Shortcut: Create, Save, or Upload Variables

This chapter contains detailed instructions for creating, modifying, and saving a list of variables for use in the IPEDS Data Center’s Compare Institutions and Statistical Tables functions. These variables can also be used to create comparison groups of institutions. This section will also show how to save and upload the saved variables for subsequent data center sessions.

IPEDS variables are the units of data collected annually from all providers of postsecondary education in the United States. They are criteria for comparing, analyzing, and evaluating institutions in the IPEDS Data Center. Variables cover a wide-range of topics, including basic institutional characteristics, admissions, cost of attendance, enrollment, graduation and retention rates, number of postsecondary awards earned (completions), student financial aid, institutional finances, and human resources.

Step 1: Getting Started

To get started creating a list of variables you may select a task from the Main Menu or create a list of variables without going to a task by selecting the Create, Save, Upload a list of variables from the Shortcuts menu. Use Create, Save, Upload /Download a list of variables for the option to download your list of variables. To select variables within a task use the Table of Contents to determine which chapter of this manual matches your selected task and proceed to that chapter. Refer back to this chapter when you have reached the step in your task for selecting variables.

There are several options available for selecting variables. It is a good idea to familiarize yourself with each method (visit the corresponding section or click on the links below to learn more about each):

- Browse/Search Variables
- Create Derived Variables
- Upload Variables

As variables are selected they will be stored in the My Variables list for easy access during the current Data Center session. This list can be modified at any time or saved for future use in subsequent Data Center sessions. Visit the additional sections in this chapter listed below for more information or click on the links below to learn more about each:

- Modifying a List of Variables
- Downloading a List of Variables

Critical information

Not all IPEDS variables are compatible with all reports. For example, categorical variables such as geographic region cannot be used in Statistics reports, and will not appear in the variable tree under those options. The variable count will reflect both the total number of variables selected, and the number that can be used in the current report.

Step 2: Browse / Search Variables
Select this option to browse a list of IPEDS variables or search for variables by name or keyword.

You may access this option at any time by clicking on the Browse/Search Variables link from the Select Variables toolbar. The IPEDS Variable Tree will be displayed, as shown below:

The IPEDS Variable Tree is comprised of all existing IPEDS variables, for all available data years, categorized by the IPEDS survey from which the data were collected.

You may search for variables by full name, partial name, or keyword. Enter your search criteria in the Search for a Variable box, as shown below. A list of potential matches will display as text is entered:

**Hints & Tips**

When searching for variables by keyword, keep the search criteria as simple as possible. Try limiting entries to just one or two key terms, such as “enrollment” or “admissions yield” in order to return the most comprehensive list of search results possible.

You can browse the tree by, clicking on the
When using the variable tree, the IPEDS Survey categories may be used for guidance. Variables are broadly grouped into the following categories:

<table>
<thead>
<tr>
<th>Survey Categories</th>
<th>Category Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequently Used and Derived</td>
<td>Includes the most commonly referenced or derived variables in the IPEDS universe. Start your search here – you may be able to find the desired data among this list of frequently used variables.</td>
</tr>
<tr>
<td>Variables</td>
<td></td>
</tr>
<tr>
<td>Institutional Characteristics</td>
<td>Includes variables related to basic institutional data and directory information such as:</td>
</tr>
<tr>
<td></td>
<td>• Address, telephone number, and website.</td>
</tr>
<tr>
<td></td>
<td>• Educational offerings and mission statements;</td>
</tr>
<tr>
<td></td>
<td>• Control/affiliation, award levels offered, calendar system.</td>
</tr>
<tr>
<td></td>
<td>• Student charges, including tuition and required fees and room and board charges for institutions with full-time, first-time degree/certificate-seeking undergraduate students.</td>
</tr>
<tr>
<td>Admissions and Test Scores</td>
<td>Includes variables related to admissions considerations and requirements, the number of applicants, admissions, and subsequent enrollees during a specified data year, and 25th and 75th percentile SAT and ACT test scores of applicants.</td>
</tr>
<tr>
<td>Student Charges</td>
<td>Includes variables related to institutional cost of attendance including tuition and required fees, room and board charges, cost of books and supplies, and misc. expenses.</td>
</tr>
<tr>
<td>Fall Enrollment</td>
<td>Includes variables related to fall enrollment for all students enrolled in credit-bearing courses/programs which could potentially lead to awards ranging from postsecondary certificates of less than 1 year to doctoral degrees such as:</td>
</tr>
<tr>
<td></td>
<td>• The number of full-time and part-time students enrolled at an institution in the fall broken down by various demographics such as race/ethnicity, gender, age, level of study, and major field of study.</td>
</tr>
<tr>
<td>12-Month Enrollment</td>
<td>Includes variables related to 12-month enrollment data collected for undergraduate and graduate levels. The 12-month reporting period is July 1-June 30. Data collected/calculated includes:</td>
</tr>
</tbody>
</table>
- 12-month unduplicated headcounts broken down by level of student and by race/ethnicity and gender,
- 12-month Instructional activity (contact or credit hours); and
- Full-time equivalent (FTE) enrollment (calculated based on instructional activity).

FTE is used in computing expenses by function per FTE and revenues per FTE, which are reported on the IPEDS Data Feedback Report.

Completions
Includes variables related to award levels ranging from postsecondary certificates of less than 1 year to doctoral degrees such as:
- Degree completions by level and other formal awards by length of program, by race/ethnicity and gender of recipient, and by program (6-digit CIP code).
- Data on the number of completers at an institution by gender, by race and ethnicity, and by age. These data are collected at the total as well as by award level.

Retention rates,
Entering Class and
Student to faculty ratio
Includes retention rates for the full-time and part-time fall cohort.

Graduation Rates
Includes graduation data for full-time, first-time degree/certificate seeking undergraduate students such as variables related to:
- The number of students who graduate within 150% of the normal time, by race/ethnicity and gender
- The number of students receiving a Bachelor’s or equivalent degree within a 4-year, 5-year, or 6-year time period, by race/ethnicity and gender
- The number of students receiving athletically related student aid, and graduation rate data for these students.

Student Financial Aid and Net Price
Includes financial aid data collected for full-time, first-time degree/certificate seeking undergraduate students such as variables related to federal grants, state and local government grants, institutional grants, loans, the number of students receiving each type of assistance, and the average amount of assistance received.

Finance
This includes data related to the financial condition of the institution such as:
- Revenues by source (e.g., tuition and fees, government grants and contracts, private gifts);
- Expenses by function (e.g., instruction, research, academic support, institutional support);
- Assets and liabilities
- Scholarships and fellowships

Human Resources
Includes variables related to institutional staffing and salaries, such as:
• The number of full-time and part-time institutional staff by function/occupational category.
• The number of full-time faculty broken down by contract length and salary class intervals.
• Tenure of full-time faculty by academic rank.
• Total and average salary outlays for full-time instructional faculty by academic rank.

Hints & Tips

When browsing the tree, notice that variables are not listed in alphabetical order, but rather in the order in which they appear in the related IPEDS survey.

Within each category, colors are used to identify variables as Continuous, Alpha/String, or Categorical. For convenience, a “key” is provided at the top of the Select Variables toolbar to help you quickly and easily identify the different types of variable, as shown below:

A **Continuous variable** can take on any possible value within the limits of the variable range (such as total student enrollment or salary outlays of full-time instructional staff);

An **Alpha/String variable** has a unique, alpha-numeric value gathered from a single source (such as institution name or street address); and

A **Categorical variable** can only take on one of a fixed set of possible values (such as sector of institution or geographic region).

To view a detailed description of any variable, click on the adjacent icon. A pop-up screen will appear containing a description of the variable, its IPEDS survey source, the variable value set (for categorical variables such as geographic region, sector of institution, etc.), and value statistics, where available.

To make a selection, complete all steps for your chosen variable. Multiple variables can be selected from different sections of the tree, as shown below: Some variables require additional Qualifying Variables to be selected in order to further define the selected data items. These variables incorporate an alternate three-step selection process, as shown below:
Click on the corresponding links in **Step 2: Select Qualifying Variables** to specify values for each of the additional data elements indicated. When the related pop-up screen appears, select one or more values of interest from the list of available options, as shown below:

In addition, you can search for values by name (or partial name) by entering criteria in the **Enter Search Terms** box. As shown below, a list of potential matches will be displayed as text is entered:
Once a selection has been made, click to save all entries and close the pop-up screen. You may reopen this window at any time to modify the selected values. As variables are chosen, a count of the selections will appear next to each data element:

**Critical Information**

It is important to make sure that values have been entered for each of the data elements indicated. Otherwise an error will occur, and you will be prompted to fill in the missing values before continuing.

When finished, click **Continue**. The specified variables will be added to the **My Variables** list, as shown below:
Step 3: Create Derived Variables

The **Create Derived Variables** option allows you to make new, custom variables through addition, subtraction, or ratio of the existing IPEDS survey variables. For example, you might divide the average amount of institutional grant aid received by students at an institution by the total price of attendance in order to compute the percentage of costs typically met by such funding.

To access this option, click on the **Create Derived Variables** link from the **Select Variables** toolbar, as shown below:

**Hints & Tips**

Before creating a new derived variable, check the Frequently Used / Derived Variables section of the IPEDS Variable Tree. This section of the tree contains some of the most commonly referenced or derived variables in the IPEDS universe. As such, the data of interest may already be available there.
When creating a derived variable, the first step is to specify the type of calculation to perform:

**To create a variable, select the calculation type, then click Continue.**

**Derived Variables**

**Calculation Type:**  
- Summation  
- Difference  
- Ratio

Click on the option button for one of the following types; then click Continue.

**Summation**

This option allows you to combine the values of two or more IPEDS variables. For example, you might add the number of Bachelor’s degrees awarded in Engineering, Biology, Math, and Physical Science to compute the total number of B.S. degrees awarded in Math and Sciences.

**Difference**

This option allows you to subtract the value of one IPEDS variable from another. For example, you might subtract the number of students admitted to an institution in a specified academic year from the number that applied in order to determine the number of applicants that were denied admission.

**Ratio**

This option allows you to divide the value of one IPEDS variable by another. For example, you might divide institutional expenditures related to salaries and wages by total expenses in order to derive the percentage of operating costs allocated to salaries at a selected institution.

Once the calculation type has been identified, the next step is to choose the variables to use to define the derived variable. By default, the IPEDS Variable Tree is displayed. You may browse the list of IPEDS variables, upload variables, choose from any variables currently in your My Variables list, or search for variables by name or keyword, as shown below:

When uploading or choosing from My Variables, you may select a different way to select variables by clicking on the button at any time, as shown below. If you no longer wish to create a derived variable, use the click here link to return to the main Select Variables toolbar, also shown below:
Once you have chosen your variables, continue on to the section that corresponds with the type of derived variable you are creating (or use the links below):

- Summation Variables
- Difference Variables
- Ratio Variables

3.1 Summation Variables

To calculate a summation variable, click on the corresponding checkboxes to select the variables to combine; then click **Continue**. A pop-up screen will appear to enter a name for the variable (required) and an optional description, as shown below:

When satisfied with the entries, click Finish. The derived variable will be added to the My Variables list, as shown below:
3.2 Difference Variables

To calculate a difference variable, click on the corresponding option buttons to select the A and B components of the derived variable. In this case, the A component is the original value to subtract from, and the B component is the value to take away, as shown below. Once both components of the derived variable have been identified, click Continue; a pop-up screen will appear to enter a name for the variable (required) and an optional description, as shown below:

When you are satisfied with all entries, click Finish. The derived variable will be added to the My Variables list, as shown below:
3.3 Ratio Variables

To calculate a ratio variable, click on the corresponding option buttons to select the A and B components of the derived variable. In this case, the A component serves as the numerator and the B component as the denominator of the derived variable, as shown below. When finished click Continue; a pop-up screen will appear to enter a name for the variable (required) and an optional description, as shown below:

When satisfied with the entries, click Finish. The derived variable will be added to the My Variables list, as shown below:
Step 4: Upload Variables

If you have a previously saved list of variables, you may upload this list at any time in your current Data Center session. Uploading a list of variables to your current Data Center session will overwrite any variables you have already selected.

To upload a list of variables navigate to the Select Variables tab in your current task; then, click on the Upload Variables link from the Select Variables toolbar, as shown below:

Critical Information

A Power User account is required to upload Variable List files to the Data Center. Click on the link to Login, and then enter the User Name and Password when prompted. To obtain a Power User account click on Login then click the link to Create an account.

Once you have logged in, retrieve the file by entering the complete path and filename in the box provided, as shown below; or use the Browse button to locate the file on the computer’s hard drive. Variable List files will have a filename extension of .mvl.

Step 5: Modifying a List of Variables
As variables are selected, they are added to the **My Variables** list. The variables in this list are stored throughout the current Data Center session for use with any generated data files or reports. Add more variables to the list at any time by navigating to the **Select Variables** tab. Click directly on the tab or use the button shown below to access the Select Variables toolbar and your current **My Variables** list.

**Critical Information**

Click on the active column headers to sort the list by variable. When browsing the tree, notice that variables are not listed in alphabetical order, but rather in the order in which they appear in the related IPEDS survey.

You may add to this list or make changes at any time. The following actions are available for modifying the list of variables:

- Select this option to **add or delete** data years for all variables from a particular file. When the related pop-up screen is displayed, click on the corresponding checkboxes to select/unselect data years for the specified file. When finished, click Save to apply these changes and return to the **My Variables** list.

- Select this option to **edit** the selected data years for a single variable. When the related pop-up screen is displayed, click on the corresponding checkboxes to select/unselect data years for the specified variable. When finished, click Save to apply these changes and return to the **My Variables** list.
Step 6: Downloading a List of Variables

You may download your list of variables by selecting the Create, Save, Upload variables option from the Main Menu; then, from the My Variables view, click on Continue. This is shown below:

The filename extension for the saved variables will be .mvl. Do not change the extension from .mvl or the system will not be able to recognize the file when uploading.

Downloading the IPEDS Complete List of Variables

Alternatively, instead of downloading a list of selected variables, users may choose to download a list of ALL IPEDS variables. The IPEDS variable tree is a complete listing of all existing IPEDS variables, for any given year, categorized by the IPEDS survey from which the data are collected. The variable tree is accessible as an excel file that is downloaded through the Survey Data – Access Database page at https://nces.ed.gov/ipeds/use-the-data/download-access-database.
On the Access Database page, download one of the Excel spreadsheets under the “Documentation” column and open the vartableXX tab (i.e. Vartable16 for 2016-17 data collection). Variables are organized by table within a survey component. Included is the variable title (VARTITLE) which is the same as the variable name listed in the variable tree. The internal variable name (VARNAME) is also included. This internal name can also be searched for from the variable tree. Also included are the long descriptions of each variable along with other variable attributes.