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# School Codes for Exchange of Data: a Course Classification System

September 2005

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## Executive Summary

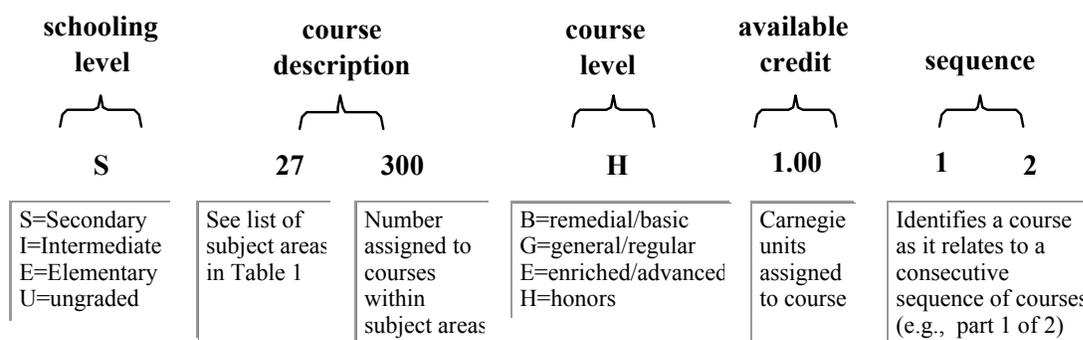
In the summer of 2003, the National Center for Education Statistics (NCES) embarked on a mission to develop a single classification system for elementary, intermediate, and secondary school courses in the United States. NCES conceptualized this work as a series of phases, the first of which would propose a structure, or framework for the system, and apply this structure to subject areas within secondary education. NCES wanted the framework to

- build upon the current course systems that NCES supports - the Classification of Secondary School Courses (CSSC) and the Pilot Standard National Course Classification System (SNCCS);
- 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 Data Handbooks.

### The Framework

The School Codes for the Exchange of Data (SCED) offers a coding structure that meets these specified needs. The SCED coding structure has five basic elements: 1) schooling level, 2) course description, 3) course level, 4) available credit, and 5) sequence. Each element imparts different, but complementary, pieces of information about the particular course being offered. Several of the elements apply to elementary and middle school courses as well as secondary.

The *Schooling Level* element tells whether the remaining sequence of characters in the code represents an elementary, intermediate, or secondary course. The system groups a number of course



descriptions by major subject areas. The first two digits of the *Course Description* element designate one of these subject areas, while the last three digits of the Course Description element specify a particular described course within the subject area. The *Course Level* element conveys the level of the course; it is likely that this element will be used mainly for secondary coursework and that *G* (denoting general or regular) will be the most frequent designation for courses at all schooling levels. Using Carnegie units, the fourth element (*Available Credit*) conveys the amount of credit available to a student who successfully meets the objectives of the course. Finally, the *Sequence* element conveys where a specific course lies when it is part of a consecutive sequence of courses (as described by the same general course description).

## **Framework Development**

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. The working assumptions made during the development of the SCED include

- The system will typically function as a “shadow” system, underlying current coding structures being used by educational agencies.
- NCES will continue to use the CSSC as its coding system in the near future when conducting national transcript studies. A crosswalk between the SCED and the CSSC is being developed that will make it possible to compare any data collected and coded using the SCED with data from national sample studies.
- The new codes will be based on a numeric code structure other than the Classification of Instructional Programs to eliminate possible confusion and to better reflect both secondary and elementary course offerings.

Creating a comprehensive course classification system for secondary education in the United States, required that additional tasks be completed. These included:

- developing additional course descriptions to supplement those of the Pilot SNCCS;
- expanding the system to include the offerings of elementary and intermediate schools;
- vetting course descriptions and proposing future procedures;
- incorporating the SCED into NCES Data Handbooks;
- proposing that the SCED be included in the standards proposed by the School Interoperability Framework (SIF);<sup>1</sup> and
- creating a users’ or coders’ guide.

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## **Structure of the Report**

This report opens with a brief background of the course classification project as a whole and the goals and boundaries of the initial phase. It then presents the proposed structure for a new classification system. After discussing the details of the proposal, the next section summarizes the rationale for the new structure: the starting points, the decisions made during the development phase, and the known implications of those decisions. That section is followed by a discussion of the needs of those who use transcript data, placing those needs in the context of a course coding system. Next, an overview of the activities undertaken is provided, illustrating how the system can meet the purposes for which it was designed. The report concludes with an outline of the steps that must be taken in the future to complete the system.

## **Mission and Goals**

In the summer of 2003, the National Center for Education Statistics (NCES) embarked on a mission to develop a single classification system for secondary school courses in the United States. Having such a system would achieve the following:

- provide a standard for vendors of school information systems;
- promote the use of electronic student transcripts;
- enable comparison of offerings among districts and states;
- reduce the cost and burden of transcript studies; and
- encourage the use of transcripts in evaluations of student outcomes.

NCES conceptualized this work as a series of phases, the first of which would propose a structure, or framework, for a classification system and then apply this structure to subject areas within secondary education. NCES wanted the framework to

- build upon the current course systems that NCES has supported, the Classification of Secondary School Courses (CSSC) and the Pilot Standard National Course Classification System (SNCCS);
- maintain a straightforward format to describe and classify courses that could be used by others with minimal training; and
- be structured so that the classification system could become part of the NCES Online Data Handbooks.

The NCES Online Data Handbook offers guidance and voluntary standards to promote consistency in terms of defining and maintaining education information. Consistent definitions and procedures support accurate data aggregation and analysis. The definitions included in the Handbook are offered as examples of best practice; education agencies voluntarily adopt the suggested standards and align their data activities with them. The definitions are reviewed and updated annually.

NCES intends to maintain the new course classification system as part of the NCES Online Data Handbook system. This will provide a mechanism for making the course classification system readily accessible, and allows users to recommend changes and add courses.

## The Framework

### Development

The structure arose from a number of activities completed between November 2003 and April 2004, and the secondary course descriptions were completed by May 2005. The developers examined two NCES-sponsored course classification systems to determine the advantages and disadvantages of each as well as to highlight the differences and similarities between them. The development team created a crosswalk connecting CSSC codes to the codes of the Pilot SNCCS. In addition, they conducted a series of interviews with known users of these two systems, including U.S. Department of Education staff members, SIF participants, selected state and local education agency personnel, a representative of the National Collegiate Athletic Association (NCAA) Initial-Eligibility Clearinghouse, and several researchers connected to major research firms known to work with transcript data. These interviews elicited the needs of users at several different levels in order to determine the desired characteristics of a course classification system. Throughout this process, both the developers and the review groups worked to develop, review, and revise elements of the new classification system.

### Structure

The system is titled *School Codes for the Exchange of Data* (SCED) and offers a coding structure (see example below) that meets the specified needs. The SCED coding structure has five basic elements: 1) schooling level, 2) course description, 3) course level, 4) available credit, and 5) sequence. Each element imparts different, but complementary, pieces of information about the particular course being offered.

The following shows the 13-character alphanumeric course code<sup>2</sup> for an American Government course (course description), taught at an honors level (course level) within a secondary school (schooling level), for one period of the school day (available credit) over the course of a year (sequence).

<b>schooling level</b>	<b>course description</b>	<b>course level</b>	<b>available credit</b>	<b>sequence</b>
<b>S</b>	<b>04 151</b>	<b>H</b>	<b>1.00</b>	<b>1 1</b>

### Schooling Level

The schooling level element conveys whether the remaining sequence of characters will represent an elementary, intermediate, or secondary course. The proposed coding options are:

- *S* to denote secondary school offerings (9th through 12th grades);<sup>3</sup>
- *I* to denote intermediate (middle and junior high) school offerings (6th through 8th grades);
- *E* to denote elementary school offerings (1st through 5th grades);

<sup>2</sup> As an alphanumeric code, the decimal point within the credit element counts as a character.

<sup>3</sup> While recognizing that secondary education is delivered within various structures (9th- through 12th-grade high schools, as well as 8th- and 9th-grade junior high schools complemented by 10th- through 12th-grade senior high schools, in addition to other combinations), the predominant mode seems to be 9th through 12th grades.

- *U* to denote offerings not specifically designed for any particular school level; likely courses would be those offered to students with special needs when they are not in mainstream classes.

### **Course Description**

Each course within the SCED system is described, and those descriptions are designated in the coding structure by a 5-digit number. The system groups a number of course descriptions by major subject areas (e.g., English/Language Arts, Mathematics, and Health Care Sciences); these subject areas are represented by the first two digits. Currently there are 23 subject areas. The last three digits of the course description element specify a particular described course within the subject area. In the example above, *04* refers to the Social Sciences and History subject area, while *151* represents American Government, one of the described courses within that subject area. Table 1 lists the current subject areas. For each schooling level, 999 courses could conceivably be described within each of the 23 subject areas using only Arabic numerals 0 through 999. If need be, this total could be extended by using alphabetic characters because the SCED code is an alphanumeric string.

“Course description” might be better characterized as “course topic” because some distinctions between courses are not encapsulated within the descriptions. The course descriptions provide enough specificity to indicate what is being taught without being overly directive about course objectives and how they might be attained. The intent is to describe, not dictate, what topics and skills teachers may teach within a particular course. Other elements of the entire SCED code indicate some of the factors that make particular courses different from each other (e.g., honors-level Biology versus basic-level Biology).

The absence of specific detail in the written course descriptions results from the fact that American education is not dictated or defined by any single overarching institution or agency. Although *Geometry* can be generally described, there will always be variation because of differences in instructional practice, the textbooks or materials used (or coverage of the lessons within the textbook), and the experiences that the teacher and students bring to the classroom. Despite these differences, it is possible to describe education at the secondary level generally.

**Table 1—Subject Areas and Codes in the SCED**

Subject Area	Code
English Language Arts	01
Mathematics	02
Life and Physical Sciences	03
Social Sciences and History	04
Fine and Performing Arts	05
Foreign Language and Literature	06
Religious Education and Theology	07
Physical, Health, and Safety Education	08
Military Science	09
Computer and Information Sciences	10
Communication and Audio/Visual Technology	11
Business and Marketing	12
Manufacturing	13
Health Care Sciences	14
Public, Protective, and Government Service	15
Hospitality and Tourism	16
Architecture and Construction	17
Agriculture and Natural Resources	18
Human Services	19
Transportation, Distribution and Logistics	20
Engineering and Technology	21
Miscellaneous	22
Special/Exceptional Education	23

The exception to the generality of course descriptions lies in the description of Advanced Placement (AP) and International Baccalaureate (IB) courses. The College Board and the International Baccalaureate Organization have defined specifically the nature and topics of AP and IB courses, respectively. Descriptions of these courses within the SCED use literature published by the two organizations.

### **Course Level**

This element conveys the level of the course, and the option set includes the following:

- *B* for basic or remedial,
- *G* for general or regular,
- *E* for enriched or advanced, and
- *H* for honors.

The majority of courses that schools offer are general: intended for any student in the proper age range or grade level(s). However, a number of courses are distinguished by having more or less rigorous requirements than the “usual” course and are designated as advanced (or honors) or basic/remedial, respectively. Many 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 does enable schools to portray such distinctions.

What makes a course Honors as opposed to General is not defined because of the variety of criteria that schools use to categorize courses. It is likely that this element will be used only for secondary coursework and that *G* will be the most common assignment for all schooling levels (i.e., Intermediate or Elementary as well as Secondary). However, the other options (*B*, *E*, and *H*) are useful in describing what occurs in many secondary English, mathematics, science, and social studies courses.

### **Available Credit**

Measured in Carnegie units, the fourth element identifies the amount of 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 year offers one Carnegie unit; thus, Carnegie units are a measurement of “seat time” rather than a measure of course objective attainment. Some schools do not use credit at all, and the number of such schools may be rising because of increased interest in performance- or competency-based education. However, at this date credit remains the predominant metric of student progress in U.S. secondary schools.

### **Sequence**

In addition to course level, the other element that cannot be described well on a national basis is the manner in which different school systems “break up” increasingly difficult or more complex information, such as successive years of study in a fine art. While most “first-year” art courses introduce basic vocabulary, styles, and media, the process of expanding students’ skills and deepening their knowledge does not follow a single path throughout all art courses. This variety can also be seen throughout courses in many career/technical program areas. Therefore, an element describing where a specific course lies when it is part of a consecutive sequence of courses (described by the same general course description) is included in the classification system.

*Sequence* is a two-character element that should be interpreted as “part ‘n’ of ‘m’ parts.” For example, “Theater Arts” is one course that is described within the SCED system. If a school offers 4 years of Theater, Theater 3 within this school would be indicated in the sequence element as 3 4 (denoting the 3rd part of a 4-part sequence of courses). Within a school system operating on, and accounting for, its course offerings on a semester basis, the first semester of Theater 3 would be coded as 5 8: part 5 of 8 parts.

## Factors Leading to the Framework

As noted earlier in the Mission and Goals section, 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 section reviews these factors.

### Existing Systems

Created for different purposes, the CSSC and the SNCCS 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),<sup>4</sup> it retains the vestiges of an organization reflecting postsecondary programs of study. Thus, there is often more distinction or separation than would 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.

In 1995, NCES developed the Pilot SNCCS to support the electronic exchange of student transcripts. The Pilot 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 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.

Table 2 provides a summary of the characteristics of each system.

**Table 2: The Characteristics of the CSSC and the SNCCS**

	CSSC	SNCCS
<b>Origin</b>	1982	1995
<b>Purpose</b>	transcript studies: to systematically code courses taken by students sampled for national transcript studies conducted as part of longitudinal	electronic transmission: to enable the electronic transfer of student course-taking data between districts and schools through

<sup>4</sup> Due to the 2000 updating of the CIP, some connections between the CSSC and CIP have been lost.

	surveys and National Assessment of Educational Progress (NAEP) testing programs	SPEEDE/ExPRESS
<b>Structure</b>	CIP-based	department-based
<b>Updates</b>	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.
<b>Categories</b>	54	29
<b>Description of categories</b>	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.
<b>Coding of courses</b>	6 digits/3 elements	13 digits/9 elements
<b>Course description</b>	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).
<b>Indication of course level</b>	uneven	expansive
<b>Credit available</b>	not indicated (typically)	indicated
<b>Course sequencing</b>	uneven/inflexible	available

### **Assumptions**

Several issues bear upon the optimal design of a new classification system. These issues include the question of whether the new system would supplant the current systems of educational agencies or exist as an additional or “shadow” system; whether it would replace the CSSC as NCES’s primary tool in coding transcripts; and upon what numerical scheme the new system should be based. The following discussion reviews the implications of choices for each of these concerns and explains why certain decisions were made in the SCED system.

Will the new system replace or be used in conjunction with systems currently being used by educational agencies?

Competing Assumptions:

Schools will use the new system as their own.	vs.	The system will work as a “shadow” system, underlying a school (or district or state) coding structure.
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Implications:



The system will need to meet the needs of all school systems. This requirement entails meeting a comprehensive set of needs within each school system connected to course offerings: scheduling students, producing report cards, assigning teachers, placing transfer students, and providing transcripts to other institutions.		Schools will keep their own system and crosswalk the course codes to the new system. Without some external force or internal reason, it may be difficult to entice schools to make the investment to perform this crosswalk and to keep it up-to-date.
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*Working assumption:* The system will function as a “shadow” system, underlying current coding structures used by educational agencies. Elements and course descriptions of the new system will be defined to a certain extent, and the coding structure will allow schools (or districts or states) to add more elements that can be used to meet their particular needs. For example, a school might want to add a single digit element that indicates whether the course satisfies a graduation requirement. This decision was based in part on the understanding that the NCES Online Data Handbook is a guide, not a mandate. With few exceptions, the federal government does not require schools to report data in a particular fashion, and it is unlikely that schools would voluntarily replace a working student information system with a new structure. However, the SCED developers recognize that some schools may indeed choose to use the new system as their own and may add individual, user-specific elements.

Will NCES use the CSSC or the SCED as the coding structure for future transcript studies?

Competing Assumptions:

NCES will use the new system in its transcript studies.	vs.	NCES will continue to use the CSSC and update it internally as new transcript studies are completed.
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Implications:



As users implement the SCED and develop procedures to maintain, add, and update the courses that are included, NCES would no longer “own” the system it uses for its studies.		NCES would continue to have complete control over the codes used in its transcript studies and be able to easily connect these codes to those of prior studies.
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*Working assumption:* NCES will continue to use the CSSC as its coding system in the near future when conducting national transcript studies. In performing a crosswalk between the CSSC and the Pilot SNCCS, on which the SCED is based, awkward matches and many-to-one relationships were fairly common. Although some of these issues may be resolved during further development of the SCED, they seemed to indicate that problems may occur when connecting historical CSSC data to future studies using the SCED. It must be noted that the exploratory crosswalk was completed using the coding systems, not actual data, so these concerns may be overstated. However, it seems unlikely that NCES will adopt the SCED for immediate use in its transcript studies. Whether or not NCES eventually does so, a crosswalk between the new system and the CSSC will be necessary to compare any data collected and coded using the SCED with data from national sample studies; this task is being completed as part of the Phase One activities. Updates and revisions to both the CSSC and SCED systems (and any resulting changes in the crosswalk) will need to be made public and easily accessible.

What should be the basis of codes within the new system?

Competing Assumptions:

The Classification of Instructional Program (CIP) numbers will be used as the basis of the course code structure, adding on additional elements.	vs.	Pilot SNCCS numbers or an entirely new structure of codes will be used as the basis of the course code structure, revising elements as necessary.
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Implications:



The CIP is familiar and connected to several other (non-transcript) classification systems. Using it—even if only the first two digits—may make sense. However, having two systems share beginning codes may also cause confusion.		Users of the new system of codes must become familiar with another set of codes. However, the new system could more easily reflect non-postsecondary coursework.
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*Working assumption:* The new codes will be based on a code structure other than the CIP, to better reflect secondary (and elementary) course offerings. Because the two systems will co-exist, it could cause confusion if the course codes of both classification systems (the CSSC and the SCED) began with the same two digits. The system uses the SNCCS subject area categories and most of the individual course numbers within those categories. As the system is reviewed, and as career/technical education continues to evolve from traditional occupational areas into “career clusters,” these subject areas may need to be revised.<sup>5</sup>

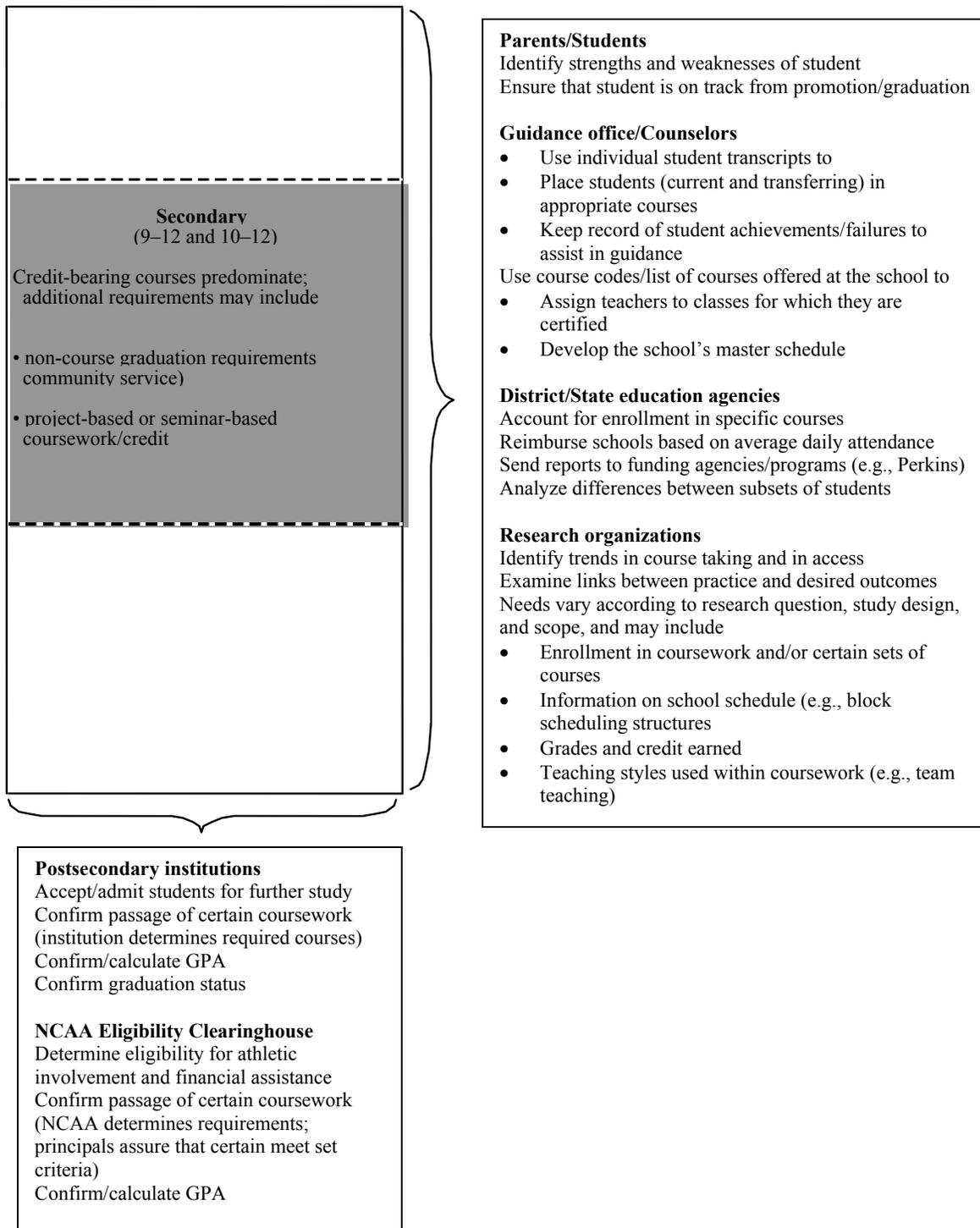
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<sup>5</sup> With a few exceptions, current career/technical subject areas are organized along the 16 Career Clusters promoted by the National Association of State Directors of Career Technical Education Consortium.

## **Needs of Those Using Student Transcript Data**

Information about a course exists along with, and in relationship to, other types of information. Different users assemble these related bits of information in various ways—in fact; they require different configurations of these pieces of information—depending upon their needs. Developers of the SCED conducted interviews and conversations with researchers and other course classification system users at the federal, state, and local levels, as well as with state and district representatives who had used or were currently implementing the Pilot SNCC. These conversations helped to identify which aspects of the current classification systems worked and which needed improvement. The working list of transcript users included parents, students, district and state education agency employees, guidance office personnel and counselors, research organization staff, staff of postsecondary institutions, and the NCAA Initial-Eligibility Clearinghouse. Each of these groups uses information about the courses that students take, how well they perform in those courses, and the credit they earn for varying purposes. Figure 1 indicates how time-based structures are organized at the elementary, intermediate and secondary school levels and outlines the different sets of people who have access to information about grade levels and courses and how they use that information. Some, but not all, of their needs can be met by a coding structure that classifies courses.

**Figure 1—Identified users and their needs for course information**



For example, an individual parent or student needs to know how the student is performing in his or her classes to track successful progression through the educational system and to determine what areas need improvement. Students and parents also benefit from knowledge about the course offerings of the school—other courses the student might take, their content, and prerequisites. Information about courses is taken from a report card that shows specific courses taken by that student, a teacher’s [or teachers’] assessment of performance, and credit(s) earned, perhaps in addition to measurements such as attendance; a transcript (an overall record of a student’s educational attainments); and perhaps a course catalog.

Individual parents and students have little use for a course classification system; a handwritten account of a student’s progress with no complicated codes to decipher would suit their needs perfectly well. However, duplicate this information across an entire classroom or school—as educators must do to assess overall performance—and a classification system begins to have value.

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. These agencies also have an interest in keeping track of students who participate in or complete certain classes and/or programs to account for their use of dedicated funding streams. Postsecondary institutions and associated agencies, such as the NCAA, also receive information about students and their coursework, typically to determine students’ eligibility for enrollment, financial assistance, and eventual placement.

The final group who uses course-related information consists of researchers and policymakers, whose needs are perhaps the most widely varied. Education researchers typically 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 wide variety of ways. Evaluations of programs or particular practices warrant a much more detailed study than does a general assessment of course taking patterns. Researchers’ priorities depend upon their underlying question of interest, and no single classification system could provide all researchers with all the pieces of information they might need about instructional periods of time.

## Testing the Framework and Writing Course Descriptions

Developing the classification structure involved an iterative process of comparing and crosswalking the two current 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 system must be flexible enough to meet the needs of local school systems.
- It is a major undertaking for any school (or any other agency) to change systems.
- The new system needs to be crosswalked to the CSSC so that trend data can be maintained.
- A process must exist 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 those discussions, it became clear that users felt 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. The parallel task of developing a crosswalk provided insight on how to create a comprehensive and effective national course classification system and magnified five topics to address in developing the SCED system:

- 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.

### **Testing the Framework**

As initial conversations with potential users wound down, and as decisions regarding the system became more concrete, a final activity involved searching 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. Roughly half of the states have, or are implementing, a course classification system, a few of which include only career/technical education (designed for Perkins accountability programs). Of the 27 state systems in place, 17 are based on state-developed coding structures, 8 use the CIP coding structure, and the remaining 2 are based on the Pilot SNCCS. States may, of course, have course classification systems that cannot be found on public state education agency websites.

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. Having the SCED available to build a course classification system will be a boon to these states. In February 2004, a version of this proposal was presented to the attendees of a session at the NCES Data Conference; to the Technology, Dissemination, and Communications Committee of the National Forum on Education Statistics; and to the Student Information Systems Work Group of the Schools Interoperability Framework. Comments received from these groups were generally positive, and their suggestions were incorporated into the system.<sup>6</sup> In addition, all those who had been interviewed during the early months

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<sup>6</sup> 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 Data Handbook 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).

of the project were provided with an invitation to comment. The comments received were supportive and suggested no substantive changes to the framework.

### **Writing 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. Twenty-five members of the National Forum on Education Statistics provided course catalogs. 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.

### **Testing the Course Descriptions**

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 with some recommendations to add or remove specific courses. Where necessary, reviewers were contacted for clarification.