

# Center for Educational Performance and Information

## *Institution of Higher Education Request for Unique Identification Code Bulk Upload Guide*

**Last Updated: January 2022**

**Questions:**

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## **Contents**

Introduction .....	3
Overview .....	4
Step 1: Prepare the student data file.....	5
Step 2: Prepare the XML file or use template prepared by CEPI .....	15
Step 3: Upload the XML data file to MSDS.....	28

## **Introduction**

This guide is for Institution of Higher Education authorized users of the Michigan Student Data System. The purpose of this guide is to offer a comprehensive overview of the process for uploading multiple requests for Unique Identification Codes via Microsoft Excel. While your institution's IT team can configure your Student Information System to export files for upload to the MSDS, this guide offers an alternative. Institutions can use Excel to create files in Extensible Markup Language (XML) for the MSDS.

For additional guidance, users should also utilize the [IHE Request for UIC Collection User Guide](#).

While the IHE Request for UIC collection does not have open and close dates, UICs are a required data field in the Student Transcript and Academic Record Repository Collection, which does have deadlines. Please refer to the [CEPI calendar](#) for more information.

CEPI application users can also subscribe to application updates at the [CEPI Newsletters web page](#).

## **Important Information on UICs**

### **Acquiring UICs at Student Enrollment**

It is best practice to acquire and assign UICs at student enrollment. Early acquisition of UICs enables the integration of student level data across state systems (e.g., MiSSG and STARR). This is especially important in enabling the state to assist in completing compliance reporting requirements in support of various college grant programs.

### **Ensuring Primary UIC is in Student Information System**

When an entity submits a UIC into a collection or reruns resolution, the matching process may replace it with a primary UIC in the collection. This can occur when the submitted UIC has previously been linked and is now a secondary UIC. Please refer to the List of Changed UICs Report, a point-in-time report, in the IHE Request for UIC and the STARR collections to ensure the primary UIC is listed in your student system. This report is found in the staging area under UIC Resolution Reports.

## **Overview**

This guide describes the process of uploading multiple students to the IHE Request for UIC collection in one file. Student information must be converted to the Extensible Markup Language (XML) schema used for the IHE Request for UIC collection. This process involves the use of Microsoft Excel to produce an XML file. Students are added to an Excel spreadsheet and then uploaded to the IHE Request for UIC Collection. This guide breaks the bulk upload process into the necessary steps:

1. Preparing the data file
2. Preparing the data file or using template created by CEPI
3. Uploading the XML file to the MSDS

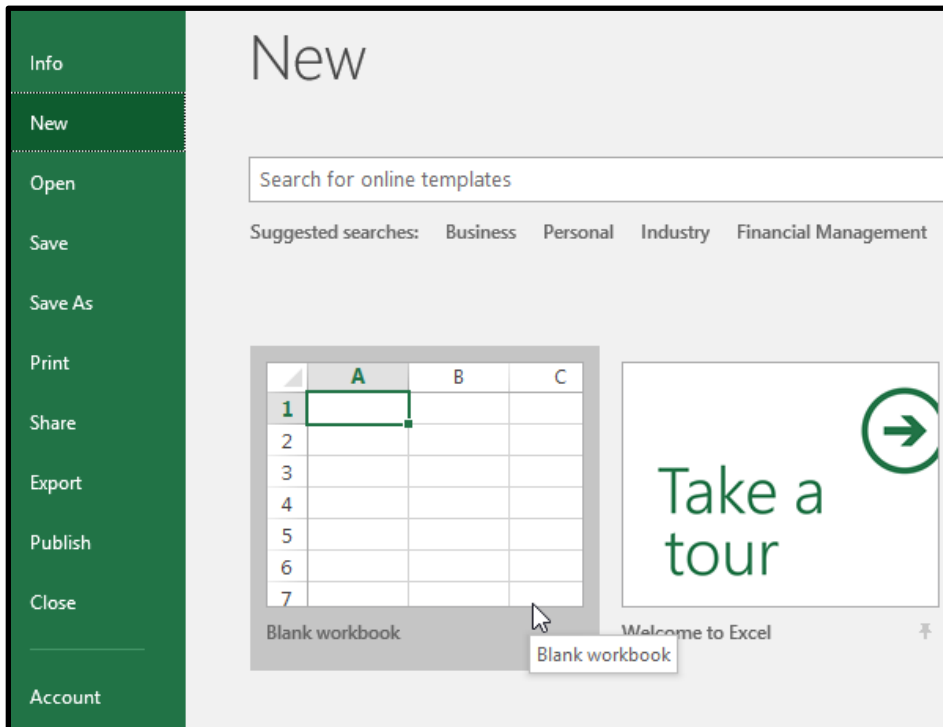
This guide describes the bulk upload process for college and university authorized users.

## Step 1: Prepare the student data file

This step uses Microsoft Excel to create a Spreadsheet with your students' data. Users may also have the ability to prepare data files directly from a student information system. Because SISs vary and data fields used differ between entities, CEPI cannot recommend a common export method.

This method only includes the required components for this collection.

1. Open a new, blank workbook in Microsoft Excel



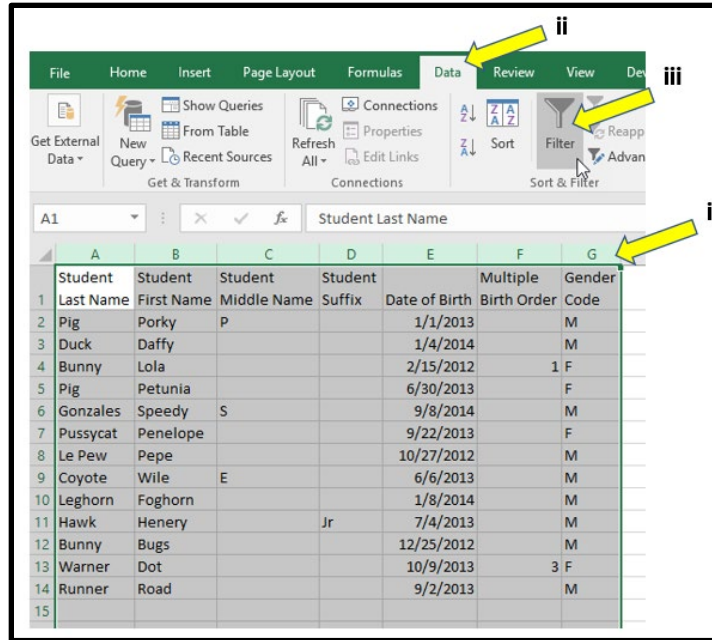
*IHE Request for UIC Bulk Upload Guide*

	A	B	C	D	E	F	G
	Student Last Name	Student First Name	Student Middle Name	Student Suffix	Date of Birth	Multiple Birth Order	Gender Code
1	Pig	Porky	P		1/1/2013		M
2	Duck	Daffy			1/4/2014		M
3	Bunny	Lola			2/15/2012	1	F
4	Pig	Petunia			6/30/2013		F
5	Gonzales	Speedy	S		9/8/2014		M
6	Pussycat	Penelope			9/22/2013		F
7	Le Pew	Pepe			10/27/2012		M
8	Coyote	Wile	E		6/6/2013		M
9	Leghorn	Foghorn			1/8/2014		M
10	Hawk	Henery		Jr	7/4/2013		M
11	Bunny	Bugs			12/25/2012		M
12	Warner	Dot			10/9/2013	3	F
13	Runner	Road			9/2/2013		M

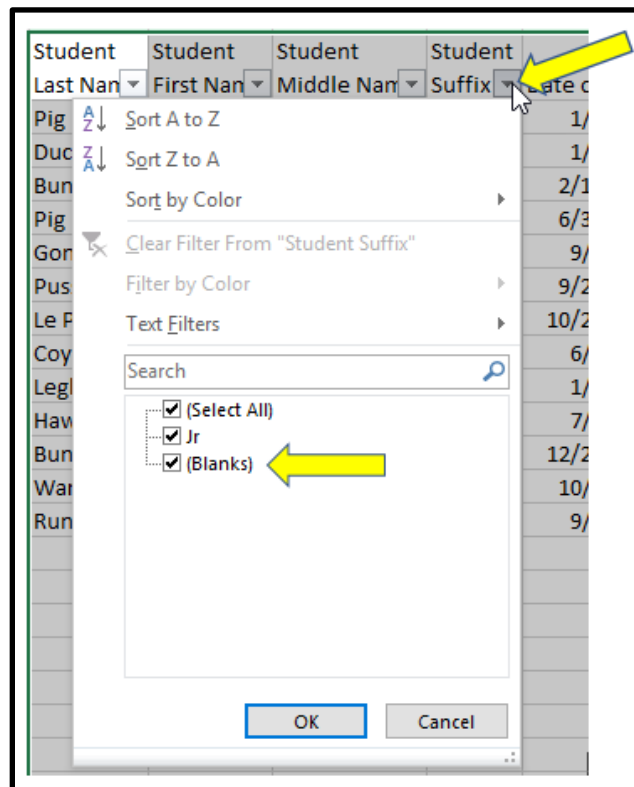
2. Enter/import your students' data into the Spreadsheet using the column layout shown above. Enter the following column headers into the designated cells of the Spreadsheet and consider these important rules:
  - a. Cell A1: Student Last Name
    - i. **This field is required and cannot be blank.**
    - ii. Data entered into this field may include lowercase and uppercase letters (aBZz), apostrophes ('), commas (,), hyphens and periods (.) but cannot include underscores (\_), numbers (0123), or special characters (æ)
    - iii. Data Type: Names
  - b. Cell B1: Student First Name
    - i. **This field is required and cannot be blank.**
    - ii. Data entered into this field may include lowercase and uppercase letters (aBZz), apostrophes ('), commas (,), hyphens and periods (.) but cannot include underscores (\_), numbers (0123), or special characters (æ)
    - iii. Data Type: Names
  - c. Cell C1: Student Middle Name
    - i. **This field is optional** because not all students have a middle name. **However, it is highly encouraged and may prevent future work for you.**
    - ii. Data entered into this field may include lowercase and uppercase letters (aBZz), apostrophes ('), commas (,), hyphens and periods (.) but cannot include underscores (\_), numbers (0123), or special characters (æ)
    - iii. Data Type: Names
  - d. Cell D1: Student Suffix
    - i. **This field is optional.**

- ii. Data entered into this field may include lowercase and uppercase letters (aBZz), apostrophes ('), commas (,), hyphens and periods (.) but cannot include underscores (\_), numbers (0123), or special characters (æ)
  - iii. Data Type: Free Form Text
- e. Cell E1: Date of Birth
  - i. This field is required and cannot be blank.**
  - ii. Data in this field will be formatted in a later step
  - iii. Data Type: Date
- f. Cell F1: Multiple Birth Order
  - i. This field is optional.**
  - ii. This field should be used when students are twins/triplets/etc. Students are designated by order of birth (i.e., enter "1" for the eldest child, "2" for the second-oldest, etc.)
  - iii. To accommodate some local student information systems, "0" is accepted for students who are not part of a multiple birth.
  - iv. Data Type: Whole Number
- g. Cell G1: Gender Code
  - i. This field is required.**
  - ii. The Gender data value must be M or F. The following values are invalid:
    - 1. f, m, female, male, fe, or ma (lowercase or uppercase).
    - 2. Numbers such as 0, 1, 2, or 3.
    - 3. Blank
  - iii. Data Type: Value List
- h. Cell H1: Student ID Number
  - i. This field is optional** but may be needed if your institution uses it to import UICs back into your local system (after your file has been uploaded to the MSDS).
  - ii. Data in this field is text free form with a maximum of 20 characters.
  - iii. Data Type: Free Form Text
  - iv. If your Student ID Number includes leading zeros, you will need to ensure this field is designated as a text field in your spreadsheet.
- i. Fields in each row must contain a value, except for Student Middle Name, Student Suffix, and Multiple Birth Order (which can be blank). To check for blank fields, use Excel's "Filter" utility found under the "DATA" tab.
  - i. Hold down the Ctrl key while clicking to select all the data columns.
  - ii. Click the "DATA" tab.
  - iii. Click the "Filter" button.

IHE Request for UIC Bulk Upload Guide

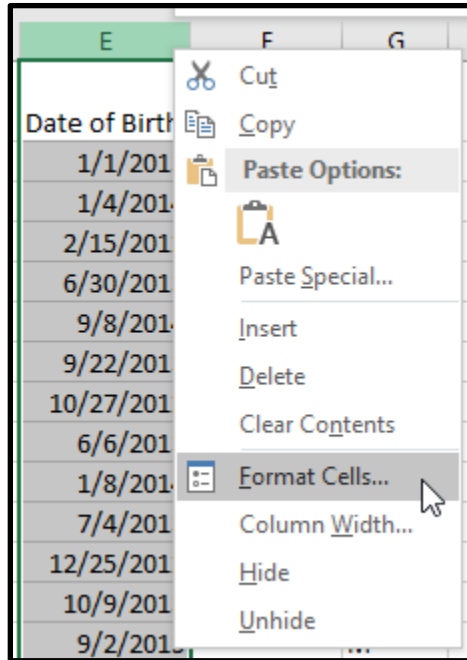


Click on a column arrow box to check if there are blank values in a column. (Note: Student Suffix is allowed to be blank – it's shown below to highlight how Excel reports blank values. Required columns should not show a "(Blanks)" value.

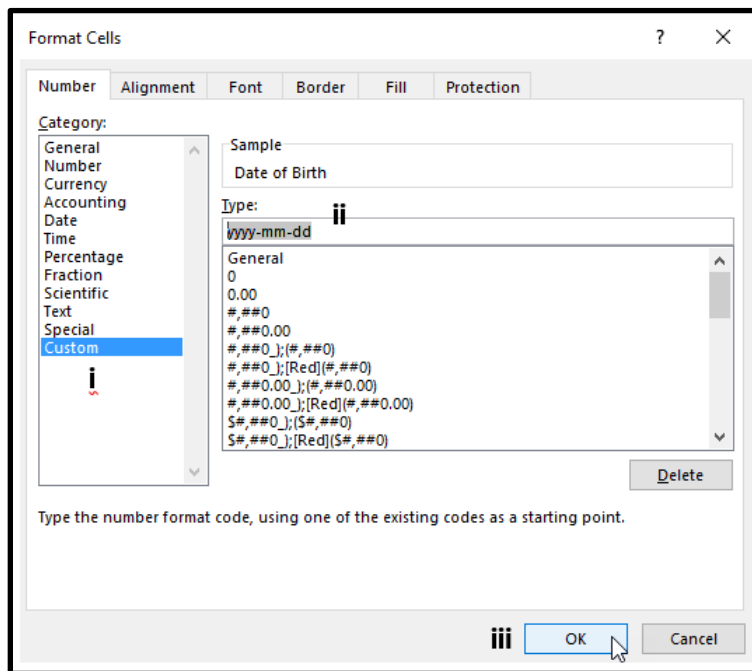




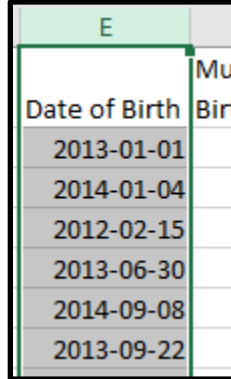
- j. Date of Birth must be formatted as yyyy-mm-dd. Highlight the column, right click, and select "Format Cells..."



- i. In the text box that appears, select "Custom" from "Category:"
- ii. In "Type," enter yyyy-mm-dd.
- iii. Click OK.



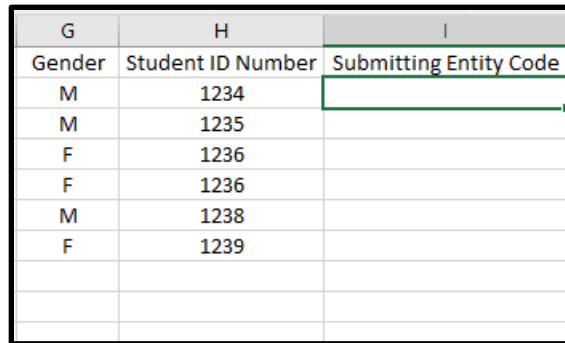
The dates should now be properly formatted for the MSDS.



A screenshot of an Excel spreadsheet showing a column of dates. The column header is 'Date of Birth' and the data cells contain the following dates: 2013-01-01, 2014-01-04, 2012-02-15, 2013-06-30, 2014-09-08, and 2013-09-22.

Date of Birth
2013-01-01
2014-01-04
2012-02-15
2013-06-30
2014-09-08
2013-09-22

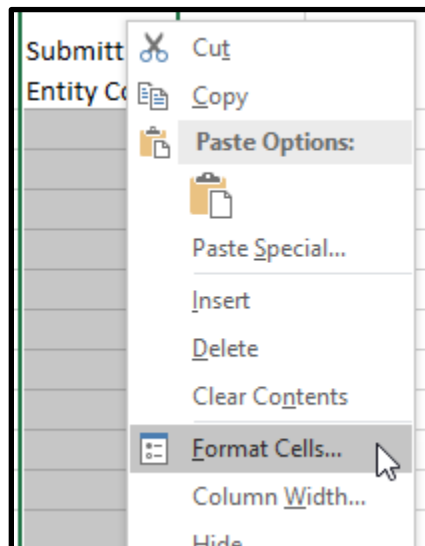
3. Type *Submitting Entity Code* into cell I1 (If submitting Student ID, it would reside in column H). Then select the entire column by clicking "I."



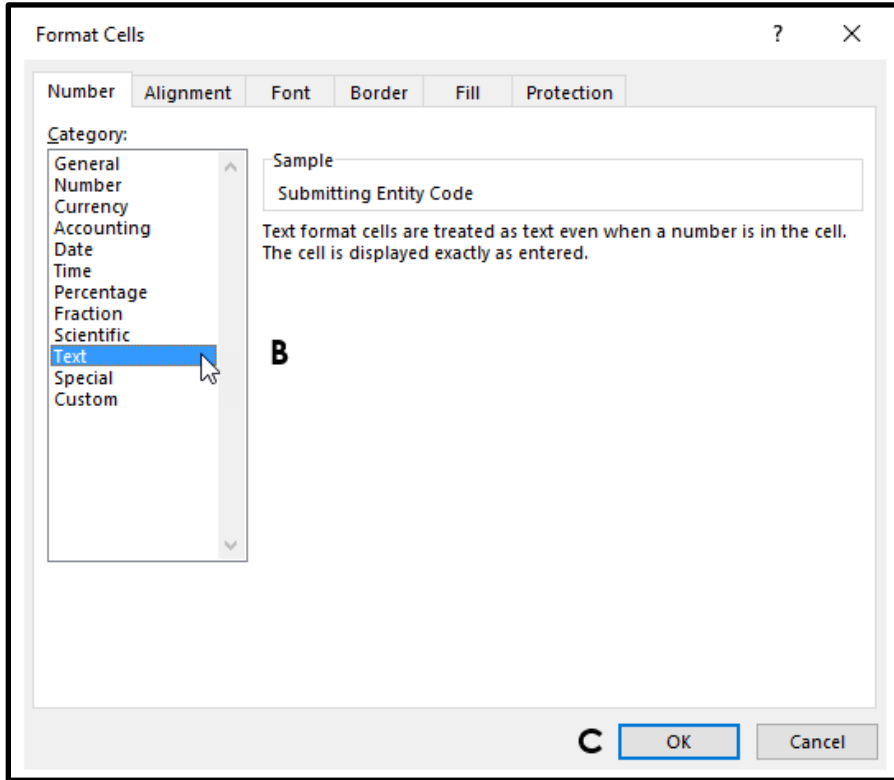
A screenshot of an Excel spreadsheet showing columns G, H, and I. Column G is labeled 'Gender' and contains values M, M, F, F, M, F. Column H is labeled 'Student ID Number' and contains values 1234, 1235, 1236, 1236, 1238, 1239. Column I is labeled 'Submitting Entity Code' and is currently empty.

G	H	I
Gender	Student ID Number	Submitting Entity Code
M	1234	
M	1235	
F	1236	
F	1236	
M	1238	
F	1239	

- k. Right click and select "Format Cells..." to change the cells in the column.



- l. In the window that appears, select "Text" from "Category:" (This will prevent Excel from automatically correcting the data to remove preceding zeroes from the entity code.)
- m. Click OK.



- n. Enter your five-digit entity code for each row that you have data in the spreadsheet. To retrieve your entity code, search the [Educational Entity Master](#).
  - i. Enter the entity code code in the first row of the "Submitting Entity Code" column.

G	H	I	J
Gender	Student ID Number	Submitting Entity Code	
M	1234	04481	
M	1235		
F	1236		
F	1236		
M	1238		
F	1239		

*IHE Request for UIC Bulk Upload Guide*

- ii. To copy the code across cells, move the mouse pointer to the bottom right corner of the cell and hold down the right mouse button.

G	H	I	J
Gender	Student ID Number	Submitting Entity Code	
M	1234	04481	
M	1235		
F	1236		
F	1236		
M	1238		
F	1239		

- iii. Keep the right mouse button pressed down and drag the mouse down the screen. When you reach the last cell, release the button. A context menu will appear. Click "Copy Cells."

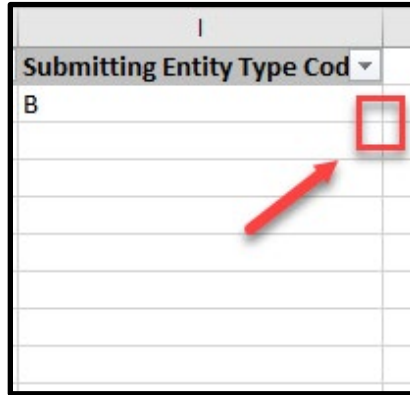
G	H	I	J	K	L	M
Gender	Student ID Number	Submitting Entity Code				
M	1234	04481				
M	1235					
F	1236					
F	1236					
M	1238					
F	1239					

The cell in each record will now be filled with the entity code.

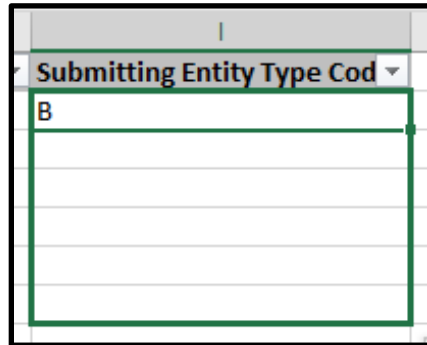
4. Type *Submitting Entity Type Code* into cell "J1"

H	I	J	K
Student ID Number	Submitting Entity Code	Submitting Entity Type Code	
1234	04481		
1235	04481		
1236	04481		
1236	04481		
1238	04481		
1239	04481		

- o. The "Submitting Entity Type Code" field will differ depending on the entity type submitting for UICs. **Characters in this field must always be entered in uppercase.**
  - i. College and universities with a 5-digit entity code enter: B
  - ii. Right click on the bottom right hand corner of cell.



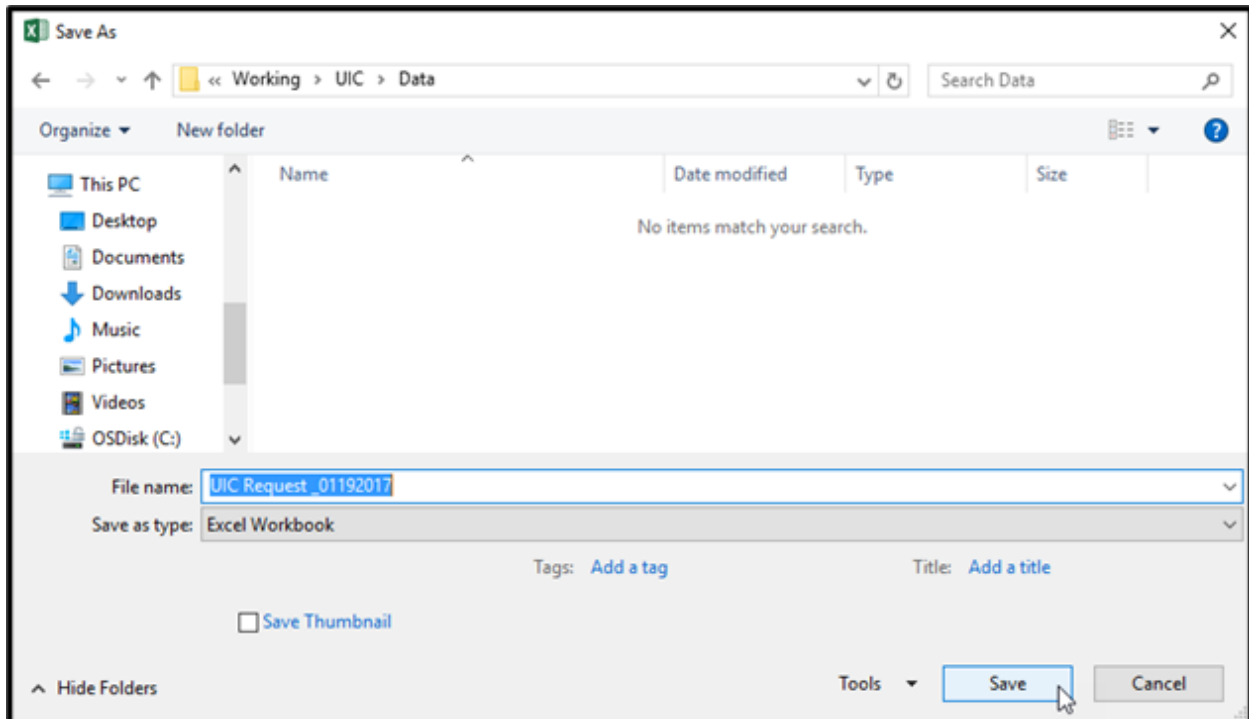
- iii. Holding the button down, drag down to the last of the collection records. Then release and select "Copy Cells."



The cells will now be filled with the character chosen, such as "B" in the screenshot.

H	I
Submitting Entity Cod	Submitting Entity Type Cod
04481	B
04481	B
04481	B
04481	B
04481	B
04481	B

5. Save the Spreadsheet in a secure area since it contains Personally Identifiable Information.

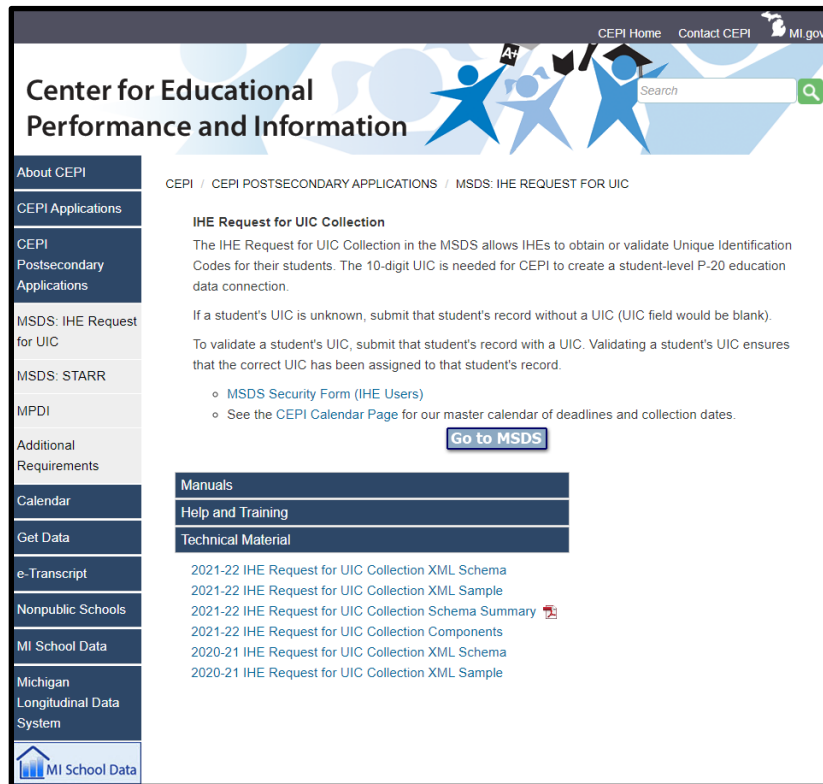


## Step 2: Prepare the XML file or use template prepared by CEPI

**NOTE:** CEPI has prepared an Excel template file that has been mapped and is ready for users to copy their student data into. If you wish to use this template, please download the template from the [IHE Request for UIC Collection web page](#) (under Technical Material). Then you may skip to Step 9 below.

To begin obtaining UICs, student data must be provided to CEPI in a particular format. This format is the Extensible Markup Language (XML) and the template you'll need to use is called a schema file.

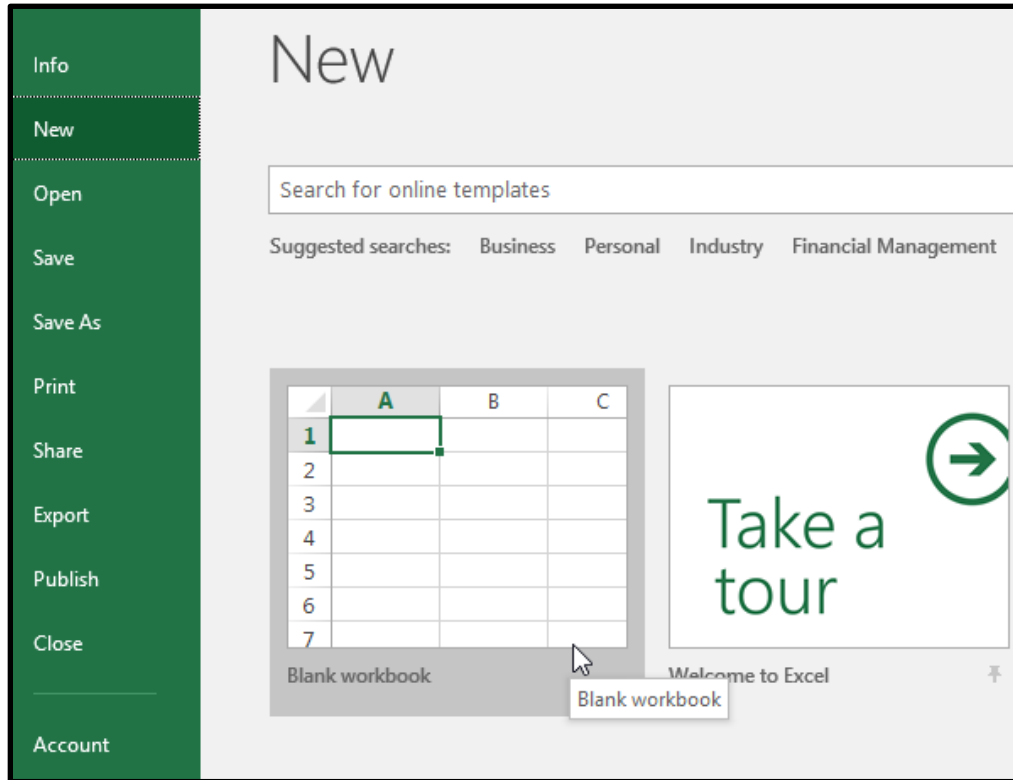
1. Go to the [IHE Request for UIC Collection web page](#)
2. Obtain the most recent schema file



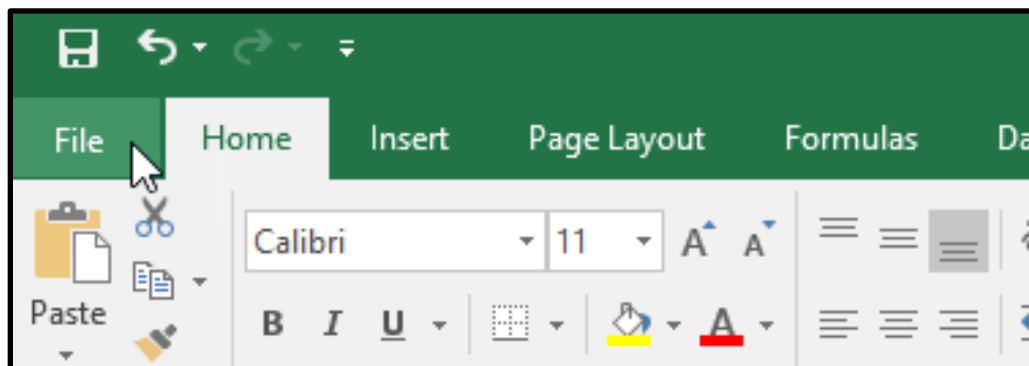
- a. Scroll to the bottom of the page and expand the "Technical Material" menu.
- b. Right-click on the most recent schema file. Select "Save target as" (or "Save link as" in other browsers)
- c. A window will appear. Navigate to a directory to save the schema file. Give the file a name you will remember.
- d. Click Save to finish.

This next step will convert the Excel Spreadsheet into an XML file.

3. Open a new, blank workbook in Microsoft Excel

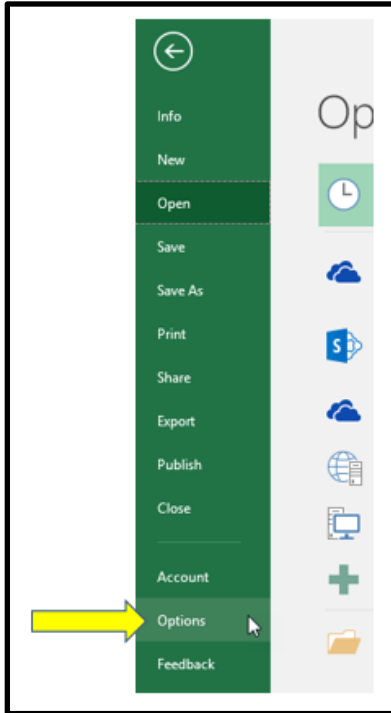


4. Click the "File" tab on the top menu bar



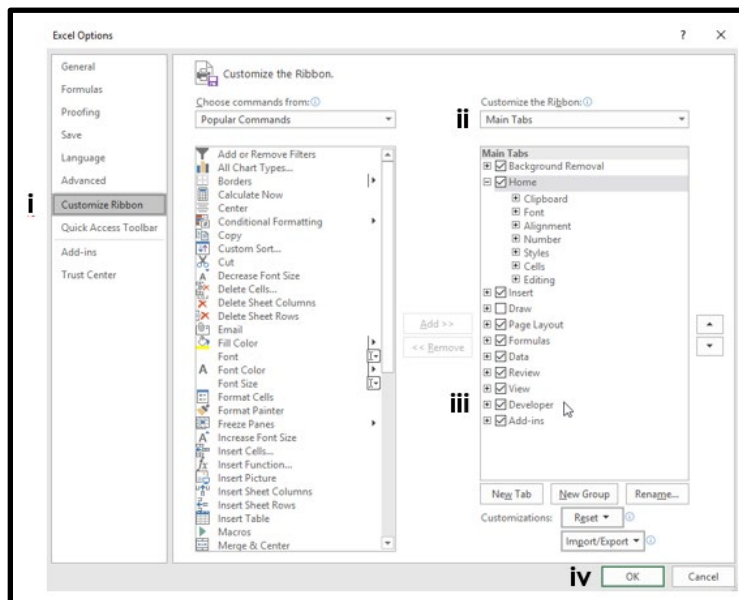


a. Click "Options"

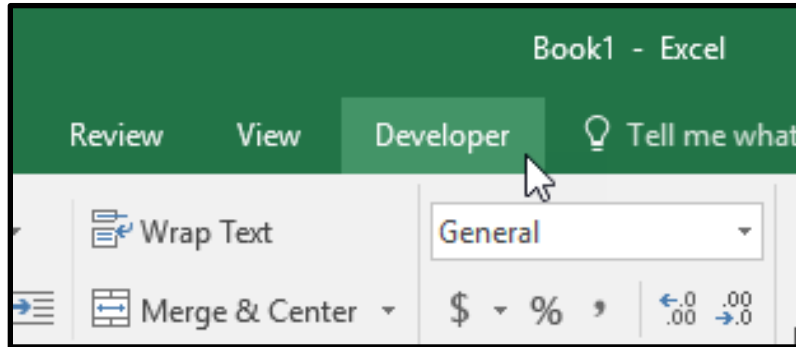


b. The Excel Options window will appear

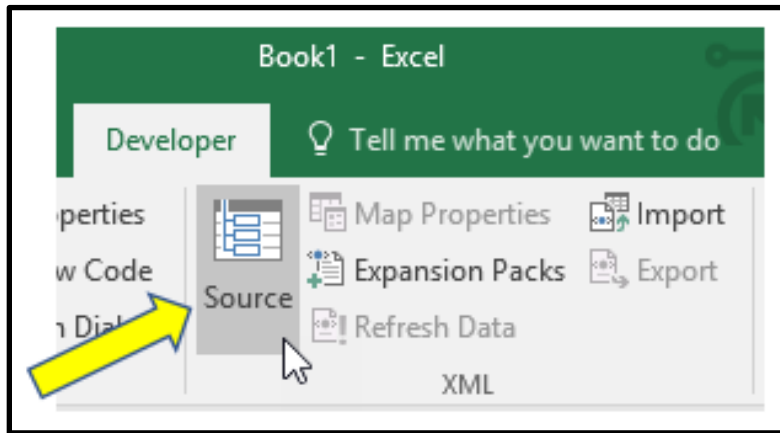
- i. Select "Customize Ribbon" from the left column
- ii. Select "Main Tabs" from "Customize the Ribbon:"
- iii. Check "Developer," as shown in the following screenshot
- iv. Click OK



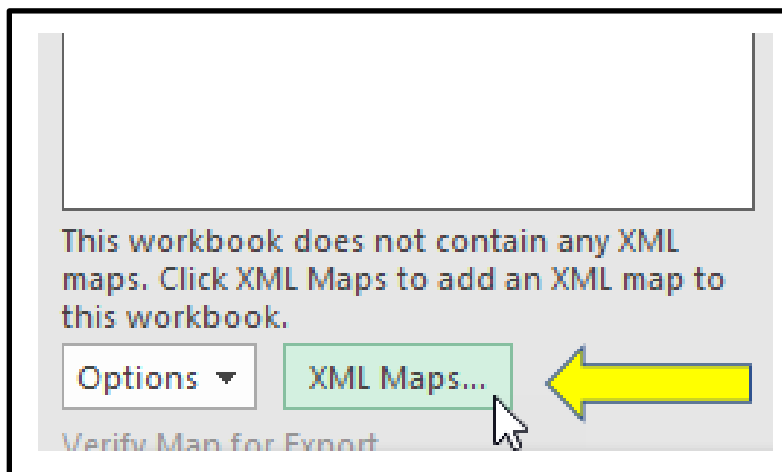
- c. Look back at the menu at the top of the screen, you will see the *Developer* tab. Click on that tab.



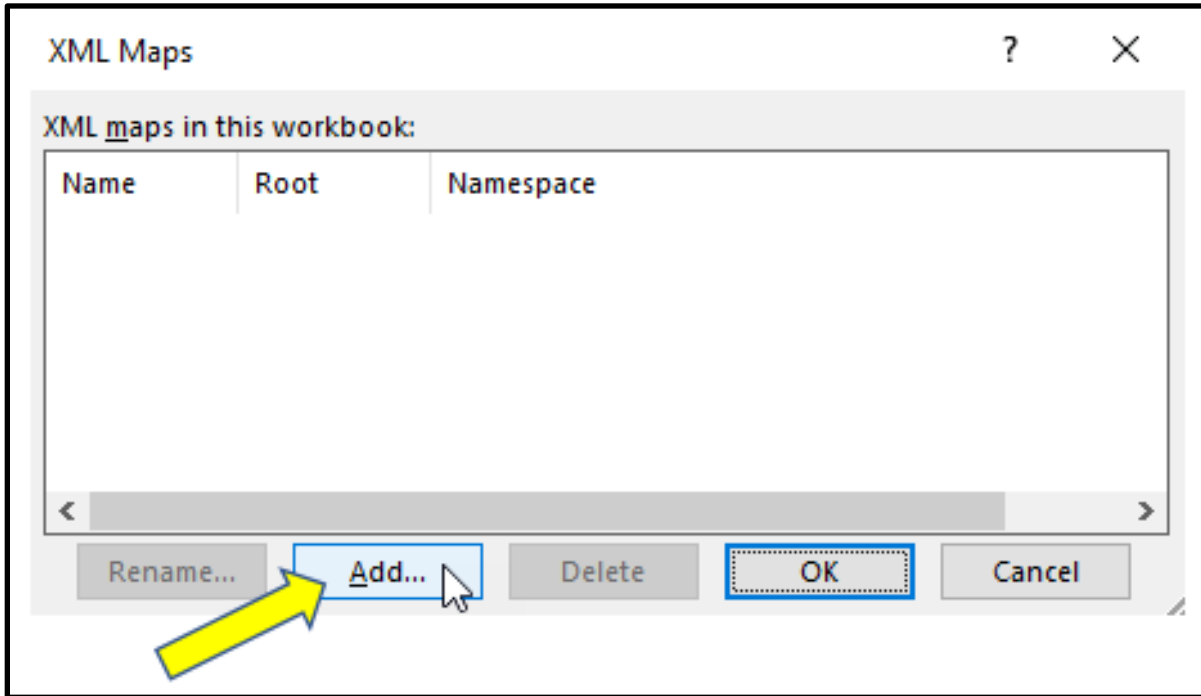
- 5. The *Developer* settings will offer options to convert Spreadsheet into XML format.
  - a. Click "Source," as shown in the following screenshot



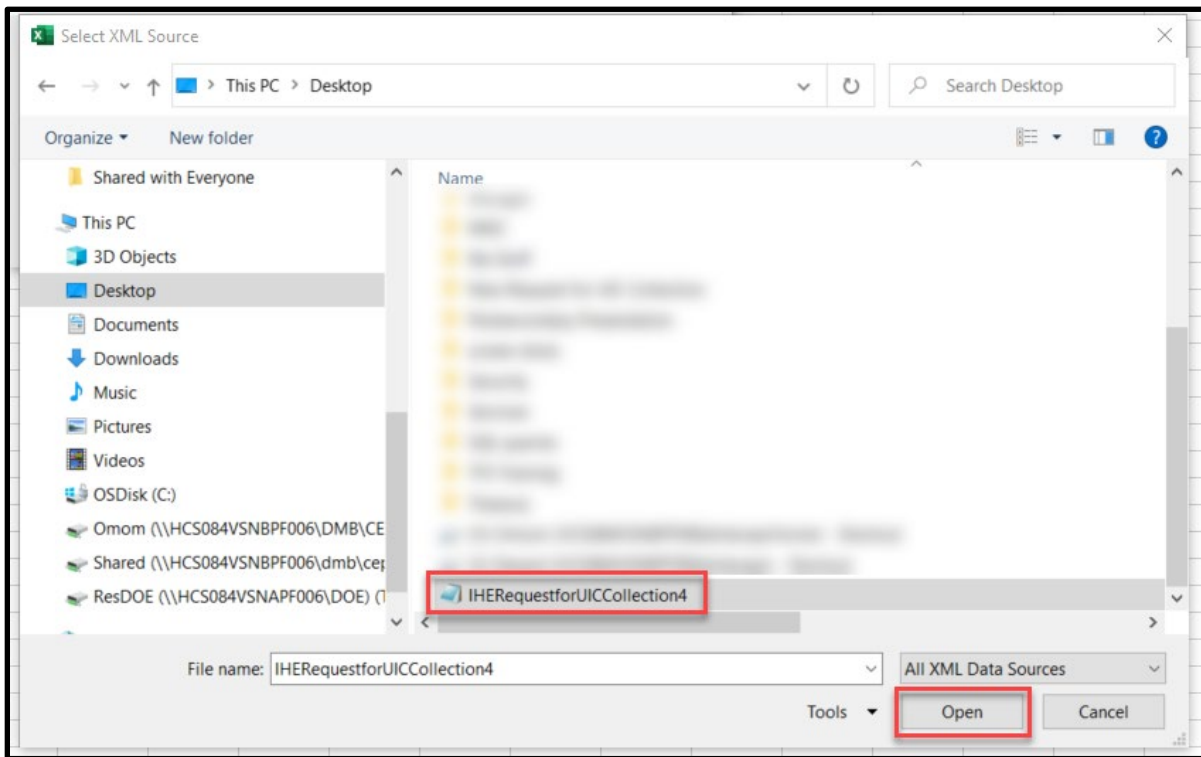
- b. The XML Source pane will appear on the right-hand side of the screen. Click on the "XML Maps..." button near the bottom.



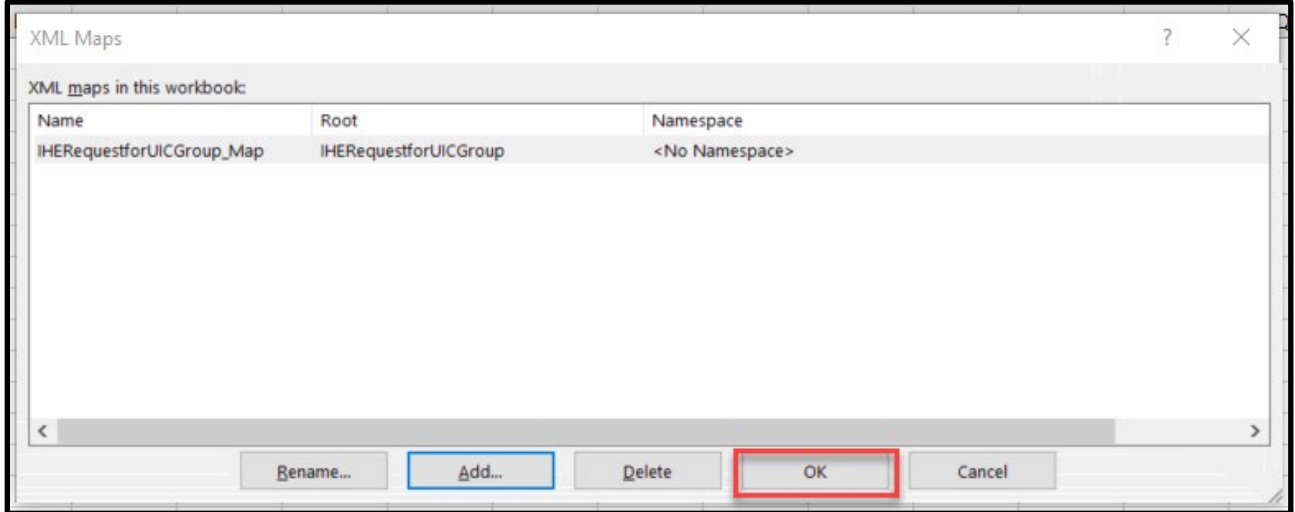
c. In the new window that appears, click "Add."



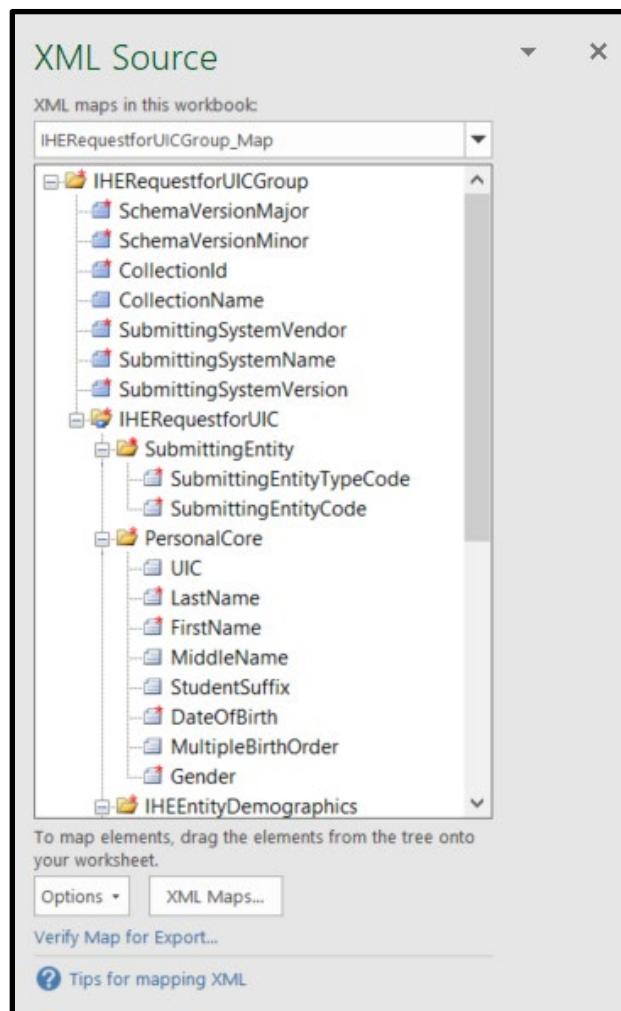
d. Navigate to the schema previously saved in step 2b (page 15). Click to highlight the XML file and then click Open.



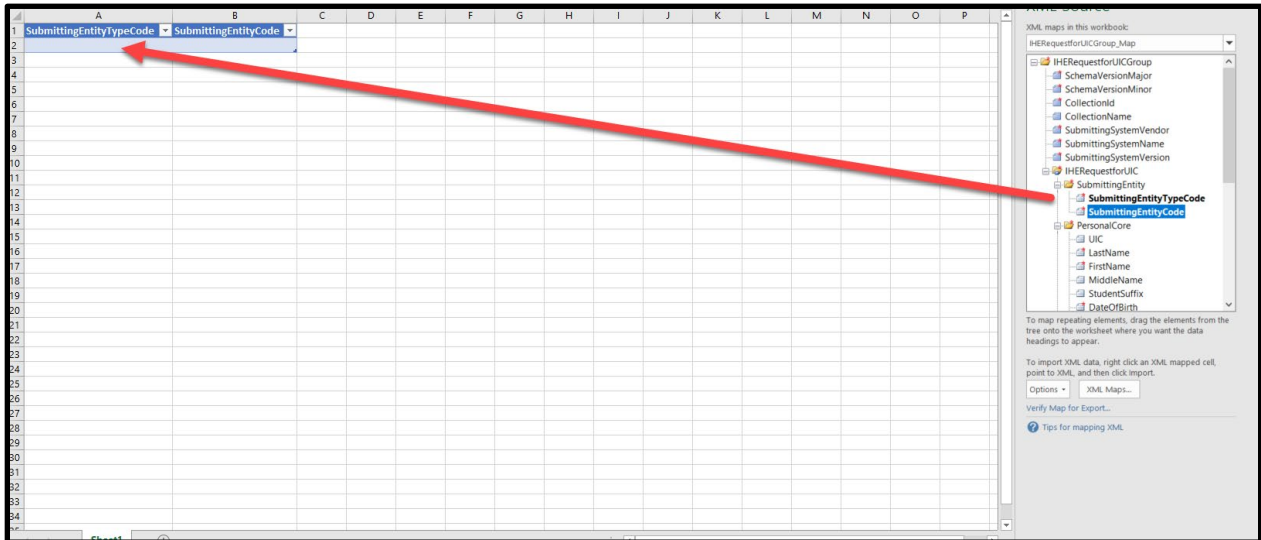
e. Click OK.



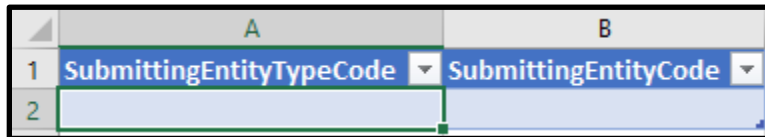
f. The XML Source pane will appear with a list of XML elements.



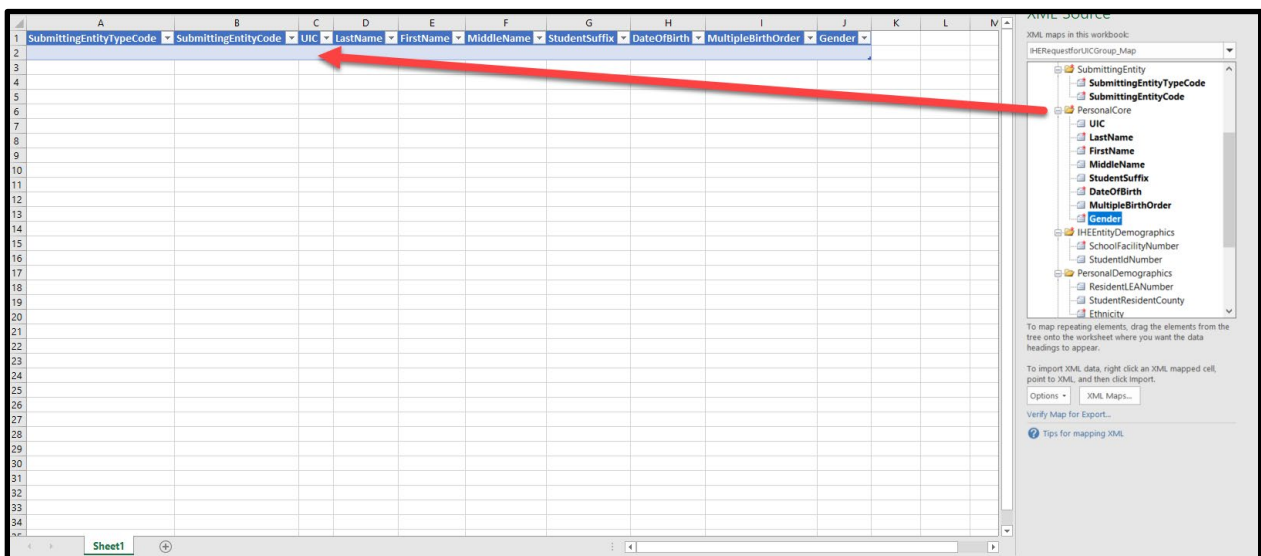
6. The next steps involve mapping XML data elements to the worksheet.
  - a. Click on the folder icon labelled *SubmittingEntity* in the XML Source list and drag it to cell A1, as shown in the following screenshot.



- b. Cells A1 and B1 should fill in with the text *SubmittingEntityTypeCode* for A1 and *SubmittingEntityCode* for B1. Expand the width of the columns to see the column headings more fully.

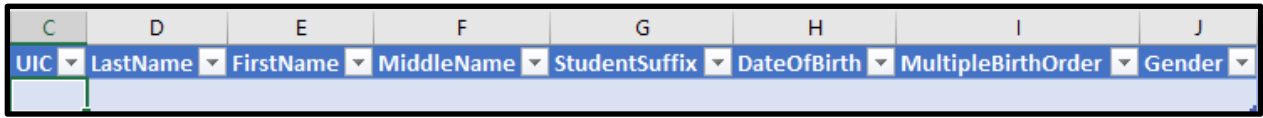


- c. Repeat these steps to drag the *PersonalCore* folder icon from the XML Source list into cell C1.

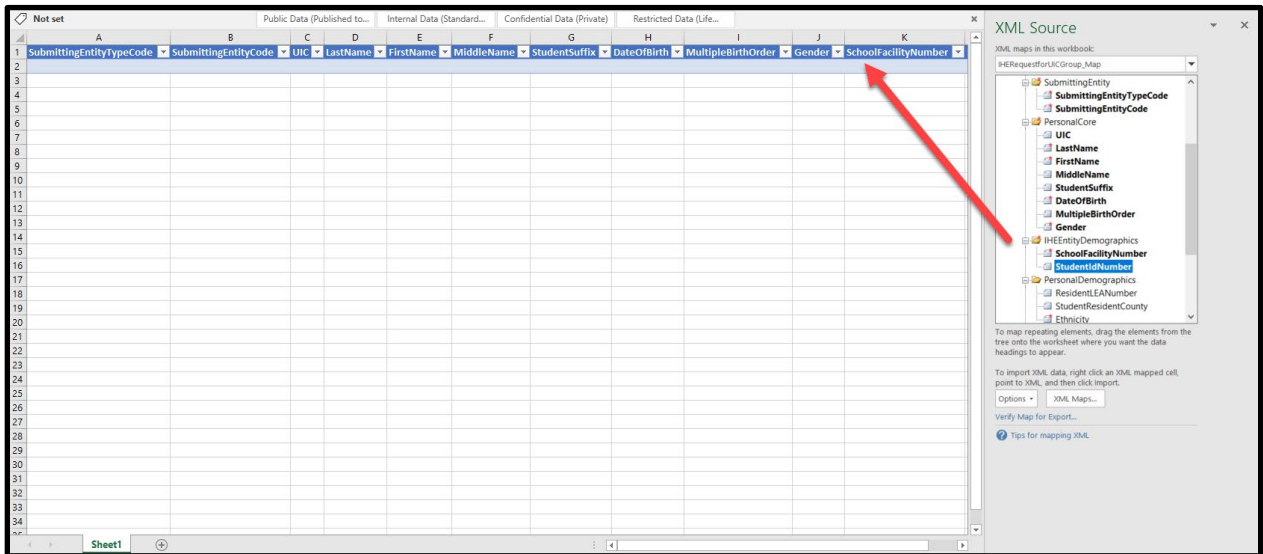


IHE Request for UIC Bulk Upload Guide

- d. Cells C1, D1, E1, F1, G1, H1, I1, and J1 will fill with elements *UIC*, *LastName*, *FirstName*, *MiddleName*, *StudentSuffix*, *DateOfBirth*, *MultipleBirthOrder*, and *Gender* respectively.

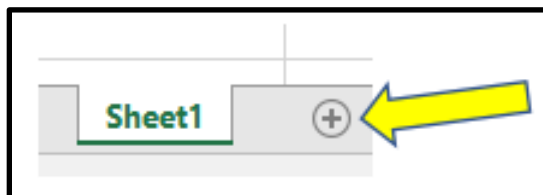


- e. Repeat these steps to drag the *IHEEntityDemographics* folder icon from the XML Source list into cell K1.



7. Add information for the XML header:

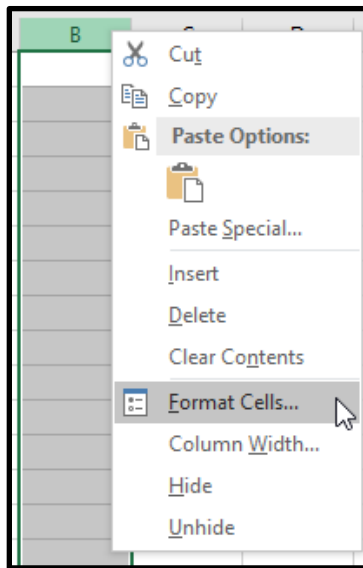
- a. Click on the + icon at the bottom of the page to add a worksheet.



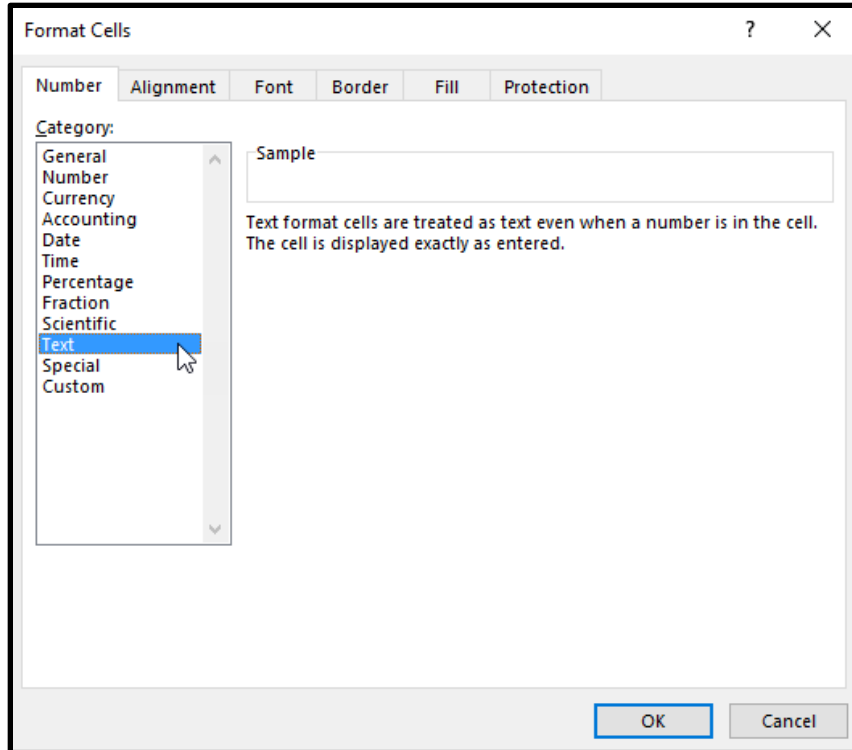
- b. Type the following information in column A, adding each item in a separate row:
  - i. SchemaVersionMajor
  - ii. SchemaVersionMinor
  - iii. CollectionID
  - iv. CollectionName
  - v. SubmittingSystemVendor
  - vi. SubmittingSystemName
  - vii. SubmittingSystemVersion

	A
1	SchemaVersionMajor
2	SchemaVersionMinor
3	CollectionID
4	CollectionName
5	SubmittingSystemVendor
6	SubmittingSystemName
7	SubmittingSystemVersion
8	

- c. Click on "B" to highlight the column.
- d. Right-click "B" to bring up the context menu. Select "Format Cells..."



- e. Select "Text" from "Category:" and click OK.



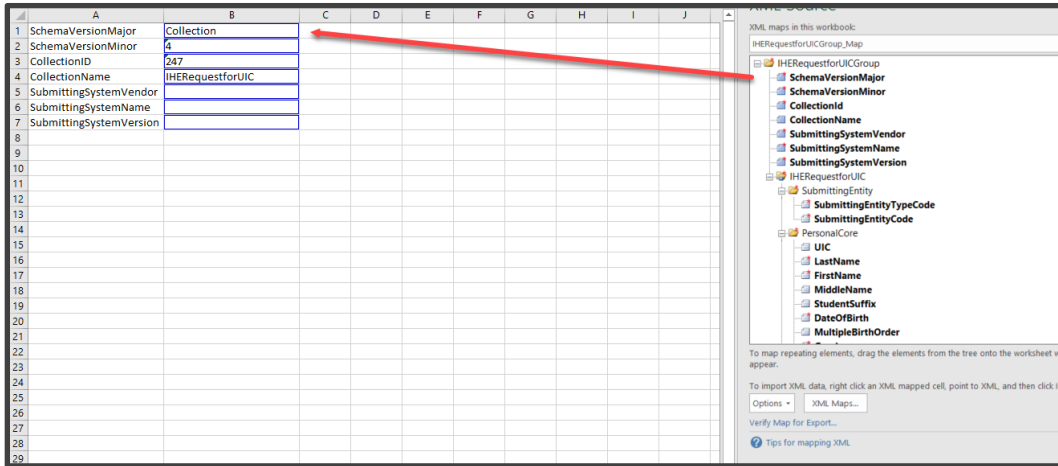
- f. In column B, enter the following information:
  - i. For Cell B1, enter: Collection
  - ii. For Cell B2, enter: 4
  - iii. For Cell B3, enter: 247
  - iv. For Cell B4, enter: IHERequestforUIC
  - v. Leave Cell B5 blank.
  - vi. Leave Cell B6 blank.
  - vii. Leave Cell B7 blank.

	A	B
1	SchemaVersionMajor	Collection
2	SchemaVersionMinor	4
3	CollectionID	247
4	CollectionName	IHERequestforUIC
5	SubmittingSystemVendor	
6	SubmittingSystemName	
7	SubmittingSystemVersion	
8		
9		
10		
11		
12		

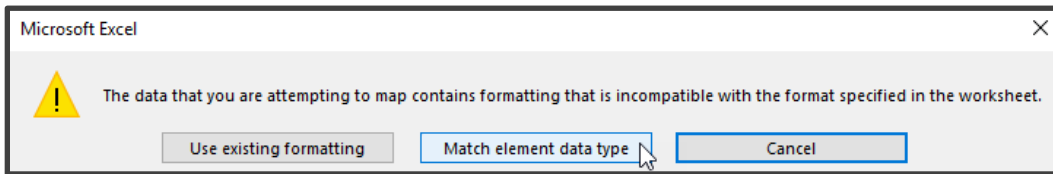
8. To map XML header elements, drag XML Source items to these cells.



- a. Look for the *IHERequestforUICGroup* folder and drag the item *SchemaVersionMajor* to cell B1 where the word "Collection" appears.



If a message box pops up and states, "The data that you are attempting to map contains formatting that is incompatible with the format specified in the worksheet," click the button marked *Match element data type*.



- b. The next XML Source item is *SchemaVersionMinor*. Drag it from the XML Source list to cell B2.
  - c. Notice how the XML Source items have the same names as the text in column A.
  - d. Drag the remaining items: *CollectionName* to cell B4, *SubmittingSystemVendor* to cell B5, *SubmittingSystemName* to cell B6, and *SubmittingSystemVersion* to cell B7. Elements in column B will have a blue outline and the elements in the XML Source list will appear in a bold font.
9. The next job is to copy the student records from Step 1 into the mapped spreadsheet. **NOTE:** CEPI has prepared an Excel template file that has been mapped and is ready for users to copy their student data into. If you wish to use this template, please download the template from the [IHE Request for UIC Collection web page](#) (under Technical Material).
    - a. Open the Excel spreadsheet with the student data.

IHE Request for UIC Bulk Upload Guide

	A	B	C	D	E	F	G
	Student Last Name	Student First Name	Student Middle Name	Student Suffix	Date of Birth	Multiple Birth Order	Gender Code
1	Pig	Porky	P		2013-01-01		M
2	Duck	Daffy			2014-01-04		M
3	Bunny	Lola			2012-02-15	1	F
4	Pig	Petunia			2013-06-30		F
5	Gonzales	Speedy	S		2014-09-08		M
6	Pussycat	Penelope			2013-09-22		F
7	Le Pew	Pepe			2012-10-27		M
8	Coyote	Wile	E		2013-06-06		M
9	Leghorn	Foghorn			2014-01-08		M
10	Hawk	Henery		Jr	2013-07-04		M
11	Bunny	Bugs			2012-12-25		M
12	Warner	Dot			2013-10-09	3	F
13	Runner	Road			2013-09-02		M

- b. Highlight all the student last names in column B, but do not include the header cell labelled "Student Last Name" with the selection.

	A
	Student Last Name
1	Pig
2	Duck
3	Bunny
4	Pig
5	Gonzales
6	Pussycat
7	Le Pew
8	Coyote
9	Leghorn
10	Hawk
11	Bunny
12	Warner
13	Runner
14	
15	

- c. Copy and paste the records into the XML data file directly below cell D1 (marked "LastName") on the first worksheet (into the template you created or into the template CEPI created).

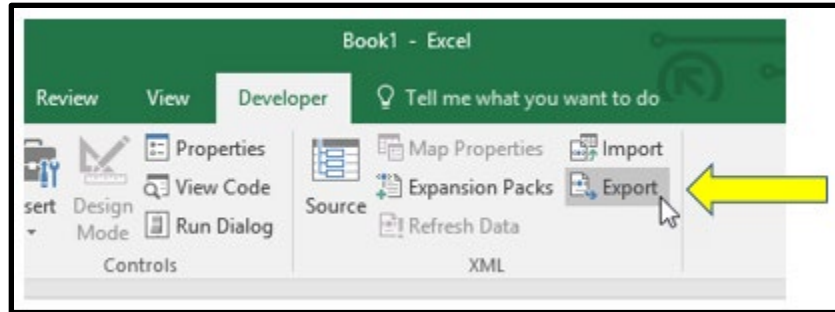
IHE Request for UIC Bulk Upload Guide

	A	B	C	D	E
1	SubmittingEntityTypeCode	SubmittingEntityCode	UIC	LastName	FirstNam
2				Pig	
3				Duck	
4				Bunny	
5				Pig	
6				Gonzales	
7				Pussycat	
8				Le Pew	
9				Coyote	
10				Leghorn	
11				Hawk	
12				Bunny	
13				Warner	
14				Runner	

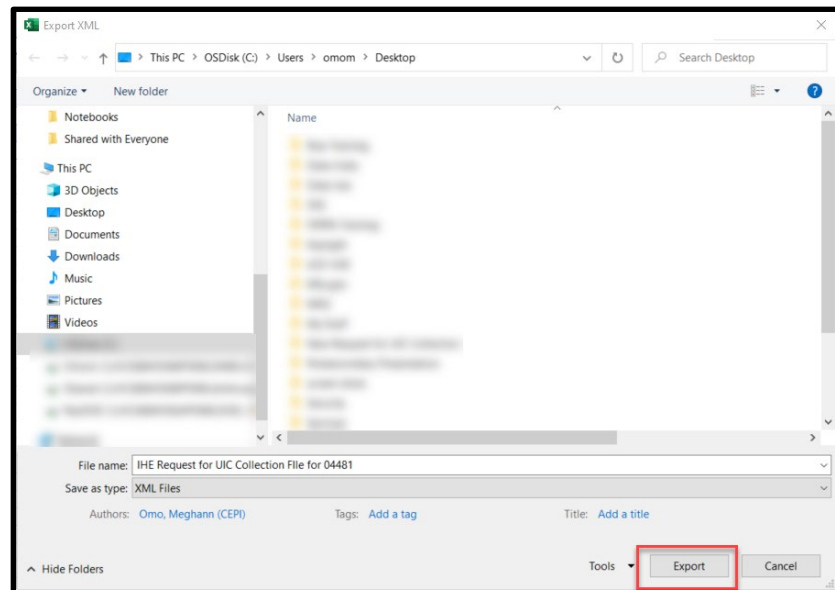
- d. Repeat this process for the remaining records. The column titled "UIC" should be left blank. This process is meant for obtaining UICs for students. **NOTE:**
- i. **If you do not plan to include Local Student ID and are using the Excel template provided by CEPI, you will need to delete that field from the template before exporting the XML file.**
  - ii. **The SchoolFacilityNumber is the same as the SubmittingEntityCode.**
  - iii. **If your Student ID Number includes leading zeros, please ensure that the leading zeros have not been removed when copying into the mapped spreadsheet.**

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	SubmittingEntityTypeCode	SubmittingEntityCode	UIC	LastName	FirstName	MiddleName	StudentSuffix	DateOfBirth	MultipleBirthOrder	Gender	SchoolFacilityNumber	StudentIdNumber	
2	B	04481									04481	1234	
3	B	04481									04481	1235	
4	B	04481									04481	1236	
5	B	04481									04481	1237	
6	B	04481									04481	1238	
7	B	04481									04481	1239	
8													
9													
10													
11													
12													
13													

10. The final step is to finalize the new Spreadsheet with student data as an XML file.
- a. Select the *DEVELOPER* tab on the Excel menu ribbon
  - b. Click "Export"



- c. **Save the file in a secure location, as it contains Personally Identifiable Information.** Ensure the Save as type is "XML Files."
- d. Click Export.



### Step 3: Upload the XML data file to MSDS

Once the XML file has been exported from Excel, it is ready to be uploaded to the MSDS.

For detailed instructions on how to upload a file, reviewing your file's status, etc., please review the [IHE Request for UIC Collection User Guide](#).