

*National Longitudinal Study of
Adolescent Health*

*Wave III
Education Data
Academic Courses Component
Math, Science, and Overall*

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**WAVE III EDUCATION DATA
ACADEMIC COURSES COMPONENT
MATH, SCIENCE, AND OVERALL**

**Not all variables discussed in this codebook are in the accompanying data file.
Some will be released at a later date.**

I. INTRODUCTION

The official AHAA website (<http://www.prc.utexas.edu/ahaa/>) provides full documentation of the theoretical underpinnings of the Academic Courses component. This website also lists all publications, and other current research-related activities based on the Academic Courses data. Full documentation of the Academic Courses indicators included in the first release is also available in the Wave III education data codebooks on the Add Health website (<http://www.cpc.unc.edu/projects/addhealth>).

The following introductory paragraphs present a general overview of the Academic Courses indicators, and detail the organizational structure of the Academic Courses users' guide.

A. Summary of Academic Courses Indicators

The Academic Courses component of AHAA contains academic status and/or performance indicators for math, science, foreign language, English, history/social sciences, physical education (PE), and a combined category (overall) which includes all coursework taken including non-core and non-academic classes. Up to six types of Academic Course indicators were constructed for each of these subjects, and for the overall category. These include course sequence variables, course type indicators, course grade measures, course failures, semesters attempted, and credits earned variables. An overview of each indicator type is presented immediately below.

Course sequence variables measure the trajectories or strands of courses taken by students in highly differentiated and sequentially ordered subjects. Because math, science, and foreign language courses are typically organized into hierarchical, linear sequences – meaning successive courses are recognized as being more advanced and generally requiring more prerequisites – variables that capture students' location within these subjects' course hierarchies in each year and by the end of high school were created. 'B' versions of the math and science course sequence variables were also constructed where students were placed at a given level in the math and science course structures only if they received credit for courses taken. These two types of course sequence variables allow analysts the option of exploring whether students take certain levels of math or science courses, and/or if they successfully complete these courses.

Although English and history/social science courses arguably become more complex and rigorous over time (i.e., a 4th year English 'survey' course will generally

contain more challenging material than a standard 1st year ‘survey’ course), enrollment in later English and history/social science coursework is not necessarily contingent upon prior mastery of a specific set of concepts or acquisition of a particular knowledge base. The greater variety and incomparability of English and history/social science courses (because they tend not to be differentiated by topic) offered across and within AHAA schools also complicates attempts to organize them into a coherent hierarchical trajectory. Given these issues, no course sequence variables were constructed for English and history/social sciences. Course sequence variables were also not created for PE.

The second category of Academic Course indicators are course type variables which facilitate identification of the degree of difficulty and/or type of coursework taken by students in certain subjects, shedding insight into the grouping of these students according to ability. Specifically, analysts can explore these variables to determine if students took honors, Advanced Placement (AP), International Baccalaureate (IB), or remedial courses in English and history/social science in each year of high school course-taking. The English and history/social science course type variables are significantly detailed – representing particularly important measures of students’ academic position/positional advantage in these two core academic subjects. The course type indicators developed for PE, while not informative of ability level, enable identification of the specific kinds of PE courses students enrolled in during each year of high school.

Six course type variables were also developed for foreign language. Analysts can use foreign language course type variables to identify which students ever enrolled in AP/IB level foreign language during their high school careers, which students took multiple foreign languages, which students took English as a Second Language (ESL) classes, which specific types of ESL classes students enrolled in (either language-based or content area), and to discern which specific foreign languages were collapsed into the category ‘other’ foreign language.

The third set of constructed Academic Course measures includes grade point average (GPA) variables that capture students’ academic performance in the key curricular subjects (math, science, foreign language, English, history/social science, and PE) as well as across all subjects including non-core and non-academic courses (overall). Measures of students’ subject-specific and overall GPAs were produced for each year of high school course-taking and cumulatively across all years of high school.

The fourth set of Academic Course indicators are course failure or failure index variables. These were constructed to facilitate examination of the extreme low end of academic achievement. Separate failure index measures were produced for math, science, foreign language, English, and history/social science. Overall measures of the proportion of courses that students failed in each year of course-taking and cumulatively across all years of high school are also available. Course failure measures were not produced for PE.

The final two sets of constructed Academic Courses indicators consist of semesters attempted and credits earned variables which convey information about the

intensity of students' exposure to course content. Specifically, these variables inform the analyst of the number of semester-length courses students attempted in each of the core academic subjects per year of high school, and the amount of credit, if any, students received for them. Overall semesters attempted and credits earned variables were also produced to enable analytical assessment of the total amount of coursework students took and received credit for in each year and cumulatively. This information is critical to understanding Add Health students' academic experiences because learning opportunities and the benefits of education are largely determined by the *quantity* of course work taken. Importantly, these variables are not restricted to graded courses as in the case of the GPA and failure index variables, but capture information about all types of high school coursework taken by students including pass/fail and non-graded courses. Thus, they enable a comprehensive evaluation of students' high school course-taking patterns and academic achievement in the key curricular subjects and overall. It is important to note that only credits earned indicators were produced for PE, although all PE coursework attempted during high school is included in the year-specific and cumulative overall semesters attempted indicators.

All constructed Academic Course variables are named to indicate the students' course-taking year to which they correspond (i.e., years **0-6**, year **0** referring to high school courses recorded on students' transcripts taken prior to actual high school enrollment, years **1-4** relating to the standard four years of high school course-taking, and years **5-6** incorporating high school courses taken by those students who remained in high school beyond the typical 4 years). Similarly, the names assigned to cumulative and highest-level attained Academic Course measures (ending with a **C** or **H**, respectively) signify that they capture summarized information about students' high school course-taking experiences in the key curricular subjects. This standardized year (and cumulative) specification enables cross and within cohort comparisons. (See the analytic advice webpage on the AHAA website for more information about the significance of the standardized year specification particularly as it facilitates analyses using both AHAA and Add Health data). Complete information about the conventions used to name Academic Course variables is provided at the end of this document.

B. Special Considerations Concerning Academic Courses Indicators

1. Year 0

It is important to note that no year **0** variables were constructed for history/social science because fewer than 50 student transcripts list history/social science coursework taken prior to actual high school enrollment. Similarly, no year **0** indicators were produced for PE.

Since only successfully completed coursework taken before entrance into high school appears on student transcripts (transcript-based year **0** data is limited to coursework students earned credit for), values for year **0** semesters attempted variables would equal those assigned for year **0** credits earned variables. Therefore, in an effort to reduce the production of redundant information and because available year **0** information

is not necessarily reflective of all year 0 high-school level coursework students actually enrolled in, year 0 semesters attempted variables were not constructed.

2. Year 5-6 Variables

Year 5-6 variables were also not constructed for PE course-type indicators because of low student enrollment rates in those years.

C. Organization of Document

The documentation of the constructed Academic Course indicators is composed of three interrelated sections. The first contains extensive descriptions of these measures, including discussions of how they were constructed, and how they should be used and interpreted for analytical purposes. The last sections outline the standard conventions employed for naming Academic Courses indicators, and the missing codes applied to them. An inventory listing the data files constructed for the Academic Courses component is also presented. Note that all students with course-level information are included in each of these data files. (The student-level disposition file, edustdent, in the primary component of AHAA provides information about which students have course-level data.)

II. CONSTRUCTED ACADEMIC COURSES INDICATORS

A. Section Overview

This section presents detailed information about the six major types of indicators included in the Academic Courses domain of AHAA: course sequence variables, course type indicators, course grade measures, course failure (failure index) measures, semesters attempted, and credit earned variables. The descriptions of all these measures are divided into two complementary parts, general and subject-specific considerations. Displayed under general issues are an explanation of how the variables were constructed, and a discussion of each variable's analytical significance. Topics covered in subject-specific considerations are those unique to each key curricular subject (math, science, foreign language, English, history/social science, PE, and overall) which have critical analytical implications. This includes cautionary statements informing analysts of pertinent issues they must consider when using and interpreting particular subject-specific Academic Courses variables.

B. Description of Indicators

1. Course Sequence Indicators

i. General Issues

Course sequence measures were developed to capture the academic level of students' coursework in core high school subjects, and are, therefore, key indicators of

academic achievement. Specifically, these indicators were constructed for curricular subjects – math, science, and foreign language – with clearly defined, sequential course trajectories. Courses in these subjects are hierarchically organized, such that certain courses are recognized as being more advanced and generally requiring more prerequisites compared to others. The course sequence indicators reflect students' location within the math, science, and foreign language course-taking hierarchies in each year (i.e., years **0-6**, year **0** referring to high school courses recorded on student transcripts which were completed prior to actual enrollment in high school, years **1-4** relating to the standard 4 years of high school course-taking, and years **5-6** incorporating high school courses taken by those students who remained in high school beyond the typical 4 years). Course sequence measures were also produced to capture students' ultimate level of course-taking attained in these subjects by the end of high school.

Course sequence indicators were constructed using Classification of Secondary School Courses (CSSC) codes, which were attached to all courses on student transcripts (see the data collection and coding procedures section in the AHAA study design for a detailed accounting of how CSSC codes were applied to courses appearing on student transcripts). Using this detailed coding scheme, ordinal indicators of course sequences were developed based on major course subjects within math, science, and foreign language.

All of the course sequence indicators [**EAMSQ(0-6)**, **EASSQ(0-6)**, **EAFASQ(0-6)**] are named to indicate the students' course-taking year to which it corresponds. For example, **EAMSQ2** is students' math course sequence level for their second year of course-taking. Students who did not take a math, science, or foreign language course in a given year but who enrolled in these subjects in other years are assigned a value of *0* for corresponding course sequence variables. A small number of students have no math courses recorded on their transcripts, and a similarly small percentage of students have no science courses listed on their transcripts. These students are assigned missing values of *9993* (never took a given subject throughout their high school careers) for appropriate course sequence indicators. Because many AHAA students never enrolled in foreign language coursework during high school, a significant number of students are assigned the missing value *9993* for foreign language course sequence variables.

For each year of course-taking, students are assigned to the category in the course sequence that reflects the highest level class they took for one semester or more, regardless of whether or not they received credit for the course. For example, if a student took two different math courses in one year such as Algebra II and Geometry, they are placed in the higher category (i.e., Algebra II).

In addition to the series of variables capturing students' course-taking level for each year, AHAA provides cumulative measures that capture the highest level course taken by the end of high school for these three curricular subjects (**EAMSQH**, **EASSQH**, **EAFASQH**). For these cumulative indicators, there is no assignment of the value *0* because students receiving values other than missing codes for these indicators had to have taken at least one math, science, or foreign language course during high school. It is

also important to note that examining students' sequence level in the last year they attended high school (such as **EAMSQ4** for students who enrolled in high school for four years) is not necessarily informative of the highest level course students took because many students did not take math, science, or foreign language courses during their senior year of high school.

Alternate versions, called '**B**' versions, of the course sequence variables were also created for math (**EAMSQB(1-6)**) and science (**EASSQB(1-6)**)¹. For these variables, students are placed at a given level in these subjects' respective course hierarchies per year of high school only if they received credit for coursework taken, versus version '**A**' in which receiving credit for the course was not a factor. Students' transcripts indicate the amount of standardized credits, or Carnegie units, they received for each course taken. In most cases, not receiving credit for a course is the result of the student failing the course. For the '**B**' versions of the course sequences variables, if students took a course but received no credit in a given year, they are assigned a value of 0, ('No Math' or 'No Science') for that year. If students took 2 separate courses and failed one, they are assigned to the category corresponding to the course that they passed. As in the case of the regular course sequences variables, there are also cumulative '**B**' version course sequences measures that represent the highest level math and science courses for which students received credit in high school (**EAMSQBH**, **EASSQBH**).

The decision to use the regular or '**B**' versions of the course sequence indicators depends on the particular research question of interest. Use of the regular course sequence variables, for example, is sufficient for analyses requiring only the examination of whether or not students took certain levels of courses. If, however, analysts are interested in determining the highest level math or science course students earned credit for per year or cumulatively by the end of high school, then the '**B**' version measures should be utilized.

There is a strong connection between the level of students' math and science course-taking at the beginning and the end of high school, such that students who begin at a higher level tend to end at a higher level. When using the variables for the highest level attained by the end of high school (**EASSQH** / **EASSQBH** or **EAMSQH** / **EAMSQBH**) as outcome variables, it is recommended that the student's placement at the beginning of high school should be included as a covariate in the analysis (**EAMSQ1** or **EAMSQB1**, **EASSQ1** or **EASSQB1**), to control on initial placement. The variables for highest level attained by end of high school can also be dichotomized as dependent variables, for example, whether or not a student took Algebra II or Chemistry by the end of high school. Analysts may also choose to use **EAMSQH** or **EASSQH** (or the '**B**' versions) as

¹ '**B**' versions of the course sequence variables are not as analytically compelling for foreign language because a significant number of AHAA students opted not to enroll in foreign language courses, and most students who took foreign language courses did not progress beyond two years of course-taking. In addition, producing '**B**' versions for the range of foreign languages taken by AHAA students results in the proliferation of variables with little analytical use. Hence, '**B**' version course sequence measures were not constructed for foreign language.

measures of final high school achievement, and use them to predict later adult outcomes as measured in Wave III of Add Health.

In sum, course sequence variables provide analysts with measures of students' academic achievement in math, science, and foreign language in each year of high school regardless of the actual calendar or school years when this occurred. For example, the variables **EAMSQ1**, **EASSQ1**, and **EAFASQ1** provide analysts with respective measures of the level of math, science, and foreign language courses students took at the beginning of their high school careers. Analysts might choose to exercise caution and restrict this to students whose **ELYEAR1** corresponds to ninth grade, as indicated by **ELY1NINE** (refer to the school-year and grade level indicators presented in the Linking component of AHAA for more information about these variables). These subject-specific course sequence variables could also be dichotomized to capture whether or not students began high school by taking certain levels of courses (i.e., by dichotomizing the variable **EAMSQ1**, analysts can discern if students started high school by taking Algebra I or a higher course, or entered high school taking Pre-Algebra or a lower course).

Finally, analysts wanting to use course sequence indicators (either regular or 'B' versions) in conjunction with survey data from Add Health need to carefully consider issues of temporal order. (See the analytic advice webpage on the AHAA website for more information about this issue and for constructive examples.)

ii. Subject-Specific Considerations

a. Math

EAMSQ0 – EAMSQ6, and EAMSQH

These measures indicate students' level of math course taking per year (**0-6**), and students' final math level attained by the end of high school. The subject categories in the math course sequence include: *0* = No Math; *1* = Basic/Remedial Math; *2* = General/Applied Math; *3* = Pre-algebra; *4* = Algebra 1; *5* = Geometry; *6* = Algebra II; *7* = Advanced Math (Algebra III, Finite Math, Statistics); *8* = Pre-calculus (includes Trigonometry), and *9* = Calculus. These categories reflect a hierarchy of courses ranging from less to more advanced. Note that students do not necessarily have to pass through each category of the sequence to be assigned to higher ranked categories. For instance, students who have attained level *8* of Pre-calculus might not have taken Advanced Math (level *7*). Additionally, while most students' course-taking patterns reflect a linear and progressive movement through the sequence, a minority of students have different patterns. Thus, analysts cannot assume that students took a successively higher level course each year of high school course-taking.

Students were assigned a value or category for these variables according to the highest level math course they took for one semester or more, regardless of whether or not they received credit for the course. If a student took two different math courses in one year, such as Algebra II and Geometry, they were attributed the higher category (i.e., Algebra II). Additionally, the cumulative measure captures the highest-level math course

taken by the end of high school (**EAMSQH**). It is important to note that because many students did not take math during their senior year, examining students' sequence level in the last year they attended high school (i.e., **EAMSQ4** for those who attended 4 years) will not necessarily inform the analyst of the highest-level math course these students ever took. Instead analysts should use the variable **EAMSQH** to obtain this information, recognizing that the variables **EAMSQ0 – EAMSQ6** only provide data about the level of math taken in specific years of high school course-taking.

Students who did not enroll in math in a specified year but took math courses in other years of high school were assigned to the 'No Math' category (value = 0) for the corresponding course sequence variable. The small number of students who *never* enrolled in math courses during high school were assigned the missing value 9993. See the section on missing codes for detailed information about missing values.

EAMSQB1 – EAMSQB6, and EAMSQBH

These measures are the '**B** versions' of the math course sequence variables – students were assigned a given level in the math course hierarchy (refer to the regular course sequences description above for a detailed list of the course components of this hierarchy) only if they received some credit for courses attempted. Students' transcripts indicate the amount of standardized credits, or Carnegie units, they received for each course taken. In most cases, not receiving credit for a course is the result of the student failing the course. If students took a course but received no credit in a given year, they are placed in the 'No Math' category (value = 0) for that year. If students took 2 math classes and failed one, they are given credit for the course that they passed. Additionally, there is a cumulative measure for the highest level math course for which a student received credit in high school (**EAMSQBH**). As previously stated for regular course sequences variables, the variable **EAMSQBH** should be used instead of the variables **EAMSQB1-EAMSQB6** to obtain information about highest level of math coursework for which students attained credit because many students did not enroll in math courses during later high school years.

Students who did not take a math course in a specified year, but who enrolled in math during other years of high school were assigned to the 'No Math' category (value = 0) for the corresponding '**B**' version course sequences variable. The few students who *never* took a math course during high school were assigned the missing value 9993 for '**B**' version course sequences variables. More information about missing values can be found in the missing codes section.

No year **0** '**B**' version course sequence measures were constructed because of their redundancy with the year **0** regular course sequence measures. (Only coursework for which students received credit in year **0** are listed on student transcripts, hence, the regular year **0** math sequence measures capture information about the math coursework students earned credit for prior to actual high school enrollment.)

b. Science

EASSQ0 – EASSQ6, and EASSQH

Although progression through high school science course pathways is arguably less contingent upon mastery of earlier coursework than in the subjects of math and foreign language, a hierarchical structure for science course-taking is, nevertheless, pervasive at the high-school level. Thus, sequence variables similar to those produced for math and foreign language were constructed for science. The science course sequence variables indicate students' level of science course taking in each year, and students' ultimate science level attained by the end of high school. The subject categories for the ordered science course sequence include: 0 = No science; 1 = Basic/Remedial Science; 2 = General/Earth Science; 3 = Biology I; 4 = Chemistry; 5 = Advanced Science (Biology II, Chemistry II); and 6 = Physics. These categories represent a hierarchy of courses ranging from less to more advanced. Note that students do not have to pass through each category of the sequence to be assigned to higher ranked categories. Additionally, while most students' course-taking patterns reflect a linear and progressive movement through the sequence, a minority of students have different patterns (i.e., chemistry may not always precede physics on student transcript records). Thus, analysts cannot assume that students took successively higher level science courses each year of high school.

Students were allocated a categorical value for these variables according to the highest level science course they took for one semester or more, regardless of whether or not they received credit for the course. If students took two different courses in one year, such as Biology I and Chemistry, they are attributed the higher category (e.g. Chemistry). Additionally, the cumulative measure captures the highest-level science course taken by the end of high school (**EASSQH**). It is important to note that because many students did not enroll in science during their senior year, examining students' sequence level in the last year they attended high school (i.e., **EASSQ4** for those who attended 4 years) will not necessarily inform the analyst of the highest-level science course these students ever took. Instead analysts should use the variable **EASSQH** to obtain this information, recognizing that the variables **EASSQ0 – EASSQ6** only provide data about the level of science taken in specific years (**0-6**) of high school course-taking.

Students who did not take a science course in a specified year, but who enrolled in science courses in other years of high school are assigned to the 'No Science' category (value = 0) for the corresponding course sequences variable. Students who *never* enrolled in a science course during high school are assigned the missing value 9993 for corresponding course sequences variables. See the section on missing codes for further information about missing values.

EASSQB1 – EASSQB6, and EASSQBH

These measures are the '**B** versions' of the science course sequences variables – students were assigned a given level in the science course hierarchy (previously outlined in the description of the regular science course sequences variables) only if they received

some credit for courses attempted. Students' transcripts indicate the amount of standardized credits, or Carnegie units, they received for each course taken. In most cases, not receiving credit for a course is the result of the student failing the course. If students took a course but received no credit in a given year, they are placed in the 'No Science' category (value = 0) for that year. If students took 2 science classes and failed one, they are given credit for the course that they passed. Additionally, there is a cumulative measure for the highest level science course students received credit for while in high school (**EASSQBH**). As previously stated for regular course sequences variables, the variable **EASSQBH** should be used instead of the variables **EASSQB1-EASSQB6** to obtain information about highest level of science coursework for which students attained credit because many Add Health students did not enroll in science courses during later high school years.

Students who did not enroll in science courses in a given year of high school course taking but took science courses in other years were placed in the 'No Science' (value = 0) category for the corresponding 'B' version course sequences variable. Students *never* enrolling in a science course throughout high school were assigned the missing value 9993 for the corresponding 'B' version course sequence variable. Refer to the section on missing codes for more information about specific missing values.

No year 0 'B' version course sequence measures were constructed because of their redundancy with the year 0 regular course sequence measures. (Only coursework for which students received credit in year 0 are listed on student transcripts, hence, the regular year 0 science sequence measures capture information about the science coursework students earned credit for prior to actual high school enrollment.)

2. Course Type Indicators

i. General Issues

In general, course type indicators are measures which capture the type and/or degree of difficulty of coursework taken by students. These indicators essentially function as the primary analytical means of identifying how students were differentiated in terms of ability (AP/IB, Honors, remedial) in the non-sequentially ordered subjects of English and history/social science. Course type measures enabling identification of the kinds of PE courses students took were also produced. In addition, variables measuring foreign language course type were constructed to supplement the information captured by the foreign language course sequence measures. Because course sequence variables provide substantial information about the ways students are ranked within the hierarchically organized subjects of math and science by the end of high school and in each year of course-taking, math and science course type variables were not generated.

ii. Subject-Specific Issues

a. Math

Course-type indicators were not produced for math. Refer to the math course sequence variables for information about students' placement on the hierarchical math course trajectory in each year and by the end of high school.

b. Science

Course-type indicators were not constructed for science. The science course sequence variables provide detailed information about each student's science placement in the sequential science course trajectory in each year and by the end of high school.

3. Course Grades Indicators

i. General issues

These variables capture students' school performance for each year of their high school course-taking, as well as cumulatively across all years of high school. Grade point average (GPA) indicators were created separately for each of the key curricular subjects (math, science, foreign language, English, history/social sciences, and PE). GPA indicators were also created to measure students' performance in physical education, and in courses taken across all subjects (overall category).

The majority of students in AHAA took courses on a semester basis, such that schools recorded two separate entries for a year-long course on the transcript, each designated with a grade. The GPA variables are calculated as the average grade across semester-length courses in a given year (for the yearly indicators), or across all years of students' course-taking (for the cumulative indicators). Less than one percent of all courses taken by the entire sample of AHAA students occurred on a trimester basis. For the purposes of the construction of academic indicators, trimesters are considered equivalent to semesters. Students who took courses designated as year-long (and with only one grade recorded) are treated as having received the same grade for two semester-length courses. Fs are coded as 0, Ds are coded as 1, Cs are coded as 2, Bs are coded as 3, and As are coded as 4. Course in which students received a 'P' for pass, an 'NG' for not-graded, a 'W' for withdrew, a "WF" for withdrew failing, a 'WP' for withdrew passing, or an 'I' for incomplete, were not included in the calculation of GPA. Students who were not assigned a grade of A-F for a course that they took in a given year would have a missing value of 9995 (no grade received for a subject-specific course taken in a given year) on the corresponding GPA variable (for math, science, foreign language, English, history/social science courses, PE, or overall courses).

All GPA variables are named to indicate the students' course-taking year (**0-6**) to which they correspond (i.e., year **0** referring to high school courses recorded on student transcripts but completed prior to actual enrollment in high school, years **1-4** relating to the standard four years of high school course-taking, and years **5-6** incorporating high school courses taken by those students who remained in high school beyond the typical 4 years). For example, **EAEAGPA2** is the student's English GPA for the second year of high school course-taking. Cumulative measures are also specified to represent grade point average for all years of course-taking (designated with a **C** as the last character of

the variable, such as **EAEAGPAC**). Extending the English example, **EAEAGPAC** is the students' cumulative English grade point average. Lastly, overall GPA includes all graded courses that appear on the students' transcripts, including non-core and non-academic courses (**EAOGPA0-EAOGPA6, EAOGPAC**).

Additionally, analysts should note that the cumulative indicators represent the average across all years for which the student was taking courses. If a student has only two years of course-taking data, for example, his or her value on **EAOGPAC** (overall cumulative GPA) would be calculated based on only two years of data, in contrast to the typical student with four years of course-taking data.

Students not taking a course in a specified subject – math, science, foreign language, English, history/social sciences, or PE – in a given year are assigned a missing value for the corresponding GPA variable. The missing value assigned will be (1) **9993** if a student never enrolled in a specified subject throughout the duration of their high school career, (2) **9994** if a student did not take courses in a specified subject in a given year but did take courses in the subject in other years, or (3) **9995** if a student did not take a *graded* course in a specified subject in that year. Refer to the missing codes section for further clarification of these issues.

The course grades measures provide analysts with yearly indicators of students' academic performance in the core academic subjects of math, science, foreign language, English, and history/social sciences as well as in physical education and across all subjects taken. In contrast to self-reported data, these are official indicators of performance as recorded on the students' high school transcripts. As such, they provide analysts with parallel measures of academic performance for students from all the various cohorts included in Add Health/AHAA. For example, by using **EAOGPA1**, the analyst has a base measure of academic performance at the beginning of high school for all students, regardless of what calendar or school year they began high school. (Note that in the example mentioned, a careful analyst might choose to restrict the analysis only to students' whose transcript-indicated grade level in **ELYEAR1** corresponded to ninth grade by using **ELYININE**. See the Linking component for an in-depth discussion of these school-year and grade level indicators).

Finally, analysts interested in examining students' grades in conjunction with survey data from Add Health are advised to consider issues of temporal order of their variables. (See the analytical advice page on the AHAA website.)

ii. Subject-Specific Considerations

a. Math

EAMGPA0 – EAMGPA6, and EAMGPAC

These measures indicate the grade point average for math courses taken in each year (**0-6**) of course-taking and cumulatively across all years of high school. Because the

cumulative measure is based on all math courses taken during actual high school enrollment, year **0** information is excluded from its calculation.

b. Science

EASGPA0 – EASGPA6, and EASGPAC

These measures indicate the grade point average for science courses taken in each year (**0-6**) of course-taking and cumulatively across all years of high school. Year **0** information is excluded from the calculation of the cumulative science GPA measure.

c. Overall

EAOGPA0 – EAOGPA6, and EAOGPAC

These indicators provide information about students' overall grade point average for all courses taken including non-core or non-academic courses in each year (**0-6**) of course-taking as well as cumulatively across all years of high school. Year **0** information (see sub-section 'a. Math') is excluded from the calculation of the cumulative grade point average.

4. Course Failures – Failure Index Measures

i. General Issues

While GPA captures the range of student performance, the failure index variables convey information about the extreme end of low academic performance. These variables measure the proportion of semester-length courses failed (in each year **1-6**), calculated as the number of semester-length courses failed divided by the number of semester-length courses attempted (in each year or cumulatively). Failure index variables are restricted to years **1-6** because only successfully completed high school courses taken prior to enrollment in high school are recorded on high-school transcripts. Therefore, by definition, failure indexes cannot be computed for year **0**.

As with grade point average indicators, separate failure index measures for math, science, foreign language, English, and history/social science are presented alongside an overall failure index which encompasses failures across all subjects including non-core or non-academic courses (course failure/failure index measures were not produced for PE). Failures are defined as they are for the grade point average variables (refer to the description of the grade point average measures above), relying only on the grade received, and not on whether the student's transcript indicate that he/she received credit for a course. (However, in the vast majority of cases, students who received a grade of 'F' in a given course did not receive any credit.) Specifically, only courses for which students' received standard grades (A, B, C, D, or F) are included in this measure.

A value of *0* on a failure index variable indicates no failures, while a value of *1* indicates that the student failed all courses in a given year or cumulatively (in math,

science, foreign language, English, history/social science, or across all subjects). Therefore, students whose values fall between 0 and 1 failed some proportion of the courses they attempted for a grade. Although the failure index variables are continuous, the analyst should take care when using them in this format given that the majority of students have a value of 0 on each of the variables. Instead, analysts might choose to create a dichotomous indicator (any failure vs. none), or choose certain threshold values based upon the particular analysis or research question being addressed.

Additionally, unless a student fails all of his or her courses in a given subject or across subjects, the student will have a corresponding grade point average measure that is greater than 0. For example, if a student took two semesters of math in **ELYEAR2** (see the discussion of school-year variables in the Linking component for information about this variable), and failed the first semester but received a C the second semester, he/she would have a value of .5 for **EAMFIX2** (the ratio of math courses student failed in year 2) and a value of 1 for **EAMGPA2** (grade point average for math courses in year 2).

Students not taking a course in a specified subject (math, science, foreign language, English, or history/social sciences) in a given year are assigned a missing value for the corresponding failure index variable. The missing value assigned will be 9993 if a student never enrolled in a specified subject throughout the duration of high school or 9994 if a student did not take a course in a specified subject in a given year but did take courses in the subject in other years. Refer to the missing codes section for information about specific missing values.

ii. Subject-Specific Considerations

a. Math

EAMFIX1-EAMFIX6, and EAMFIXC

These measures indicate the proportion of math courses students failed in each year of high school course-taking (**1-6**) and cumulatively across all years of high school.

b. Science

EASFIX1 – EASFIX6, and EASFIXC

These measures indicate the proportion of science courses students failed in each year of high school course-taking (**1-6**) and cumulatively across all years of high school.

c. Overall

EAOFIX1 – EAOFIX6, and EAOFIXC

These measures indicate the proportion of all courses including non-core or non-academic courses that students failed in each year (**1-6**) and cumulatively across all years of high school.

5. Semesters Attempted Variables

i. General Issues

Semesters attempted variables provide analysts with important measures of students' exposure to core course material during high school. Specifically, these variables document the total number of semester units of each key curricular subject (math, science, foreign language, English, and history/social sciences) taken by Add Health students in each year (1-6) (i.e., years 1-4 relating to the standard four years of high school course-taking, and years 5-6 incorporating all high school courses taken by those students who remained in high school beyond the typical 4 years) and cumulatively across all years of high school. (Semesters attempted variables were not constructed for PE.) Over 85% of the courses taken by AHAA students were of semester-length. However, some students took year-long courses which were viewed as consisting of two semester-length courses. Students who took these classes were, therefore, assigned a value of 2 for corresponding semesters attempted variables. For consistency purposes (i.e., to maintain the designation of each semester as having a value of 1), the very small number of trimester courses (less than 1% of all courses) were treated as semesters. Although the majority of students took between 0-6 semesters of each core academic subject per year of high school (and were, thus, assigned values of 0-6 for corresponding semesters attempted variables), a small number of students took 7 or more semesters of a single subject in a given year. The value 12 was selected as a logical cut-off point because it indicates a student took 6 year-long courses – the equivalent of the average number of courses taken by high school students in a single year of course-taking – in one subject in a given academic year. Therefore, the very small percentage of students (less than .5%) whose transcripts record more than 12 semesters were taken in one subject in a given year were all assigned the value 12 for relevant semesters attempted variables. It is important to note that overall semesters attempted variable values were not truncated because they reflect the amount of coursework taken by students in all subjects including non-core or non-academic courses in a given year of high school.

Cumulative measures for each subject represent the sum of the values recorded for truncated year-specific semesters attempted variables. Therefore, the highest assignable number for cumulative semesters attempted variables is 72 (if a student took 12 or more semesters of a given subject over 6 years of high school course-taking). Cumulative overall semesters attempted variables, however, indicate the total, non-truncated sum of coursework students enrolled in during high school.

Values assigned for semesters attempted variables were calculated independent of the credits students earned for coursework taken. For example, students who enrolled in 2 semesters of math in the third year of high school have a value of 2 for **EAMSA3** whether or not they received credit for these courses (i.e., students who passed as well as students who failed one or both courses were both assigned a value of 2 for **EAMSA3**).

Unlike GPA and failure index measures, which are limited to graded coursework, semesters attempted measures are inclusive of all high school courses (i.e., graded, pass/fail, non-credit), making them comprehensive indicators of the quantity of coursework taken by students while in high school. Referring to the example described above, this means that students who took 2 semesters of math in the third year of high school course-taking were assigned values of 2 for **EAMSA3** regardless of the type of math course taken (i.e., graded, pass/fail, or non-credit). (Thus, the missing value 9995, which denotes that student did not receive grade in course, is not relevant to semesters attempted variables.)

The missing value 9994 which indicates no subject-specific course was taken in a given year is inapplicable to semesters attempted variables. Instead, students who did not take subject-specific courses in a given year but whose transcripts indicate enrollment in the subject in other years were assigned a value of 0 for corresponding semesters attempted variables. For example, a student who did not take English in year 2 but took English in year 1 was assigned a value of 0 for **EAEASA2** (quantity of English courses student took in year 2 regardless of whether credit was earned). Only students who *never* enrolled in a particular subject throughout the duration of high school are assigned the missing value 9993 for appropriate semesters attempted variables.

Because only coursework for which students earned credit prior to actual high school enrollment are recorded on student transcripts, available year 0 information reflects the amount of credits students were awarded in specified subjects and not necessarily all high-school level coursework students attempted before starting high school. Therefore, year 0 semesters attempted variables were not constructed. (Year 0 credits earned variables were produced and will be discussed later.)

ii. Subject-Specific Considerations

a. Math

EAMSA1 – EAMSA6, and EAMSAC

These semesters attempted variables enable analysts to determine the quantity of semester-length math courses students took in each year (1-6) and cumulatively across all years of high school. The following example illustrates how these measures were calculated: Students who took 2 semesters of math in the 4th year of high school course-taking were assigned a value of 2 for **EAMSA4** regardless of how the math courses were taken (pass/fail, graded, non-credit), and regardless of whether they earned credit for these courses.

b. Science

EASSA1 – EASSA6, and EASSAC

These semesters attempted variables indicate the quantity of semester-length science courses taken by students in each year (1-6) and cumulatively across all years of high school. The following example illustrates how these variables were calculated:

Students who took 2 semesters of science in the third year of high school course-taking were assigned a value of 2 for **EASSA3** regardless of the type of science course taken (pass/fail, graded, or non-credit) and regardless of whether they received credit for the course.

c. Overall

EAOSA1 – EAOSA6, and EAOSAC

These semesters attempted variables capture the total amount of coursework (including non-core or non-academic courses) taken by students in each year (1-6) and cumulatively across all years of high school. The following example illustrates how these variables were calculated: Students who took 10 semesters of coursework (5 courses in the first and 5 courses in the second semester) in the third year of high school course-taking were assigned a value of 10 for **EAOSA3** regardless of how the coursework was graded (either pass/fail, graded, or non-credit) and regardless of whether credit was earned for the courses.

6. Credits Earned Indicators

i. General Issues

The credits earned indicators refer to the number of Carnegie units earned in each core curricular subject (math, science, foreign language, English, history/social sciences, and PE) in each year (0-6) (i.e., year 0 referring to high school courses recorded on student transcripts but taken prior to actual high school enrollment, years 1-4 referring to the standard 4 years of high school course-taking, and years 5-6 encompassing all high school courses taken by those students who remained in high school beyond the typical 4 years) and across all years of high school. A Carnegie unit is a standardized measure equating one unit to the completion of a course that meets one period per day for one year. Therefore, a value of .5 is generally awarded for each successfully completed semester course. For example, if students took 2 semester-length science classes in the third year of course-taking and failed one, they would have a value of .5 for **EASCR3** (amount of science credits earned during year 3).

Students were assigned values ranging from 0-6 for credits earned indicators for all key academic subjects (math, science, foreign language, English, and history/social science) except PE. Six credits was selected as a logical cut-off point because it represents the average total number of credits high school students typically earn in a given year of course-taking (encompassing coursework taken in all core academic subjects and electives). The small percentage of students earning 6 or more credits in a single subject in a specified year of course-taking were all assigned the value of 6 for corresponding credits earned indicators.

In the case of PE, students were assigned values ranging from 0 to 3 for credits earned indicators. Three credits was selected as the cut-off point for PE because (1) this number represents 6 semester-length PE courses taken in a single academic year, and (2) a very small number of students received more than 3 Carnegie units of PE credit in a

given year. These students were assigned the value of 3 for all corresponding credits earned indicators.

It is important to note that the values assigned to students' overall credit measures, both year-specific and cumulative, were not truncated because these measures incorporate credits earned in all subjects including non-core and non-academic courses.

Students who took subject-specific courses in a given year but did not receive credit for these courses have a value of 0 for corresponding credits earned measures (i.e., students who did not earn credit for any science classes taken during year three received a value of 0 for **EASCR3**).

Because only credits earned while students were actually enrolled in high school are considered for the cumulative measures, high school credits attained during year 0 are not included in their calculation. It is important to note that subject-specific cumulative measures reflect the sum of truncated year-specific credits earned variables. Therefore, the highest assignable number for cumulative credits earned variables in all subjects except PE is 36 (indicating a student earned 6 credits in one subject every year for 6 years of high school course-taking). (The highest assignable number for PE cumulative credits earned variables is 18.) (As already stated, the values assignable for overall cumulative measures were not truncated.)

Credits earned measures are not restricted to graded coursework but encompass all courses taken during high school (i.e., graded, pass/fail, credit/non-credit). This feature makes credit earned measures quality indicators of students' success in meeting curricular requirements in each of the core academic subjects during high school.

Because a value of 0 for credits earned variables indicates students either failed courses attempted or enrolled in non-credit courses in a given year, students who did not take subject-specific courses in a particular year, or never took courses in a specified subject during high school, were assigned missing values for corresponding credits earned variables. The missing value 9995 which indicates students did not receive a grade in a specified course, is not applicable to credits earned variables because students can receive credit for non-graded courses. See the section on missing codes for detailed information about specific missing values.

ii. Subject-Specific Issues

a. Math

EAMCR0 – EAMCR6, and EAMCRC

These credits earned variables measure students' math course completion rates, or the amount of math credits earned, during each year of high-school (**0-6**) and cumulatively across all years of high school. Students who took the same number of semester-length courses in math in a specified year of high school could have different values for corresponding credits earned variables depending upon how many credits they

earned for these courses. For example, students who took 2 semesters of math in the 4th year of high school course-taking and passed both would have values of 1 for **EAMCR4**. Those who failed one of the two courses would have values of .5 for **EAMCR4**, while those who failed both would have values of 0 for **EAMCR4**.

b. Science

EASCR0 – EASCR6, and EASCRC

These credit earned variables measure students' science course completion rates, or the amount of science credits earned, during each year (**0-6**) and cumulatively across all years of high school. See the above example with math credits for a description of how students who took the same number of science courses could have different values for science credits earned.

c. Overall

EAOCR0 – EAOCR6, and EAOCRC

These credits earned variables measure students' overall course completion rates, or the amount of total course credits earned (in all coursework taken including electives), during each year (**0-6**) and cumulatively across all years of high school. Students who took the same number of semesters of coursework in a specified year of high school will have different values for corresponding credits earned variables depending upon how many credits they received for these courses.

III. NAMING CONVENTIONS

A. Variable Names and Labels

Academic Courses variables were named and labeled according to a standard format:

1. Each variable consists of up to but not exceeding 8 upper-case characters.
2. The initial character of all variables is **E**, serving as a reference to the educational component of Add Health, AHAA.
3. The second character of all variables is **A**, specifying that each of these variables belongs to the Academic Courses component of the broader AHAA data set.
4. The next two characters relate to subject headings and sub-headings. The first of these two characters designates a particular subject (**M** = math, **S** = science **F** = foreign language, **E** = English, **H** = history/social sciences, **P**

= physical education, **O** = overall), while the second character is used, if necessary, to denote more content specific sub-headings (**A**, **F**, **L**, **S**, and **O** represent ‘any,’ French, Latin, Spanish and ‘other’ within the foreign language indicators; **A**, **S**, or **O** denote ‘any,’ ‘survey’ or ‘other’ within the English variables; **A** – **D** represent the various categories history/social science courses were grouped into; and **A**, **G**, **S**, **B**, **D**, and **P** classify physical education courses according to the categories of any, general, competitive sports, marching band, dance, and pep squad/cheerleading/drill team, respectively).

5. The next three characters within these variable names indicate variable type, signifying if the variable contains information about sequences (**SQ** and **SQB**), course type (**HN**, **AP** and **RM**), grade point average (**GPA**), failure rates (**FIX**), semesters attempted (**SA**), or credits earned (**CR**).
6. Some variables have an extra character on the end which denotes that the variable data corresponds to a certain year (i.e., year of high school course taking **0-6**), or that the data reflects cumulative information (**C**), or the highest level of a subject attained by the end of high school course-taking (**H**).
7. While the variable names consist of eight or fewer characters, the variable labels assigned to each Academic Courses variable can contain up to 40 characters including spaces.

B. Examples

1. Example of a Course Grade Measure

EAMGPA1 – *grade point average of math courses taken in year 1.*

This variable adheres to the conventions outlined above. The first character is **E**, a general reference to Add Health/AHAA. The second character, **A**, demonstrates that this variable contains information pertaining to the substantive Academic Courses component of Add Health/AHAA. The third character, letter **M**, identifies this variable as relating to the subject math. Notice that a second character is not needed because the label **M** for math sufficiently describes the subject covered under the variable. The next three characters, **GPA**, describe the specific type of information conveyed. In this case, the variable refers to grade point average. The last character listed for this variable is **1**, indicating that it refers to information about math course-work taken in the first year of high school.

2. Example of a Course Sequence Indicator

EASSQBH – ‘**B**’ version, highest level science course for which the student received credit by the end of high school.

Like the previously described variable, this variable begins with **E** and **A**, identifying it as (1) part of Add Health/AHAA and (2) belonging to the Academic Courses component of the Add Health/AHAA data set. The third character, letter **S**, shows that the variable contains information about the subject science. As in the first example, a second character is not needed to further describe the subject at hand because the letter **S** for science provides adequate detail. The letters **SQB** indicate that these are the variables for the ‘**B**’ version of science course sequences. More specifically, they indicate that the variable captures information about the highest level of science each student received credit for in a specified time interval. The ending letter **H** tells the analyst that the variable contains data about the highest science level attained by students at the end of high school course-taking.

C. Data File Names

The Academic Courses component data files were named in accordance with the following conventions:

1. Data file name begins with the prefix **edu**.
2. The remaining characters describe the academic subject(s) and corresponding variables included in the data file.

IV. MISSING CODES

A. Description of Missing Codes

1. 9991: No transcript data exists for a given student
2. 9992: Add Health/AHAA respondent’s transcript reflects no course data in a given year
3. 9993: Respondent never took a given subject throughout her/his high school career
4. 9994: Transcript indicates that no subject-specific course was taken in a given year but shows that courses in the specific subject were taken in other years
5. 9995: Transcript does not have a typical grade (A, B, C, D, F) for a subject-specific course in a given year

B. Variable-Specific Considerations

1. Year 0 Variables

Students whose transcripts did not list any course work taken prior to actual high school enrollment are assigned the missing value 9992 for all year 0 variables.

2. Semesters Attempted Variables

Students cannot receive a missing value of 9994 (indicates no subject-specific course was taken in a given year) for semesters attempted variables. Instead, students who did not take subject-specific courses in a given year, but took courses in this subject in other years were assigned a value of 0 for corresponding semesters attempted variables.

3. Credit Earned Variables

Because a value of 0 for credits earned variables indicates students either failed courses attempted or took non-credit courses in a given year, students who did not enroll in subject-specific courses in a particular year but who took courses in the specified subject in other years are assigned the missing value 9994. The missing value 9995 (student did not receive a *grade* in a specified course) is not applicable for credit earned variables, because students can receive credit for non-graded courses.

V. DATA FILE INVENTORY

All students with course-level information are included in each of these Academic Courses data files listed below.

A. edumsov – this data file contains indicators that capture information about students' math, science, and overall academic experiences and achievement. Indicator order: Course sequence (regular and 'B' versions), course grades (GPA), course failures (failure index measures), semesters attempted, and credits earned.

B. edueng – this data set consists of English Academic Courses indicators. Indicator order: Course type, course grades (GPA), course failures (failure index measures), semesters attempted, and credits earned.

C. eduflng – this data set contains foreign language Academic Courses indicators. Indicator order: Course sequence (no 'B' version), course type, course grades (GPA), course failures (failure index measures), semesters attempted, and credits earned.

D. eduhis – this data file consists of history/social sciences Academic Courses indicators. Indicator order: Course type, course grades (GPA), course failures (failure index measures), semesters attempted, and credits earned.

E, edupe – this data file contains the physical education Academic Courses indicators. Indicator order: Course type, course grades (GPA), and credits earned.

VI. QUICK REFERENCE GUIDE

Math, Science, and Overall Math and Science Course Indicators

1. Course Sequence Indicators

i. Math

EAMSQ(0-6) Ordinal variables that represent the highest level math course taken in each year of students' high school course-taking.

EAMSQH Highest level math course taken by the end of high school.

ii. Math B Version

EAMSQB(1-6) Ordinal variables that represent the highest level math course for which a student receives credit in each year.

EAMSQBH Highest level math course for which the student received credit by the end of high school.

iii. Science

EASSQ(0-6) Ordinal variables that represent the highest level science course taken in each year of students' high school course taking.

EASSQH Highest level science course taken by the end of high school.

iv. Science B Version

EASSQB(1-6) Ordinal variables that represent the highest level science course for which a student receives credit in each year.

EASSQBH Highest level science course for which the student received credit by the end of high school.

2. Course Grades Indicators

i. Math

EAMGPA(0-6) Grade point average for math courses in each year of high school course taking **(0-6)**.

EAMGPAC Grade point average for math courses cumulatively across all years of high school.

ii. Science

EASGPA(0-6) Grade point average for science courses in each year of high school course taking **(0-6)**.

EASGPAC Grade point average for science courses cumulatively across all years of high school.

iii. All Courses

EAOGPA(0-6) Grade point average for all courses including non-core or non-academic courses in each year of high school course taking **(0-6)**.

EAOGPAC Grade point average for all courses including non-core or non-academic courses cumulatively across all years of high school.

3. Course Failures – Failure Index Measures

i. Math Failure

EAMFIX(1-6) Proportion of math courses students failed in each year of high school course-taking **(1-6)**.

EAMFIXC Proportion of math courses students failed cumulatively across all years of high school.

ii. Science Failure

EASFIX(1-6) Proportion of science courses students failed in each year of high school course-taking **(1-6)**.

EASFIXC Proportion of science courses students failed cumulatively across all years of high school.

iii. All Courses

EAOFIX(1-6) Proportion of all courses including non-core or non-academic courses students failed in each year of high school course-taking **(1-6)**.

EAOFIXC Proportion of all courses including non-core or non-academic courses students failed cumulatively across all years of high school.

4. Semesters Attempted Variables

i. Math

EAMSA(1-6) Quantity of semester-length math courses students took in each year (1-6), regardless of how courses were taken (pass/fail, graded, non-credit) and regardless of whether credit was earned.

EAMSAC Quantity of semester-length math courses students took cumulatively across all years of high school.

ii. Science

EASSA(1-6) Quantity of semester-length science courses students took in each year (1-6), regardless of how courses were taken (pass/fail, graded, non-credit) and regardless of whether credit was earned.

EASSAC Quantity of semester-length science courses students took cumulatively across all years of high school.

iii. Overall

EAOSA(1-6) Total quantity of semester-length non-core or non-academic courses students took in each year (1-6), regardless of how courses were taken (pass/fail, graded, non-credit) and regardless of whether credit was earned.

EAOSAC Total quantity of semester-length non-core or non-academic courses students took cumulatively across all years of high school.

5. Credits Earned Indicators

i. Math

EAMCR(0-6) Amount of math credits earned during each year of high-school (0-6).

EAMCRC Credits earned for math courses cumulatively across all years of high school.

ii. Science

EASCR(0-6) Amount of science credits earned during each year of high-school (0-6).

EASCRC Credits earned for science courses cumulatively across all years of high school.

iii. Overall

EAOCR(0-6) Amount of overall credits earned during each year of high-school (0-6).

EAOCRC Students' overall credits earned cumulatively across all years of high school.

Education Data - Math, Science, and Overall Courses

Education - Math, Science, and Overall Courses

aid		Str 8	RESPONDENT IDENTIFIER NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
1	0.0%	10316654	
1	0.0%	10316952	
1	0.0%	10506342	
1	0.0%	10606128	
1	0.0%	11316754	
12227	99.9%	11316958-99719976	NOTE: Range of values omitted from display
1	0.0%	99886991	
1	0.0%	99886994	
1	0.0%	99886995	
1	0.0%	99886996	
1	0.0%	99886999	

eamsa1		Num 2	Attempted Math Semesters Year 1
Frequency	Percent	Value	Label
266	2.2%	0	0
466	3.8%	1	1
9648	78.8%	2	2
886	7.2%	3	3
785	6.4%	4	4
36	0.3%	5	5
58	0.5%	6	6
92	0.8%	9993	No math courses on transcript in any year

eamsa2		Num 2	Attempted Math Semesters Year 2
Frequency	Percent	Value	Label
359	2.9%	0	0
654	5.3%	1	1
9289	75.9%	2	2
823	6.7%	3	3
721	5.9%	4	4
19	0.2%	5	5
36	0.3%	6	6
301	2.5%	9992	No course-taking data in specific year
35	0.3%	9993	No math courses on transcript in any year

eamsa3		Num 2	Attempted Math Semesters Year 3
Frequency	Percent	Value	Label
1142	9.3%	0	0
954	7.8%	1	1
7884	64.4%	2	2
776	6.3%	3	3
647	5.3%	4	4
36	0.3%	5	5
45	0.4%	6	6
724	5.9%	9992	No course-taking data in specific year
29	0.2%	9993	No math courses on transcript in any year

eamsa4		Num 2	Attempted Math Semesters Year 4
Frequency	Percent	Value	Label
3655	29.9%	0	0
1322	10.8%	1	1
5002	40.9%	2	2
379	3.1%	3	3
480	3.9%	4	4
35	0.3%	5	5
35	0.3%	6	6
1306	10.7%	9992	No course-taking data in specific year
23	0.2%	9993	No math courses on transcript in any year

eamsa5		Num 2	Attempted Math Semesters Year 5
Frequency	Percent	Value	Label
238	1.9%	0	0
108	0.9%	1	1
233	1.9%	2	2
11655	95.2%	9992	No course-taking data in specific year
3	0.0%	9993	No math courses on transcript in any year

eamsa6		Num 2	Attempted Math Semesters Year 6+
Frequency	Percent	Value	Label
46	0.4%	0	0
21	0.2%	1	1
36	0.3%	2	2
12133	99.2%	9992	No course-taking data in specific year
1	0.0%	9993	No math courses on transcript in any year

eamsac		Num 2	Total Attempted Math Semesters Across All Years
Frequency	Percent	Value	Label
70	0.6%	1	1
232	1.9%	2	2
182	1.5%	3	3
919	7.5%	4	4
614	5.0%	5	5
2471	20.2%	6	6
1155	9.4%	7	7
3841	31.4%	8	8
918	7.5%	9	9
1074	8.8%	10	10
228	1.9%	11	11
260	2.1%	12	12
57	0.5%	13	13
62	0.5%	14	14
13	0.1%	15	15
49	0.4%	16	16
92	0.8%	9993	No math courses on transcript in any year

eassa1		Num 2	Attempted Science Semesters Year 1
Frequency	Percent	Value	Label
1685	13.8%	0	0
539	4.4%	1	1
9259	75.7%	2	2
291	2.4%	3	3
247	2.0%	4	4
32	0.3%	5	5
17	0.1%	6	6
167	1.4%	9993	No science courses on transcript in any year

eassa2		Num 2	Attempted Science Semesters Year 2
Frequency	Percent	Value	Label
677	5.5%	0	0
612	5.0%	1	1
9644	78.8%	2	2
441	3.6%	3	3
425	3.5%	4	4
25	0.2%	5	5
22	0.2%	6	6
301	2.5%	9992	No course-taking data in specific year
90	0.7%	9993	No science courses on transcript in any year

eassa3		Num 2	Attempted Science Semesters Year 3
Frequency	Percent	Value	Label
2215	18.1%	0	0
836	6.8%	1	1
7304	59.7%	2	2
401	3.3%	3	3
626	5.1%	4	4
24	0.2%	5	5
42	0.3%	6	6
724	5.9%	9992	No course-taking data in specific year
65	0.5%	9993	No science courses on transcript in any year

eassa4		Num 2	Attempted Science Semesters Year 4
Frequency	Percent	Value	Label
5045	41.2%	0	0
1051	8.6%	1	1
3973	32.5%	2	2
257	2.1%	3	3
475	3.9%	4	4
25	0.2%	5	5
51	0.4%	6	6
1306	10.7%	9992	No course-taking data in specific year
54	0.4%	9993	No science courses on transcript in any year

eassa5		Num 2	Attempted Science Semesters Year 5
Frequency	Percent	Value	Label
311	2.5%	0	0
87	0.7%	1	1
179	1.5%	2	2
11655	95.2%	9992	No course-taking data in specific year
5	0.0%	9993	No science courses on transcript in any year

eassa6		Num 2	Attempted Science Semesters Year 6+
Frequency	Percent	Value	Label
60	0.5%	0	0
11	0.1%	1	1
31	0.3%	2	2
12133	99.2%	9992	No course-taking data in specific year
2	0.0%	9993	No science courses on transcript in any year

eassac		Num 2	Total Attempted Science Semesters Across All Years
Frequency	Percent	Value	Label
85	0.7%	1	1
411	3.4%	2	2
255	2.1%	3	3
2044	16.7%	4	4
855	7.0%	5	5
3711	30.3%	6	6
749	6.1%	7	7
2635	21.5%	8	8
324	2.6%	9	9
638	5.2%	10	10
81	0.7%	11	11
156	1.3%	12	12
27	0.2%	13	13
59	0.5%	14	14
5	0.0%	15	15
35	0.3%	16	16
167	1.4%	9993	No science courses on transcript in any year

eaosa1		Num 1	Overall Attempted Semesters Year 1 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
41	0.3%	1	1
128	1.0%	2	2
19	0.2%	3	3
45	0.4%	4	4
19	0.2%	5	5
11421	93.3%	6-19	NOTE: Range of values omitted from display
307	2.5%	20	20
21	0.2%	21	21
129	1.1%	22	22
6	0.0%	23	23
101	0.8%	24	24

eaosa2		Num 2	Overall Attempted Semesters Year 2 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
18	0.1%	1	1
38	0.3%	2	2
10	0.1%	3	3
15	0.1%	4	4
18	0.1%	5	5
11610	94.9%	6-20	NOTE: Range of values omitted from display
24	0.2%	21	21
89	0.7%	22	22
14	0.1%	23	23
100	0.8%	24	24
301	2.5%	9992	No course-taking data in specific year

eaosa3		Num 2	Overall Attempted Semesters Year 3 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
9	0.1%	1	1
48	0.4%	2	2
13	0.1%	3	3
30	0.2%	4	4
41	0.3%	5	5
11147	91.1%	6-20	NOTE: Range of values omitted from display
33	0.3%	21	21
82	0.7%	22	22
6	0.0%	23	23
104	0.8%	24	24
724	5.9%	9992	No course-taking data in specific year

eaosa4		Num 2	Overall Attempted Semesters Year 4 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
20	0.2%	1	1
64	0.5%	2	2
29	0.2%	3	3
94	0.8%	4	4
94	0.8%	5	5
10312	84.3%	6-20	NOTE: Range of values omitted from display
34	0.3%	21	21
133	1.1%	22	22
13	0.1%	23	23
138	1.1%	24	24
1306	10.7%	9992	No course-taking data in specific year

eaosa5		Num 2	Overall Attempted Semesters Year 5
Frequency	Percent	Value	Label
21	0.2%	1	1
33	0.3%	2	2
16	0.1%	3	3
20	0.2%	4	4
16	0.1%	5	5
46	0.4%	6	6
23	0.2%	7	7
34	0.3%	8	8
19	0.2%	9	9
36	0.3%	10	10
32	0.3%	11	11
79	0.6%	12	12
32	0.3%	13	13
56	0.5%	14	14
18	0.1%	15	15
27	0.2%	16	16
13	0.1%	17	17
61	0.5%	18	18
11655	95.2%	9992	No course-taking data in specific year

eaosa6		Num 2	Overall Attempted Semesters Year 6+
Frequency	Percent	Value	Label
6	0.0%	1	1
12	0.1%	2	2
6	0.0%	3	3
80	0.7%	4	4
12133	99.2%	9992	No course-taking data in specific year

eaosac		Num 1	Total Overall Attempted Semesters Across All Years NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
8	0.1%	1	1
33	0.3%	2	2
1	0.0%	3	3
5	0.0%	4	4
6	0.0%	5	5
11863	96.9%	6-75	NOTE: Range of values omitted from display
66	0.5%	76	76
15	0.1%	77	77
49	0.4%	78	78
10	0.1%	79	79
181	1.5%	80	80

eamcr0		Num 8	Math Credits Earned Year 0
Frequency	Percent	Value	Label
6	0.0%	.25	.25
48	0.4%	.5	.5
351	2.9%	1	1
2	0.0%	1.5	1.5
13	0.1%	2	2
11471	93.7%	9992	No course-taking data in specific year
346	2.8%	9994	No math course in specific year

eamcr1		Num 8	Math Credits Earned Year 1 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
790	6.5%	0	0
1	0.0%	.05	.05
1	0.0%	.1	.1
1	0.0%	.15	.15
2	0.0%	.2	.2
11079	90.5%	.25-3.7	NOTE: Range of values omitted from display
2	0.0%	4	4
2	0.0%	5	5
1	0.0%	6	6
92	0.8%	9993	No math courses on transcript in any year
266	2.2%	9994	No math course in specific year

eamcr2		Num 8	Math Credits Earned Year 2 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
1021	8.3%	0	0
1	0.0%	.1	.1
5	0.0%	.2	.2
11	0.1%	.25	.25
1	0.0%	.3	.3
10488	85.7%	.33-2.5	NOTE: Range of values omitted from display
14	0.1%	3	3
1	0.0%	4	4
301	2.5%	9992	No course-taking data in specific year
35	0.3%	9993	No math courses on transcript in any year
359	2.9%	9994	No math course in specific year

eamcr3		Num 8	Math Credits Earned Year 3 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
950	7.8%	0	0
1	0.0%	.05	.05
1	0.0%	.1	.1
1	0.0%	.15	.15
1	0.0%	.198	.198
9386	76.7%	.2-4	NOTE: Range of values omitted from display
1	0.0%	4.4	4.4
1	0.0%	5	5
724	5.9%	9992	No course-taking data in specific year
29	0.2%	9993	No math courses on transcript in any year
1142	9.3%	9994	No math course in specific year

eamcr4		Num 8	Math Credits Earned Year 4 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
666	5.4%	0	0
2	0.0%	.05	.05
5	0.0%	.1	.1
1	0.0%	.12	.12
1	0.0%	.15	.15
6576	53.7%	.198-4	NOTE: Range of values omitted from display
1	0.0%	5.5	5.5
1	0.0%	6	6
1306	10.7%	9992	No course-taking data in specific year
23	0.2%	9993	No math courses on transcript in any year
3655	29.9%	9994	No math course in specific year

eamcr5		Num 8	Math Credits Earned Year 5
Frequency	Percent	Value	Label
55	0.4%	0	0
1	0.0%	.1	.1
1	0.0%	.12	.12
3	0.0%	.25	.25
1	0.0%	.3	.3
2	0.0%	.4	.4
102	0.8%	.5	.5
1	0.0%	.7	.7
3	0.0%	.8	.8
134	1.1%	1	1
1	0.0%	1.1	1.1
2	0.0%	1.25	1.25
21	0.2%	1.5	1.5
9	0.1%	2	2
3	0.0%	2.5	2.5
1	0.0%	3	3
1	0.0%	3.5	3.5
11655	95.2%	9992	No course-taking data in specific year
3	0.0%	9993	No math courses on transcript in any year
238	1.9%	9994	No math course in specific year

eamcr6		Num 8	Math Credits Earned Year 6+
Frequency	Percent	Value	Label
5	0.0%	0	0
1	0.0%	.2	.2
3	0.0%	.25	.25
20	0.2%	.5	.5
1	0.0%	.6	.6
19	0.2%	1	1
2	0.0%	1.5	1.5
2	0.0%	2	2
1	0.0%	2.25	2.25
1	0.0%	2.5	2.5
1	0.0%	3	3
1	0.0%	4	4
12133	99.2%	9992	No course-taking data in specific year
1	0.0%	9993	No math courses on transcript in any year
46	0.4%	9994	No math course in specific year

eamcr		Num 8	Total Math Credits Earned Across All Years NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
250	2.0%	0	0
1	0.0%	.05	.05
1	0.0%	.1	.1
3	0.0%	.15	.15
2	0.0%	.25	.25
11877	97.1%	.3-7.33	NOTE: Range of values omitted from display
4	0.0%	7.5	7.5
2	0.0%	8.5	8.5
4	0.0%	9	9
1	0.0%	11.666666666666666	11.666666666666666
92	0.8%	9993	No math courses on transcript in any year

easr0		Num 8	Science Credits Earned Year 0
Frequency	Percent	Value	Label
1	0.0%	.05	.05
14	0.1%	.5	.5
80	0.7%	1	1
2	0.0%	1.5	1.5
1	0.0%	2	2
11471	93.7%	9992	No course-taking data in specific year
1	0.0%	9993	No science courses on transcript in any year
667	5.5%	9994	No science course in specific year

eascr1		Num 8	Science Credits Earned Year 1 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
689	5.6%	0	0
1	0.0%	.1	.1
6	0.0%	.2	.2
8	0.1%	.25	.25
1	0.0%	.33	.33
9676	79.1%	.4-3.7	NOTE: Range of values omitted from display
2	0.0%	5	5
1	0.0%	5.5	5.5
1	0.0%	6	6
167	1.4%	9993	No science courses on transcript in any year
1685	13.8%	9994	No science course in specific year

eascr2		Num 8	Science Credits Earned Year 2 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
808	6.6%	0	0
2	0.0%	.1	.1
1	0.0%	.15	.15
1	0.0%	.1666666666666666	.1666666666666666
10	0.1%	.25	.25
10345	84.5%	.3-3	NOTE: Range of values omitted from display
1	0.0%	3.5	3.5
1	0.0%	5.5	5.5
301	2.5%	9992	No course-taking data in specific year
90	0.7%	9993	No science courses on transcript in any year
677	5.5%	9994	No science course in specific year

eascr3		Num 8	Science Credits Earned Year 3 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
736	6.0%	0	0
1	0.0%	.15	.15
1	0.0%	.198	.198
2	0.0%	.2	.2
8	0.1%	.25	.25
8483	69.3%	.3-4.5	NOTE: Range of values omitted from display
1	0.0%	5	5
1	0.0%	5.2	5.2
724	5.9%	9992	No course-taking data in specific year
65	0.5%	9993	No science courses on transcript in any year
2215	18.1%	9994	No science course in specific year

eascr4		Num 8	Science Credits Earned Year 4 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
445	3.6%	0	0
1	0.0%	.05	.05
6	0.0%	.1	.1
1	0.0%	.125	.125
1	0.0%	.132	.132
5372	43.9%	.2-3.4	NOTE: Range of values omitted from display
1	0.0%	3.6	3.6
5	0.0%	4	4
1306	10.7%	9992	No course-taking data in specific year
54	0.4%	9993	No science courses on transcript in any year
5045	41.2%	9994	No science course in specific year

eascr5		Num 8	Science Credits Earned Year 5
Frequency	Percent	Value	Label
50	0.4%	0	0
1	0.0%	.1	.1
1	0.0%	.12	.12
1	0.0%	.15	.15
1	0.0%	.4	.4
71	0.6%	.5	.5
1	0.0%	.6	.6
1	0.0%	.75	.75
114	0.9%	1	1
1	0.0%	1.2	1.2
1	0.0%	1.25	1.25
11	0.1%	1.5	1.5
1	0.0%	1.75	1.75
9	0.1%	2	2
1	0.0%	2.2	2.2
1	0.0%	3	3
11655	95.2%	9992	No course-taking data in specific year
5	0.0%	9993	No science courses on transcript in any year
311	2.5%	9994	No science course in specific year

eascr6		Num 8	Science Credits Earned Year 6+
Frequency	Percent	Value	Label
4	0.0%	0	0
2	0.0%	.25	.25
1	0.0%	.4	.4
12	0.1%	.5	.5
14	0.1%	1	1
1	0.0%	1.2	1.2
2	0.0%	1.5	1.5
3	0.0%	2	2
2	0.0%	2.5	2.5
1	0.0%	5	5
12133	99.2%	9992	No course-taking data in specific year
2	0.0%	9993	No science courses on transcript in any year
60	0.5%	9994	No science course in specific year

eascrc		Num 8	Total Science Credits Earned Across All Years NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
301	2.5%	0	0
1	0.0%	.125	.125
2	0.0%	.25	.25
1	0.0%	.32	.32
3	0.0%	.4	.4
11744	96.0%	.45-7.8	NOTE: Range of values omitted from display
14	0.1%	8	8
1	0.0%	8.5	8.5
2	0.0%	9	9
1	0.0%	10	10
167	1.4%	9993	No science courses on transcript in any year

eaocr0		Num 8	Overall Credits Earned Year 0
Frequency	Percent	Value	Label
1	0.0%	.05	.05
7	0.1%	.25	.25
4	0.0%	.3	.3
1	0.0%	.4	.4
105	0.9%	.5	.5
1	0.0%	.55	.55
1	0.0%	.66	.66
1	0.0%	.75	.75
424	3.5%	1	1
22	0.2%	1.5	1.5
124	1.0%	2	2
1	0.0%	2.04	2.04
9	0.1%	2.5	2.5
37	0.3%	3	3
2	0.0%	3.5	3.5
26	0.2%	4	4
11471	93.7%	9992	No course-taking data in specific year

eaocr1		Num 8	Overall CreditsEarned Year 1 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
122	1.0%	0	0
1	0.0%	.2	.2
11	0.1%	.25	.25
64	0.5%	.5	.5
1	0.0%	.55	.55
12031	98.3%	.575-24	NOTE: Range of values omitted from display
1	0.0%	24.75	24.75
1	0.0%	26	26
1	0.0%	26.5	26.5
3	0.0%	27	27
1	0.0%	35	35

eaocr2		Num 8	Overall CreditsEarned Year 2 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
131	1.1%	0	0
1	0.0%	.12	.12
1	0.0%	.1666666666666666	.1666666666666666
2	0.0%	.2	.2
8	0.1%	.25	.25
11787	96.3%	.3-16.5	NOTE: Range of values omitted from display
1	0.0%	17	17
1	0.0%	17.676666666666666	17.676666666666666
2	0.0%	18	18
2	0.0%	20	20
301	2.5%	9992	No course-taking data in specific year

eaocr3		Num 8	Overall CreditsEarned Year 3 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
135	1.1%	0	0
8	0.1%	.25	.25
1	0.0%	.4	.4
49	0.4%	.5	.5
1	0.0%	.62	.62
11315	92.5%	.7-16.599999999999999	NOTE: Range of values omitted from display
1	0.0%	17	17
1	0.0%	17.2	17.2
1	0.0%	18.5	18.5
1	0.0%	19	19
724	5.9%	9992	No course-taking data in specific year

eaocr4		Num 8	Overall Credits Earned Year 4 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
137	1.1%	0	0
1	0.0%	.16	.16
3	0.0%	.25	.25
1	0.0%	.3	.3
1	0.0%	.4	.4
10780	88.1%	.5-14.5	NOTE: Range of values omitted from display
3	0.0%	15	15
1	0.0%	15.7	15.7
3	0.0%	16	16
1	0.0%	16.5	16.5
1306	10.7%	9992	No course-taking data in specific year

eaocr5		Num 8	Overall Credits Earned Year 5 NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
34	0.3%	0	0
1	0.0%	.3	.3
1	0.0%	.4	.4
20	0.2%	.5	.5
1	0.0%	.6	.6
521	4.3%	.75-11	NOTE: Range of values omitted from display
1	0.0%	12.5	12.5
1	0.0%	13	13
1	0.0%	13.15	13.15
1	0.0%	13.35	13.35
11655	95.2%	9992	No course-taking data in specific year

eaocr6		Num 8	Overall CreditsEarned Year 6+ NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
5	0.0%	0	0
3	0.0%	.25	.25
1	0.0%	.3	.3
7	0.1%	.5	.5
12	0.1%	1	1
72	0.6%	1.2-12	NOTE: Range of values omitted from display
1	0.0%	13	13
1	0.0%	14.25	14.25
1	0.0%	19.5	19.5
1	0.0%	31	31
12133	99.2%	9992	No course-taking data in specific year

eaocrc		Num 8	Total Overall Credits Earned Across All Years NOTE: Smallest 5 and largest 5 values are displayed.
Frequency	Percent	Value	Label
64	0.5%	0	0
4	0.0%	.25	.25
20	0.2%	.5	.5
1	0.0%	.7	.7
35	0.3%	1	1
12108	98.9%	1.25-38	NOTE: Range of values omitted from display
1	0.0%	39	39
1	0.0%	39.5	39.5
1	0.0%	42	42
1	0.0%	42.5	42.5
1	0.0%	49.25	49.25