington, DC | Update group on progress, requesting feedback. | Forum members |
| July 2005 | Presentation in Washington, DC | Update on progress of SCED. | NCES Summer Data Conference attendees |

After the taxonomy and sample course codes and descriptions were written, they were subjected to review by potential users. Specialists from districts and states reviewed courses and course descriptions within specific subject areas to determine if the course lists were complete and the descriptions appropriate. These reviews and interviews were conducted as prelude to the External Review Panel meeting in November 2005. The process is outlined in exhibit A-4.

**Exhibit A-4. Course and course description reviews for School Codes for the Exchange of Data (SCED)**

**Review of draft SCED**

| Date | Reviewers |
|------|-----------|
| Aug/Sept 2005 | John Kennedy, Maine<br>Coleen McClanahan, Iowa<br>Nancy Beben, Louisiana<br>W. Tad Johnston, Maine<br>Willie Stroble, Virginia<br>Debra Sullivan, West Virginia<br>Brenda Turner, Arkansas<br>Vickie Scow, Nebraska<br>Julane Hill, Nebraska<br>Bonnie Sibert, Nebraska |

**Telephone interviews**

| Date | Interviewees |
|------|--------------|
| Oct 2005 | Debra Sullivan, West Virginia<br>Howard Woodard<br>Helene Douglass, Oregon<br>Judi Barnett and Todd Roney, SIFA<br>Lee Tack and Colleen McClanahan<br>David Grantz, Delaware<br>Lois Williams, Virginia<br>Carmen Jordan, Arkansas<br>Gwyn Tracy (referred by Sonya Edwards), CA Dept. of Ed.<br>Alex Jackl, ESP Solutions Group |
| Dec 2005 | David Carpenter, Executive Director for Elementary Operations, Houston County, GA |
|  | Carl Scheff, California Department of Education |

**External review panel and subsequent meetings and interviews**

| Date | Activity | Purpose | Participants |
|---|---|---|---|
| Nov 2005 | External Review Panel in Washington, DC | The External Review Panel of educators and researchers convened to review the SCED system development to date. The meeting's objectives included gathering input from attendees about several issues raised by reviewers of the secondary component of the SCED and reviewing and assessing several possibilities for adding intermediate and elementary courses to the system | (See Acknowledgments in this report for list of participants.) |
| Feb 2006 | Presentation | Review of proposed taxonomy as refined by prior interviews and meetings. | Forum TECH and NESAC Forum Committees |
| Feb 2006 | Presentation | Review of proposed taxonomy as refined by prior interviews and meetings. | MIS Conference Session |
| Apr 2006 | Forum Review | Subject Areas, Courses and Course Descriptions were posted for comment on the Forum website. | General |
| May 2006 | Request through email | External Review Group members were sent subject areas and course descriptions for their review and comment | External Review Group |
| June 2006 | Review by NCES | | NCES Staff |
| July 2006 | Review by practitioners | Selected practitioners were asked to conduct a final review. | Colleen McClanahan<br>Helene Douglass<br>Judi Barnett |

**Testing the Course Descriptions**

The individual course descriptions in SCED cannot reflect the detail about content, objectives, and instruction for a course taught in a particular classroom. However, the course descriptions do make it possible, according to users of the SNNCS, for districts to send course codes to another district or to a state department of education and for those departments to understand what courses a student has taken.

Reviewing course information is an interpretive process, at best. Through the SCED it will be possible to place transferring students into appropriate classes without having to make the back-and-forth phone calls or provide labor intensive handling of paper transcripts for each incoming or outgoing student.

As the system is used by practitioners and course information modified through the NCES process for *Handbooks Online*, course descriptions will become refined and will be of more use to people who conduct transcript examinations for research. Even then, as now, some degree of professional interpretation will still be needed.

## Appendix B. List of SCED Course Titles, in numeric order

**English Language and Literature (secondary)**

| | |
|---|---|
| English/Language Arts I (9th grade) | 01001 |
| English/Language Arts II (10th grade) | 01002 |
| English/Language Arts III (11th grade) | 01003 |
| English/Language Arts IV (12th grade) | 01004 |
| AP English Language and Composition | 01005 |
| AP English Literature and Composition | 01006 |
| IB Language A (English) | 01007 |
| English as a Second Language | 01008 |
| Language Arts Laboratory | 01009 |
| | |
| English/Literature (freshmen and sophomores) | 01051 |
| English/Literature (juniors and seniors) | 01052 |
| Literature | 01053 |
| American Literature | 01054 |
| American Literature/History | 01055 |
| British Literature | 01056 |
| British Literature/History | 01057 |
| World Literature | 01058 |
| Biblical Literature | 01059 |
| Literature of an Author | 01060 |
| Literature of a Genre | 01061 |
| Literature of a Period | 01062 |
| Literature of a Place | 01063 |
| Literature of a People | 01064 |
| Literature of a Theme | 01065 |
| Strategic Reading | 01066 |
| Assisted Reading | 01067 |
| Corrective Reading | 01068 |
| Literature—Independent Study | 01097 |
| Literature—Workplace Experience | 01098 |
| Literature—Other | 01099 |
| | |
| English/Composition (freshmen and sophomores) | 01101 |
| English/Composition (juniors and seniors) | 01102 |
| Composition | 01103 |
| Creative Writing | 01104 |
| Research/Technical Writing | 01105 |
| Composition—Independent Study | 01147 |
| Composition—Workplace Experience | 01148 |
| Composition—Other | 01149 |
| | |
| Public Speaking | 01151 |

| | |
|---|---|
| Forensic Speech—Inclusive | 01152 |
| Forensic Speech—Debate | 01153 |
| Forensic Speech—Individual Event | 01154 |
| Communications | 01155 |
| Applied English and Communications | 01156 |
| Speech—Independent Study | 01197 |
| Speech—Workplace Experience | 01198 |
| Speech—Other | 01199 |
| | |
| English Morphology and Grammar | 01201 |
| History of the English Language | 01202 |
| English—Test Preparation | 01203 |
| | |
| English Proficiency Development | 01992 |
| English Language and Literature—Aide | 01995 |
| English Language and Literature—Independent Study | 01997 |
| English Language and Literature—Workplace Experience | 01998 |
| English Language and Literature—Other | 01999 |

## Mathematics

| | |
|---|---|
| Informal Mathematics | 02001 |
| General Math | 02002 |
| Particular Topics in Foundation Math | 02003 |
| Foundation Math—Independent Study | 02047 |
| Foundation Math—Other | 02049 |
| | |
| Pre-Algebra | 02051 |
| Algebra I | 02052 |
| Algebra I—Part 1 | 02053 |
| Algebra I—Part 2 | 02054 |
| Transition Algebra | 02055 |
| Algebra II | 02056 |
| Algebra III | 02057 |
| Particular Topics in Algebra | 02058 |
| Integrated Math—multi-year equivalent | 02061 |
| Algebra—Other | 02069 |
| Informal Geometry | 02071 |
| Geometry | 02072 |
| Analytic Geometry | 02073 |
| Principles of Algebra and Geometry | 02074 |
| Particular Topics in Geometry | 02075 |
| Geometry—Other | 02079 |
| | |
| Number Theory | 02101 |
| Discrete Mathematics | 02102 |

| | |
|---|---|
| Trigonometry | 02103 |
| Math Analysis | 02104 |
| Trigonometry/Math Analysis | 02105 |
| Trigonometry/Algebra | 02106 |
| Trigonometry/Analytic Geometry | 02107 |
| Math Analysis/Analytic Geometry | 02108 |
| Elementary Functions | 02109 |
| Pre-Calculus | 02110 |
| Linear Algebra | 02111 |
| Linear Programming | 02112 |
| Abstract Algebra | 02113 |
| Calculus | 02121 |
| Multivariate Calculus | 02122 |
| Differential Calculus | 02123 |
| AP Calculus AB | 02124 |
| AP Calculus BC | 02125 |
| Particular Topics in Calculus | 02126 |
| IB Mathematical Studies | 02131 |
| IB Mathematics | 02132 |
| IB Mathematics and Computing—SL | 02133 |
| IB Further Mathematics—SL | 02134 |
| Particular Topics in Analytic Mathematics | 02141 |
| Analytic Mathematics—Other | 02149 |
| | |
| General Applied Math | 02151 |
| Occupationally Applied Math | 02152 |
| Technical Math | 02153 |
| Business Math | 02154 |
| Business Math with Algebra | 02155 |
| Computer Math with Algebra | 02156 |
| Consumer Math | 02157 |
| | |
| Probability and Statistics | 02201 |
| Inferential Probability and Statistics | 02202 |
| AP Statistics | 02203 |
| Particular Topics in Probability and Statistics | 02204 |
| Probability and Statistics—Independent Study | 02207 |
| Probability and Statistics—Other | 02209 |
| | |
| History of Math | 02991 |
| Mathematics—Test Preparation | 02993 |
| Mathematics Proficiency Development | 02994 |
| Mathematics—Aide | 02995 |
| Mathematics—Independent Study | 02997 |
| Mathematics—Workplace Experience | 02998 |
| Mathematics—Other | 02999 |

## Life and Physical Sciences

| | |
|---|---|
| Earth Science | 03001 |
| Geology | 03002 |
| Environmental Science | 03003 |
| Astronomy | 03004 |
| Marine Science | 03005 |
| Meteorology | 03006 |
| Physical Geography | 03007 |
| Earth and Space Science | 03008 |
| Earth Science—Independent Study | 03047 |
| Earth Science—Workplace Experience | 03048 |
| Earth Science—Other | 03049 |
| | |
| Biology | 03051 |
| Biology—Advanced Studies | 03052 |
| Anatomy and Physiology | 03053 |
| Anatomy | 03054 |
| Physiology | 03055 |
| AP Biology | 03056 |
| IB Biology | 03057 |
| Botany | 03058 |
| Genetics | 03059 |
| Microbiology | 03060 |
| Zoology | 03061 |
| Conceptual Biology | 03062 |
| Particular Topics in Biology | 03063 |
| Biology—Independent Study | 03097 |
| Biology—Workplace Experience | 03098 |
| Biology—Other | 03099 |
| | |
| Chemistry | 03101 |
| Chemistry—Advanced Studies | 03102 |
| Organic Chemistry | 03103 |
| Physical Chemistry | 03104 |
| Conceptual Chemistry | 03105 |
| AP Chemistry | 03106 |
| IB Chemistry | 03107 |
| Particular Topics in Chemistry | 03108 |
| Chemistry—Independent Study | 03147 |
| Chemistry—Workplace Experience | 03148 |
| Chemistry—Other | 03149 |
| | |
| Physics | 03151 |
| Physics—Advanced Studies | 03152 |
| Principles of Technology | 03153 |
| AP Physics B | 03155 |

| | |
|---|---|
| AP Physics C | 03156 |
| IB Physics | 03157 |
| Physical Science | 03159 |
| IB Physical Science | 03160 |
| Conceptual Physics | 03161 |
| Particular Topics in Physics | 03162 |
| Physics—Independent Study | 03197 |
| Physics—Workplace Experience | 03198 |
| Physics—Other | 03199 |
| | |
| Integrated Science | 03201 |
| Unified Science | 03202 |
| Applied Biology/Chemistry | 03203 |
| Technological Inquiry | 03204 |
| Origins of Science | 03205 |
| IB Design Technology | 03206 |
| AP Environmental Science | 03207 |
| IB Environmental Science | 03208 |
| Aerospace | 03209 |
| Science, Technology and Society | 03210 |
| Technical Science | 03211 |
| Scientific Research and Design | 03212 |
| | |
| Life and Physical Sciences—Proficiency Development | 03994 |
| Life and Physical Sciences—Aide | 03995 |
| Life and Physical Sciences—Independent Study | 03997 |
| Life and Physical Sciences—Workplace Experience | 03998 |
| Life and Physical Sciences—Other | 03999 |

## Social Sciences

| | |
|---|---|
| World Geography | 04001 |
| Particular Topics in Geography | 04002 |
| IB Geography | 04003 |
| AP Human Geography | 04004 |
| Geography—Independent Study | 04047 |
| Geography—Workplace Experience | 04048 |
| Geography—Other | 04049 |
| | |
| World History—Overview | 04051 |
| World History and Geography | 04052 |
| Modern World History | 04053 |
| IB History | 04054 |
| Modern European History | 04055 |
| AP European History | 04056 |
| AP World History | 04057 |

| | |
|---|---|
| Ancient Civilizations | 04058 |
| Medieval European History | 04059 |
| Ancient and Medieval History | 04060 |
| World Area Studies | 04061 |
| World People Studies | 04062 |
| Western Civilization | 04063 |
| Contemporary World Issues | 04064 |
| Particular Topics in World History | 04065 |
| IB Islamic History | 04066 |
| World History—Independent Study | 04097 |
| World History—Workplace Experience | 04098 |
| World History—Other | 04099 |
| | |
| U.S. History—Comprehensive | 04101 |
| Early U.S. History | 04102 |
| Modern U.S. History | 04103 |
| AP U.S. History | 04104 |
| State-Specific Studies | 04105 |
| Contemporary U.S. Issues | 04106 |
| U.S. Ethnic Studies | 04107 |
| U.S. Gender Studies | 04108 |
| Particular Topics in U.S. History | 04109 |
| U.S. History—Independent Study | 04147 |
| U.S. History—Workplace Experience | 04148 |
| U.S. History—Other | 04149 |
| | |
| U.S. Government—Comprehensive | 04151 |
| Particular Topics in U.S. Government | 04152 |
| Political Science | 04153 |
| Comparative Government | 04154 |
| International Relations | 04155 |
| United States and World Affairs | 04156 |
| AP U.S. Government and Politics | 04157 |
| AP Comparative Government and Politics | 04158 |
| AP Government | 04159 |
| Principles of Democracy | 04160 |
| Civics | 04161 |
| Law Studies | 04162 |
| Consumer Law | 04163 |
| Business Law | 04164 |
| Legal System | 04165 |
| Particular Topics in Law | 04166 |
| Government, Politics and Law—Independent Study | 04197 |
| Government, Politics and Law—Workplace Experience | 04198 |
| Government, Politics and Law—Other | 04199 |

| | |
|---|---|
| Economics | 04201 |
| Comparative Economics | 04202 |
| AP Microeconomics | 04203 |
| AP Macroeconomics | 04204 |
| AP Economics | 04205 |
| IB Economics | 04206 |
| Particular Topics in Economics | 04207 |
| Economics—Independent Study | 04247 |
| Economics—Workplace Experience | 04248 |
| Economics—Other | 04249 |
| | |
| Anthropology | 04251 |
| Particular Topics in Anthropology | 04252 |
| IB Social Anthropology | 04253 |
| Psychology | 04254 |
| Particular Topics in Psychology | 04255 |
| AP Psychology | 04256 |
| IB Psychology | 04257 |
| Sociology | 04258 |
| Particular Topics in Sociology | 04259 |
| Social Science | 04260 |
| Social Science Research | 04261 |
| IB Organization Studies | 04262 |
| Social Sciences—Independent Study | 04297 |
| Social Sciences—Workplace Experience | 04298 |
| Social Sciences—Other | 04299 |
| | |
| Humanities Survey | 04301 |
| Humanities | 04302 |
| Issues of Western Humanities | 04303 |
| IB Theory of Knowledge | 04304 |
| Social Studies | 04305 |
| Philosophy | 04306 |
| Particular Topics in Philosophy | 04307 |
| Modern Intellectual History | 04308 |
| IB Philosophy | 04309 |
| Particular Topics in Humanities | 04310 |
| Humanities—Independent Study | 04347 |
| Humanities—Workplace Experience | 04348 |
| Humanities—Other | 04349 |
| | |
| Social Sciences and History—Proficiency Development | 04994 |
| Social Sciences and History—Aide | 04995 |
| Social Sciences and History—Independent Study | 04997 |
| Social Sciences and History—Workplace Experience | 04998 |
| Social Sciences and History—Other | 04999 |

## Fine and Performing Arts

| | |
|---|---|
| Dance Technique | 05001 |
| Dance Repertory | 05002 |
| Expressive Movement | 05003 |
| Dance Appreciation | 05004 |
| Choreography | 05005 |
| Dance—Independent Study | 05047 |
| Dance—Workplace Experience | 05048 |
| Dance—Other | 05049 |
| | |
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| Individual Technique—Instrumental Music | 05109 |
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| Music—Workplace Experience | 05148 |
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| Creative Art—Drawing | 05156 |
| Creative Art—Painting | 05157 |
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| Visual Arts—Independent Study | 05197 |
| Visual Arts—Workplace Experience | 05198 |
| Visual Arts—Other | 05199 |
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| Fine and Performing Art—Workplace Experience | 05998 |
| Fine and Performing Art—Other | 05999 |

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| Spanish II | 06102 |
| Spanish III | 06103 |
| Spanish IV | 06104 |
| Spanish V | 06105 |
| Spanish for Native Speakers | 06106 |
| Spanish Field Experience | 06107 |
| Spanish Conversation and Culture | 06108 |
| Spanish Literature | 06109 |
| IB Language A (non-English)—Spanish | 06110 |

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| French II | 06122 |
| French III | 06123 |
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| French Conversation and Culture | 06128 |
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| Italian III | 06143 |
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| Portuguese III | 06163 |
| Portuguese IV | 06164 |
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| IB Language B—Romance/Italic Language | 06191 |
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| AP German Language | 06212 |
| Germanic Language I | 06241 |
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| IB Language A (non-English)—Germanic Language | 06250 |
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| Celtic Language I | 06261 |
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| Celtic Language III | 06263 |
| Celtic Language IV | 06264 |
| Celtic Language V | 06265 |
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| IB Language A (non-English)—Celtic Language | 06270 |
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| Greek I | 06281 |
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| Greek V | 06285 |
| Greek for Native Speakers | 06286 |
| Greek Field Experience | 06287 |
| Greek Conversation and Culture | 06288 |
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| Greek—Other | 06299 |
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| Japanese V | 06425 |
| Japanese for Native Speakers | 06426 |
| Japanese Field Experience | 06427 |
| Japanese Conversation and Culture | 06428 |
| Japanese Literature | 06429 |
| IB Language A (non-English)—Japanese | 06430 |
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| Korean IV | 06444 |
| Korean V | 06445 |
| Korean for Native Speakers | 06446 |
| Korean Field Experience | 06447 |
| Korean Conversation and Culture | 06448 |
| Korean Literature | 06449 |
| IB Language A (non-English)—Korean | 06450 |
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| East Asian Language II | 06482 |
| East Asian Language III | 06483 |
| East Asian Language IV | 06484 |
| East Asian Language V | 06485 |
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| East Asian Language Field Experience | 06487 |
| East Asian Language Conversation and Culture | 06488 |
| East Asian Literature | 06489 |
| IB Language A (non-English)—East Asian Language | 06490 |
| IB Language B—East Asian Language | 06491 |
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| Vietnamese III | 06503 |
| Vietnamese IV | 06504 |
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| IB Language B—Vietnamese | 06511 |
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| Filipino III | 06523 |
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| Filipino V | 06525 |
| Filipino for Native Speakers | 06526 |
| Filipino Field Experience | 06527 |
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| IB Language A (non-English)—Filipino | 06530 |
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| Southeast Asian Language II | 06582 |
| Southeast Asian Language III | 06583 |
| Southeast Asian Language IV | 06584 |
| Southeast Asian Language V | 06585 |
| Southeast Asian Language for Native Speakers | 06586 |
| Southeast Asian Language Field Experience | 06587 |
| Southeast Asian Language Conversation and Culture | 06588 |
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| IB Language A (non-English)—Southeast Asian Language | 06590 |
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| Southeast Asian Language—Other | 06599 |
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| Balto-Slavic Language Field Experience | 06647 |
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| Turkic/Ural-Altaic Language V | 06665 |
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| Turkic/Ural-Altaic Language Field Experience | 06667 |
| Turkic/Ural-Altaic Language Conversation and Culture | 06668 |
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| Hebrew Conversation and Culture | 06708 |
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| American Indian Language Field Experience | 06827 |
| American Indian Language Conversation and Culture | 06828 |
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| Indic Language I | 06841 |
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| Indic Language V | 06845 |
| Indic Language for Native Speakers | 06846 |

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| Indic Language Field Experience | 06847 |
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| Malayo-Polynesian Language III | 06863 |
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| Malayo-Polynesian Language V | 06865 |
| Malayo-Polynesian Language for Native Speakers | 06866 |
| Malayo-Polynesian Language Field Experience | 06867 |
| Malayo-Polynesian Language Conversation and Culture | 06868 |
| Malayo-Polynesian Literature | 06869 |
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| Marketing Career Exploration | 12151 |
| Marketing—Comprehensive | 12152 |
| Marketing—Fashion | 12153 |
| Marketing—Real Estate | 12154 |
| Marketing—Transportation | 12155 |
| Marketing—Food/Beverage Industry | 12156 |
| Marketing—Insurance | 12157 |
| Marketing—Floristry | 12158 |
| Marketing—Hospitality/Tourism | 12159 |
| Marketing—Merchandising | 12160 |
| Retail Marketing | 12161 |
| Internet Marketing | 12162 |
| Sports and Entertainment Marketing | 12163 |
| Principles of Marketing | 12164 |
| Principles of Advertising | 12165 |
| Marketing Management | 12166 |
| Marketing—Other Specialization | 12167 |
| Marketing—Independent Study | 12197 |
| Marketing—Workplace Experience | 12198 |
| Marketing—Other | 12199 |
| | |
| Cashier/Checker Operations | 12201 |
| Principles of Selling | 12202 |
| Sales—Independent Study | 12247 |
| Sales—Workplace Experience | 12248 |
| Sales—Other | 12249 |
| | |
| Business and Marketing—Aide | 12995 |
| Business and Marketing—Independent Study | 12997 |
| Business and Marketing—Workplace Experience | 12998 |
| Business and Marketing—Other | 12999 |

## Manufacturing

| | |
|---|---|
| Exploration of Manufacturing Occupations | 13001 |
| Manufacturing—Comprehensive | 13002 |
| Industrial Arts | 13003 |
| Industrial Safety/First Aid | 13004 |
| | |
| Material and Processes | 13052 |
| Metal and Wood Processing/Production | 13053 |
| Wood Processing/Production | 13054 |
| Metal Processing/Production | 13055 |
| Plastics Processing/Production | 13056 |
| Ceramic Processing/Production | 13057 |
| Particular Topics in Processing and Production | 13058 |
| Processing/Production—Independent Study | 13097 |
| Processing/Production—Workplace Experience | 13098 |
| Processing/Production—Other | 13099 |
| | |
| Production Systems | 13101 |
| Electro-Mechanical Systems | 13102 |
| Product Development | 13103 |
| Production Systems—Independent Study | 13147 |
| Production Systems—Workplace Experience | 13148 |
| Production Systems—Other | 13149 |
| | |
| Metalwork Occupations | 13201 |
| Metalworking | 13202 |
| Machining | 13203 |
| Particular Topics in Machining | 13204 |
| Sheet Metal | 13205 |
| Particular Topics in Sheet Metal | 13206 |
| Welding | 13207 |
| Particular Topics in Welding | 13208 |
| Particular Topics in Metalwork | 13209 |
| Metalwork—Independent Study | 13247 |
| Metalwork—Workplace Experience | 13248 |
| Metalwork—Other | 13249 |
| | |
| Appliance Repair | 13301 |
| Equipment Maintenance and Repair | 13302 |
| Repair—Independent Study | 13347 |
| Repair—Workplace Experience | 13348 |
| Repair—Other | 13349 |
| | |
| Manufacturing—Aide | 13995 |
| Manufacturing—Independent Study | 13997 |
| Manufacturing—Workplace Experience | 13998 |

| Manufacturing—Other | 13999 |
|---|---|

## Health Care Sciences

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|---|---|
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| Health Care Occupations—Comprehensive | 14002 |
| | |
| Nursing | 14051 |
| Nursing—LPN | 14052 |
| Home Health Care | 14053 |
| Dental Science | 14054 |
| Emergency Medical Technology | 14055 |
| Surgical Technology | 14056 |
| Vision Care | 14057 |
| Optometrics | 14058 |
| Gerontology | 14059 |
| Physical Therapy | 14060 |
| Respiratory Therapy | 14061 |
| Care of Athletes | 14062 |
| Particular Topics in Therapeutic Services | 14063 |
| Therapeutic Services—Independent Study | 14097 |
| Therapeutic Services—Workplace Experience | 14098 |
| Therapeutic Services—Other | 14099 |
| | |
| Dental Laboratory Technology | 14101 |
| Medical Lab Technology | 14102 |
| EKG Technology | 14103 |
| Phlebotomy | 14104 |
| Particular Topics in Diagnostic Services | 14105 |
| Diagnostic Services—Independent Study | 14147 |
| Diagnostic Services—Workplace Experience | 14148 |
| Diagnostic Services—Other | 14149 |
| | |
| Medical/Clerical Assisting | 14151 |
| Pharmacy Assisting | 14152 |
| Medical Office Procedures | 14153 |
| Medical Terminology | 14154 |
| Particular Topics in Health Information | 14155 |
| Health Information—Independent Study | 14197 |
| Health Information—Workplace Experience | 14198 |
| Health Information—Other | 14199 |
| | |
| Central Service Technology | 14201 |
| Health Support Services | 14202 |
| Health Unit Coordination | 14203 |
| Particular Topics in Support Services | 14204 |

| | |
|---|---|
| Health Support Services—Independent Study | 14247 |
| Health Support Services—Workplace Experience | 14248 |
| Health Support Services—Other | 14249 |
| | |
| Health Science | 14251 |
| Biotechnology | 14252 |
| Pharmacology | 14253 |
| Particular Topics in Health Sciences | 14254 |
| Health Sciences—Independent Study | 14297 |
| Health Sciences—Workplace Experience | 14298 |
| Health Sciences—Other | 14299 |
| | |
| Health Care Sciences—Aide | 14995 |
| Health Care Sciences—Independent Study | 14997 |
| Health Care Sciences—Workplace Experience | 14998 |
| Health Care Sciences—Other | 14999 |

## Public, Protective, and Government Services

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|---|---|
| Exploration of Public Service Careers | 15001 |
| | |
| Criminal Justice | 15051 |
| Corrections | 15052 |
| Particular Topics in Law Enforcement | 15053 |
| Law Enforcement—Independent Study | 15097 |
| Law Enforcement—Workplace Experience | 15098 |
| Law Enforcement—Other | 15099 |
| | |
| Public Safety | 15101 |
| Security Services | 15102 |
| Particular Topics in Security | 15103 |
| Security and Protection—Independent Study | 15147 |
| Security and Protection—Workplace Experience | 15148 |
| Security and Protection—Other | 15149 |
| | |
| Fire Science | 15151 |
| Fire Fighting | 15152 |
| Particular Topics in Fire Management | 15153 |
| Fire Management—Independent Study | 15197 |
| Fire Management—Workplace Experience | 15198 |
| Fire Management—Other | 15199 |
| | |
| Public Administration | 15201 |
| Community Protection | 15202 |
| Public Policy | 15203 |
| Government Service—Independent Study | 15247 |

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|---|---|
| Government Service—Workplace Experience | 15248 |
| Government Service—Other | 15249 |
| | |
| Public, Protective, and Government Service—Aide | 15995 |
| Public, Protective, and Government Service—Independent Study | 15997 |
| Public, Protective, and Government Service—Workplace Experience | 15998 |
| Public, Protective, and Government Service—Other | 15999 |

## Hospitality and Tourism

| | |
|---|---|
| Exploration of Hospitality Careers | 16001 |
| | |
| Exploration of Restaurant, Food and Beverage Services | 16051 |
| Restaurant, Food and Beverage Services—Comprehensive | 16052 |
| Food Service | 16053 |
| Nutrition and Food Preparation | 16054 |
| Restaurant Management and Operations | 16055 |
| Culinary Art Specialty | 16056 |
| Particular Topics in Restaurant, Food and Beverage Services | 16057 |
| Restaurant, Food and Beverage Services—Independent Study | 16097 |
| Restaurant, Food and Beverage Services—Workplace Experience | 16098 |
| Restaurant, Food and Beverage Services—Other | 16099 |
| | |
| Exploration of Lodging Careers | 16101 |
| Lodging—Comprehensive | 16102 |
| Institutional Maintenance | 16103 |
| Particular Topics in Lodging | 16104 |
| Lodging—Independent Study | 16147 |
| Lodging—Workplace Experience | 16148 |
| Lodging—Other | 16149 |
| | |
| Introduction to Travel and Tourism | 16151 |
| Travel and Tourism—Comprehensive | 16152 |
| World Travel and Tourism | 16153 |
| Eco-tourism | 16154 |
| Particular Topics in Travel and Tourism | 16155 |
| Travel and Tourism—Independent Study | 16197 |
| Travel and Tourism—Workplace Experience | 16198 |
| Travel and Tourism—Other | 16199 |
| | |
| Exploration of Recreation, Amusement and Attractions | 16201 |
| Recreation, Amusement and Attractions—Comprehensive | 16202 |
| Particular Topics in Recreation, Amusement and Attractions | 16203 |
| Recreation, Amusement and Attractions—Independent Study | 16247 |
| Recreation, Amusement and Attractions—Workplace Experience | 16248 |
| Recreation, Amusement and Attractions—Other | 16249 |

| Hospitality and Tourism—Aide | 16995 |
| Hospitality and Tourism—Independent Study | 16997 |
| Hospitality and Tourism—Workplace Experience | 16998 |
| Hospitality and Tourism—Other | 16999 |

## Architecture and Construction

| Construction Careers Exploration | 17001 |
| Construction—Comprehensive | 17002 |
| Carpentry | 17003 |
| Framing Carpentry | 17004 |
| Particular Topics in Carpentry | 17005 |
| Woodworking | 17006 |
| Cabinetmaking | 17007 |
| Masonry | 17008 |
| Building Maintenance | 17009 |
| Home Maintenance | 17010 |
| Wall Finishings | 17011 |
| Upholstering | 17012 |
| General Construction—Independent Study | 17047 |
| General Construction—Workplace Experience | 17048 |
| General Construction—Other | 17049 |

| Air Conditioning | 17051 |
| Refrigeration | 17152 |
| Heating | 17053 |
| Air Conditioning/Refrigeration | 17054 |
| Air Conditioning, Heating, and Refrigeration | 17055 |
| Heating, Ventilation, and Air Conditioning | 17056 |
| Particular Topics in HVACR | 17057 |
| Plumbing | 17158 |
| Plumbing and Heating | 17159 |
| Air Conditioning, Heating and Plumbing—Independent Study | 17097 |
| Air Conditioning, Heating and Plumbing—Workplace Experience | 17098 |
| Air Conditioning, Heating and Plumbing—Other | 17099 |

| Exploration of Electricity/Electronics | 17101 |
| Electricity—Comprehensive | 17102 |
| Residential Wiring | 17103 |
| Industrial Electricity | 17104 |
| Particular Topics in Electricity | 17105 |
| Electronics—Comprehensive | 17106 |
| Particular Topics in Electronics | 17107 |
| Electricity/Electronics—General | 17108 |
| Particular Topics in Electricity/Electronics | 17109 |

| | |
|---|---|
| Analog and Digital Circuits | 17110 |
| Analog Circuits | 17111 |
| Digital Circuits | 17112 |
| Electricity/Electronics—Independent Study | 17147 |
| Electricity/Electronics—Workplace Experience | 17148 |
| Electricity/Electronics—Other | 17149 |
| | |
| Architecture and Construction—Aide | 17995 |
| Architecture and Construction—Independent study | 17997 |
| Architecture and Construction—Workplace Experience | 17998 |
| Architecture and Construction—Other | 17999 |

## Agriculture and Natural Resources

| | |
|---|---|
| Introduction to Agriculture and Natural Resources | 18001 |
| Agriculture—Comprehensive | 18002 |
| Agriculture and Natural Resources—Comprehensive | 18003 |
| | |
| Plant Production/Science | 18051 |
| General Horticulture | 18052 |
| Ornamental Horticulture | 18053 |
| Turf and Landscape Management | 18054 |
| Soil Science | 18055 |
| Particular Topics in Plant Systems | 18056 |
| Plant Systems—Independent Study | 18097 |
| Plant Systems—Workplace Experience | 18098 |
| Plant Systems—Other | 18099 |
| | |
| Animal Production/Science | 18101 |
| Small Animal Care | 18102 |
| Large Animal Care | 18103 |
| Equine Science | 18104 |
| Veterinary Science | 18105 |
| Particular Topics in Animal Systems | 18106 |
| Animal Systems—Independent Study | 18147 |
| Animal Systems—Workplace Experience | 18148 |
| Animal Systems—Other | 18149 |
| | |
| Agribusiness Management | 18201 |
| Agricultural Entrepreneurship | 18202 |
| Agricultural Leadership | 18203 |
| Particular Topics in Agribusiness | 18204 |
| Agribusiness—Independent Study | 18247 |
| Agribusiness—Workplace Experience | 18248 |
| Agribusiness—Other | 18249 |

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|---|---|
| Agricultural Production | 18301 |
| Agricultural Processing | 18302 |
| Plant Processing | 18303 |
| Animal Processing | 18304 |
| Food Product Processing | 18305 |
| Aquaculture | 18306 |
| Agriculture and Society | 18307 |
| Agricultural Biotechnology | 18308 |
| Particular Topics in Agricultural Production/Processing | 18309 |
| Agricultural Production and Processing—Independent Study | 18347 |
| Agricultural Production and Processing—Workplace Experience | 18348 |
| Agricultural Production and Processing—Other | 18349 |
| | |
| Agriculture Mechanics/Equipment/Structures | 18401 |
| Agriculture Mechanics and Equipment | 18402 |
| Agriculture Structures | 18403 |
| Agriculture Welding | 18404 |
| Particular Topics in Agricultural Mechanics and Construction | 18405 |
| Agricultural Mechanics and Construction—Independent Study | 18447 |
| Agricultural Mechanics and Construction—Workplace Experience | 18448 |
| Agricultural Mechanics and Construction—Other | 18449 |
| | |
| Wildlife Management | 18501 |
| Forestry | 18502 |
| Forestry Harvesting | 18503 |
| Natural Resources Management | 18504 |
| Particular Topics in Natural Resources | 18505 |
| Natural Resources—Independent Study | 18547 |
| Natural Resources—Workplace Experience | 18548 |
| Natural Resources—Other | 18549 |
| | |
| Agriculture, Food, and Natural Resources—Aide | 18995 |
| Agriculture, Food, and Natural Resources—Independent Study | 18997 |
| Agriculture, Food, and Natural Resources—Workplace Experience | 18998 |
| Agriculture, Food, and Natural Resources—Other | 18999 |

## Human Services

| | |
|---|---|
| Human Services Career Exploration | 19001 |
| | |
| Child Care | 19051 |
| Child Development | 19052 |
| Elder Care | 19053 |
| Caregiving Service | 19054 |
| Particular Topics in Child and Elder Care | 19055 |
| Child and Elder Care—Independent Study | 19097 |

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|---|---|
| Child and Elder Care—Workplace Experience | 19098 |
| Child and Elder Care—Other | 19099 |
| | |
| Cosmetology—Licensing | 19101 |
| Barbering | 19102 |
| Hair Styling | 19103 |
| Cosmetology—Non-licensing | 19104 |
| Cosmetology—Nail Specialization | 19105 |
| Cosmetology—Facial Specialization | 19106 |
| Particular Topics in Cosmetology | 19107 |
| Cosmetology—Independent Study | 19147 |
| Cosmetology—Workplace Experience | 19148 |
| Cosmetology—Other | 19149 |
| | |
| Teaching Profession | 19151 |
| Educational Methodology | 19152 |
| Early Childhood Education | 19153 |
| Particular Topics in Education | 19154 |
| Education—Independent Study | 19197 |
| Education—Workplace Experience | 19198 |
| Education—Other | 19199 |
| | |
| Clothing and Textiles | 19201 |
| Clothing/Textile Maintenance | 19202 |
| Apparel Construction | 19203 |
| Apparel and Textile Services | 19204 |
| Home Furnishing | 19205 |
| Home Furnishings Production | 19206 |
| Particular Topics in Apparel and Furnishings | 19207 |
| Apparel and Furnishings—Independent Study | 19247 |
| Apparel and Furnishings—Workplace Experience | 19248 |
| Apparel and Furnishings—Other | 19249 |
| | |
| Human Services—Aide | 19995 |
| Human Services—Independent Study | 19997 |
| Human Services—Workplace Experience | 19998 |
| Human Services—Other | 19999 |

## Transportation, Distribution, and Logistics

| | |
|---|---|
| Exploration of Transportation, Distribution and Logistics | 20001 |
| | |
| Truck and Bus Driving | 20051 |
| Heavy Equipment Operation | 20052 |
| Aviation | 20053 |
| Boat Operation | 20054 |

| | |
|---|---|
| Operation—Independent Study | 20097 |
| Operation—Workplace Experience | 20098 |
| Operation—Other | 20099 |
| | |
| Energy/Power | 20101 |
| Power and Mechanics | 20102 |
| Introduction to Automobiles | 20103 |
| Automotive Mechanics—Comprehensive | 20104 |
| Particular Topics in Automotive Mechanics | 20105 |
| Automotive Service | 20106 |
| Diesel Mechanics—Comprehensive | 20107 |
| Particular Topics in Diesel Mechanics | 20108 |
| Small Vehicle Mechanics | 20109 |
| Small Engine Mechanics | 20110 |
| Marine Mechanics | 20111 |
| Heavy Equipment Mechanics | 20112 |
| Aircraft Power Plant | 20113 |
| Aircraft Airframe | 20114 |
| Automotive Detailing and Reconditioning | 20115 |
| Automotive Body Repair and Refinishing—Comprehensive | 20116 |
| Particular Topics in Automotive Body Repair and Refinishing | 20117 |
| Boat Repair/Refinishing | 20118 |
| Mechanics and Repair—Independent Study | 20147 |
| Mechanics and Repair—Workplace Experience | 20148 |
| Mechanics and Repair—Other | 20149 |
| | |
| Distribution—Comprehensive | 20151 |
| Warehouse Operations | 20152 |
| Distribution and Logistics—Independent Study | 20197 |
| Distribution and Logistics—Workplace Experience | 20198 |
| Distribution and Logistics—Other | 20199 |
| | |
| Transportation, Distribution and Logistics—Aide | 20995 |
| Transportation, Distribution and Logistics—Independent Study | 20997 |
| Transportation, Distribution and Logistics—Workplace Experience | 20998 |
| Transportation, Distribution and Logistics—Other | 20999 |

## Engineering and Technology

| | |
|---|---|
| Pre-Engineering Technology | 21001 |
| Engineering Applications | 21002 |
| Engineering Technology | 21003 |
| Principles of Engineering | 21004 |
| Engineering—Comprehensive | 21005 |
| Engineering Design | 21006 |
| Engineering Design and Development | 21007 |

| | |
|---|---|
| Digital Electronics | 21008 |
| Robotics | 21009 |
| Computer Integrated Manufacturing | 21010 |
| Civil Engineering | 21011 |
| Civil Engineering and Architecture | 21012 |
| Aerospace Engineering | 21013 |
| Biotechnical Engineering | 21014 |
| Particular Topics in Engineering | 21015 |
| Engineering—Independent Study | 21047 |
| Engineering—Workplace Experience | 21048 |
| Engineering—Other | 21049 |
| | |
| Technological Literacy | 21051 |
| Technological Processes | 21052 |
| Emerging Technologies | 21053 |
| Technology Innovation and Assessment | 21054 |
| Aerospace Technology | 21055 |
| Particular Topics in Technology Applications | 21056 |
| Technology—Independent Study | 21097 |
| Technology—Workplace Experience | 21098 |
| Technology—Other | 21099 |
| | |
| Drafting Careers Exploration | 21101 |
| Drafting—General | 21102 |
| Drafting—Architectural | 21103 |
| Drafting—Civil/Structural | 21104 |
| Drafting—Electrical/Electronic | 21105 |
| Drafting—Technical/Mechanical | 21106 |
| CAD Design and Software | 21107 |
| Blueprint Reading | 21108 |
| Drafting—Independent Study | 21147 |
| Drafting—Workplace Experience | 21148 |
| Drafting—Other | 21149 |
| | |
| Engineering and Technology—Aide | 21995 |
| Engineering and Technology—Independent Study | 21997 |
| Engineering and Technology—Workplace Experience | 21998 |
| Engineering and Technology—Other | 21999 |

## Miscellaneous

| | |
|---|---|
| Standardized Test Preparation | 22001 |
| State Test Preparation | 22002 |
| Study Skills | 22003 |
| Dropout Prevention Program | 22004 |
| Tutorial | 22005 |

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|---|---|
| Study Hall | 22006 |
| | |
| Office Aide | 22051 |
| Guidance Aide | 22052 |
| Library/AVC Aide | 22053 |
| Tutoring Practicum | 22054 |
| | |
| Leadership | 22101 |
| School Orientation | 22102 |
| School Governance | 22103 |
| Community Service | 22104 |
| Values Clarification | 22105 |
| Seminar | 22106 |
| | |
| Career Exploration | 22151 |
| Employability Skills | 22152 |
| Diversified Occupations | 22153 |
| | |
| Family and Consumer Science—Comprehensive | 22201 |
| Food and Nutrition | 22202 |
| Food Science | 22203 |
| Child Development/Parenting | 22204 |
| Clothing/Sewing | 22205 |
| Life Skills | 22206 |
| Self Management | 22207 |
| Family Living | 22208 |
| Personal Development | 22209 |
| Consumer Economics/Personal Finance | 22210 |
| Home Décor | 22211 |
| Family and Consumer Science—Aide | 22245 |
| Family and Consumer Science—Independent Study | 22247 |
| Family and Consumer Science—Other | 22249 |
| | |
| Miscellaneous—Aide | 22995 |
| Miscellaneous—Independent Study | 22997 |
| Miscellaneous—Workplace Experience | 22998 |
| Miscellaneous—Other | 22999 |