### **CASSIE** The Consortium for Analysis of Student Success through International Education



Practical and Technical Information for Merging Data

September 10, 2018







### Housekeeping Items

- Please mute microphone when not speaking
- Following the webinar, we will send slides and the recording to all registrants.
- To ask questions, please use the "Chat" box in the lower right corner and moderator will monitor questions



**CASSIE Research Team** 

- Research Team
  - Angela Bell (Co-PI), Associate Vice Chancellor of Research & Policy Analysis
  - Don Rubin (Co-PI), Professor Emeritus University of Georgia
  - Rachana Bhatt (Senior Scientist), Research & Policy Administration Manager
  - Darian Agnew (Graduate Research Assistant)



### <u>Agenda</u>

- Context-reviewing the data ask
- Merging data sets using Excel and Access
- Experiences of a CASSIE school
- Q & A



### <u>Context</u>

- CASSIE requests a single file detailing enrollment, demographics, and international education experiences
  - Template <u>https://www.usg.edu/cassie/technical\_guidance</u>
- Challenge- data typically housed in different systems
  - Student enrollment and demographic in Student Information Systems like Banner
  - International Education Experiences in International Student Services software (Terra Dotta), Excel/Access, or paper records



### <u>Context</u>

- How to combine data from different sources into one?
  - Option A: Integrate data systems
    - E.g. Terra Dotta and Banner can be integrated, allowing data from one system to be pulled into another
    - Most existing integration from SIS to TD
    - Challenges-Need to work with TD one on one to develop specs for integration, \$\$ and resources, how to get data on all students, not just those that studied abroad?
  - Option B: Merge data sets using Excel and Access
    - E.g. Get data from Banner and TD (or paper records) into Excel
    - Merge the data sets on student id and academic term and year
    - Challenges-how to merge? Microsoft Access and Excel

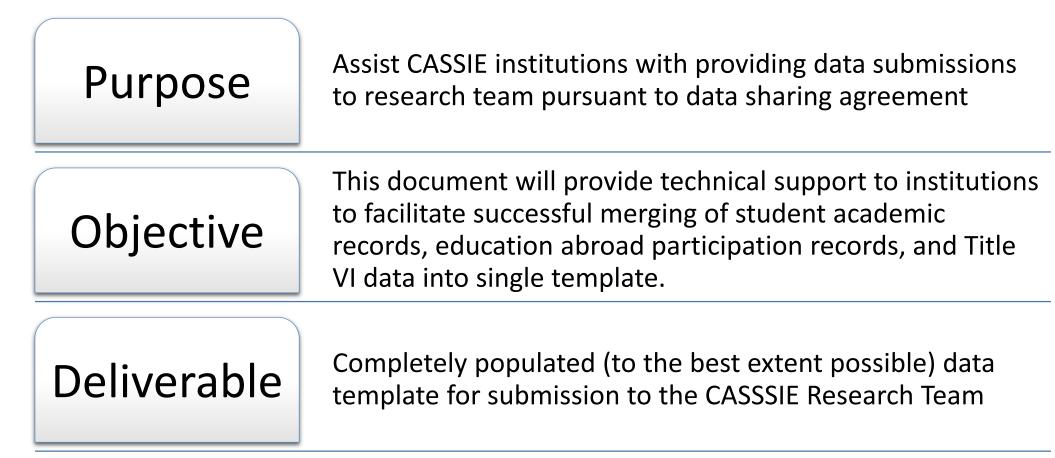


### Merging Data-Content

Scope			Slide 8
Required Materia	ls		Slide 9
Methodology			Slide 10
	Step 1	Open CASSIE Template file	Slide 12
Phase I	Step 2	Insert Data Tables	Slide 13
(Slide 11 - 19)	Step 3	Convert Column Headers	Slide 16
	Step 4	Rename and Save	Slide 19
	Step 1	Create new Access Database	Slide 21
Phase II	Step 2	Import Data Tables	Slide 22
(Slide 20 – 34)	Step 3	Set-up and Run SQL Query	Slide 29
	Step 4	Export Query Results	Slide 34

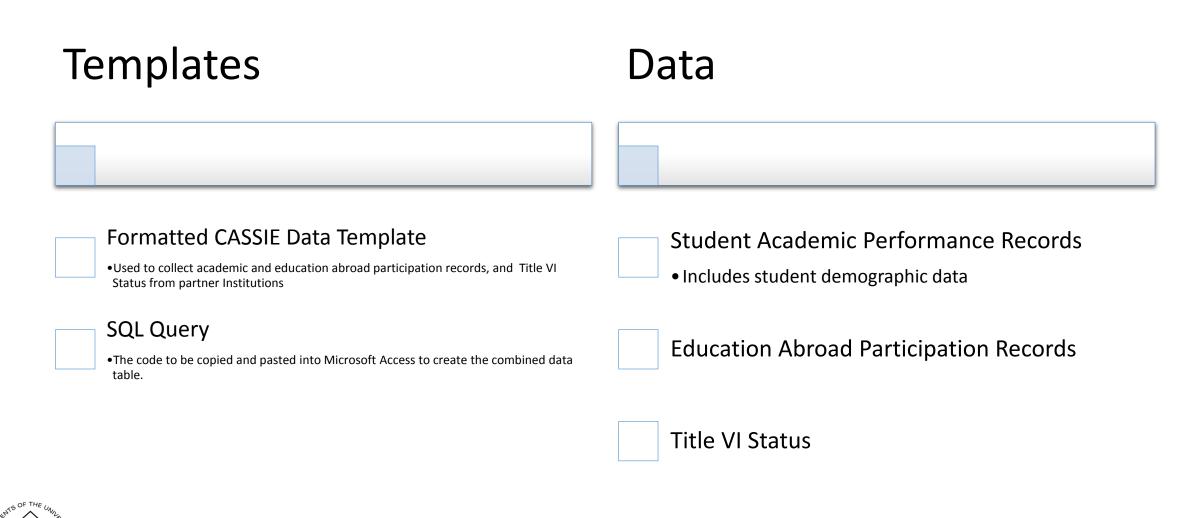


### Merging Data-Scope



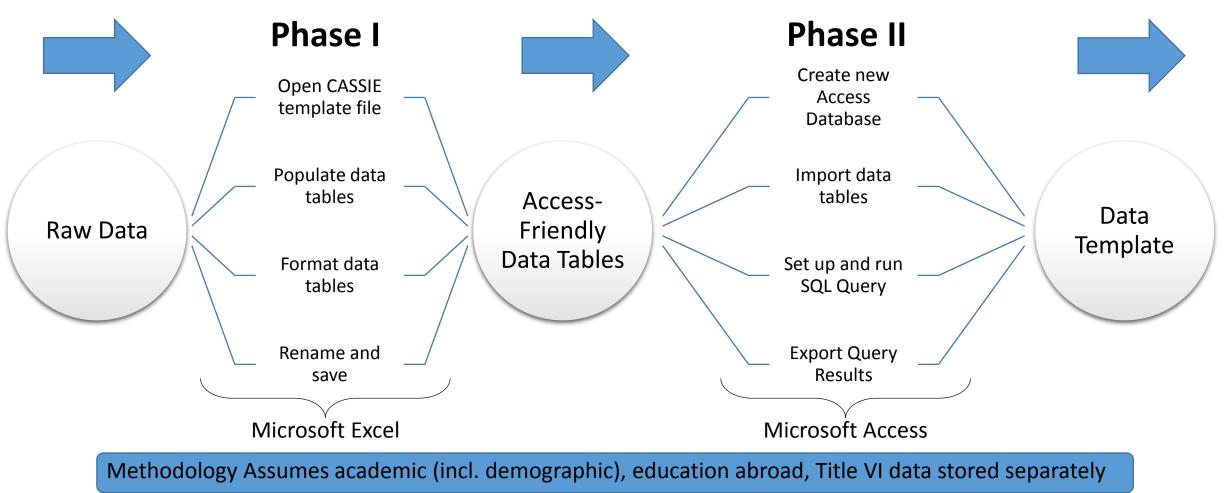


### Merging Data-Required Materials





### Merging Data-Methodology





# Phase I

Required Software: Microsoft Excel



## Step 1: Open CASSIE Template File

- Contains Student Academic Performance Records and demographic information by term
- Columns B AK, AU BS on CASSIE data template

Tab 2

Data - Education Abroad

- Contains student records of education abroad activities by term
- Columns B, E, F, AL AR on CASSIE data template

### Tab 3 Data - Title VI

- Contains records of Title VI program participation status of students
- Columns B, E, F, AS AT on CASSIE data template

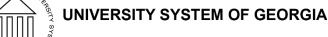
### Note

- Three tabs collectively represent data template provided on CASSIE website for schools
  - •- First column removed-
- Additional row of data added to house Access-friendly headers-

Institutions will populate data into each tab

#### 3 variables appear in each tab

- •- Unique Identifier (studentid) -
- •- Enrollment Term (enrollterm) -
- •- Enrollment Year (enrollyear) -



### Step 2: Populate Data Tables

#### Tab: Data–Academic, Demographics

	A	B	C	D Enrollment	E	F	G	Н		J	K		M	N	0	Р	Q
	Identifier	IPEDS Institutio nal ID	Academic Calendar	Term	Enrollment Year				ACT English	ACT Math	ACT Reading		Composit	High School GPA	School specific admission index like Freshman Index or HS Rank	city Part 1: Are you	IPEDS Race/Ethnicity Part 2: Are yo American Indian or Alaskan Native?
	studentid	ipedsid	acadcalendar	enrollterm	enrollyear	sat_math	sat_crverb	sat_writ	act_engl	act_math	act_reading	act_sci	act_comp	hsgpa	comp_Index	race_hisp	race_amind
	1	139940	Semester	Fall	2010	510	600	580	28	26	22	24	25	3.22	12	No	No
F	1	139940	Semester	Spring	2011	510	600	580	28	26	22	24	25	3.22	12	No	No
	1	139940	Semester	Fall	2011	510	600	580	28	26	22	24	25	3.22	12	No	No
;	1	139940	Semester	Spring	2012	510	600	580	28	26	22	24	25	3.22	12	No	No
7	1	139940	Semester	Fall	2012	510	600	580	28	26	22	24	25	3.22	12	No	No
3	1	139940	Semester	Spring	2013	510	600	580	28	26	22	24	25	3.22	12	No	No
)	1	139940	Semester	Summer	2013	510	600	580	28	26	22	24	25	3.22	12	No	No
0	1	139940	Semester	Fall	2013	510	600	580	28	26	22	24	25	3.22	12	No	No
1	2	139940	Semester	Fall	2010	650	660	625	30	32	29	30	30	3.6		Yes	No
2	2	139940	Semester	Spring	2011	650	660	625	30	32	29	30	30	3.6		Yes	No
3	2	139940	Semester	Fall	2011	650	660	625	30	32	29	30	30	3.6		Yes	No
4	2	139940	Semester	Spring	2012	650	660	625	30	32	29	30	30	3.6		Yes	No
5	2	139940	Semester	Fall	2012	650	660	625	30	32	29	30	30	3.6		Yes	No
6	2	139940	Semester	Spring	2013	650	660	625	30	32	29	30	30	3.6		Yes	No
7	2	139940	Semester	Fall	2013	650	660	625	30	32	29	30	30	3.6		Yes	No
B	2	139940	Semester	Spring	2014	650	660	625	30	32	29	30	30	3.6		Yes	No
9	3	139940	Semester	Fall	2010	500	490	515	21	20	24	22	23	3.05		Yes	No

First row of data (row 1) original column headers from CASSIE data template

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Second row of data contains Microsoft Accessfriendly column headers

### Step 2: Populate Data Tables

#### **Tab: Data–Education Abroad**

	А	В	С	D	E	F	G	Н	1
		Enrollment Term	Enrollment Year	Education Abroad	Education Abroad Location (add columns if education abroad took place in multiple countries; use naming convention Education Abroad Location 1, Education Abroad Location 2, etc.)	Education Abroad Location (add columns if education abroad took place in multiple countries; use naming convention Education Abroad Location 1, Education Abroad Location 2, etc.)	Education Abroad Location (add columns if education abroad took place in multiple countries; use naming convention Education Abroad Location 1, Education Abroad Location 2, etc.)	Education Abroad Location (add columns if education abroad took place in multiple countries; use naming convention Education Abroad Location 1, Education Abroad Location 2, etc.)	Education Abroad Lo columns if education took place in multipl countries; use namin convention Education Location 1, Education Location 2, etc.)
2	studentid	enrollterm	enrollyear	edabr_ind	edabr_loc1	edabr_loc2	edabr_loc3	edabr_loc4	edabr_loc
	1	Fall	2010	Yes	4305				
	2	Fall	2010	Yes	7000				
	3	Fall	2011	Yes	4151				
	5	Fall	2010	Yes	3189				
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First row of data (row 1) original column headers from CASSIE data template

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 Second row of data contains Microsoft Accessfriendly column headers



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### Step 2: Populate Data Tables

#### Tab: Data–Title VI

	А	В	С	D	E	F	G	н	J	К	L	М	N
ι	Jnique	Enrollment	Enrollment	Title VI, Language	Type of Program								
- 1	dentifier	Term	Year	Flagship,									
				Institution-Specific									
				Foreign Language									
				Program									
1				Participation									
2	studentid	enrollterm	enrollyear	titlevi_ind	titlevi_prog								
	1	Fall	2010	Yes	Centers for International Business Education								
ł	2	Fall	2010	Yes	Language Resource Center								
	5	Fall	2010	Yes	Foreign Language and Area Studies Fellowships								
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- First row of data (row 1) original column headers from CASSIE data template
- Second row of data contains Microsoft Accessfriendly column headers



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### Step 3: Format Data Tables

#### Tab: Data–Academic, Demographics

	А	В	С	D	Е	F	G	н	I.	J	К	L	М	Ν	0	Р	Q
1	studentid	ipedsid	acadcalendar	enrollterm	enrollyear	sat_math	sat_crverb	sat_writ	act_engl	act_math	act_reading	act_sci	act_comp	hsgpa	comp_Index	race_hisp	race_amind
2	1	139940	Semester	Fall	2010	510	600	580	28	26	22	24	25	3.22	12	No	No
3	1	139940	Semester	Spring	2011	510	600	580	28	26	22	24	25	3.22	12	No	No
4	1	139940	Semester	Fall	2011	510	600	580	28	26	22	24	25	3.22	12	No	No
5	1	139940	Semester	Spring	2012	510	600	580	28	26	22	24	25	3.22	12	No	No
6	1	139940	Semester	Fall	2012	510	600	580	28	26	22	24	25	3.22	12	No	No
7	1	139940	Semester	Spring	2013	510	600	580	28	26	22	24	25	3.22	12	No	No
8	1	139940	Semester	Summer	2013	510	600	580	28	26	22	24	25	3.22	12	No	No
9	1	139940	Semester	Fall	2013	510	600	580	28	26	22	24	25	3.22	12	No	No
10	2	139940	Semester	Fall	2010	650	660	625	30	32	29	30	30	3.6		Yes	No
1	2	139940	Semester	Spring	2011	650	660	625	30	32	29	30	30	3.6		Yes	No
2	2	139940	Semester	Fall	2011	650	660	625	30	32	29	30	30	3.6		Yes	No
13	2	139940	Semester	Spring	2012	650	660	625	30	32	29	30	30	3.6		Yes	No
14	2	139940	Semester	Fall	2012	650	660	625	30	32	29	30	30	3.6		Yes	No
5	2	139940	Semester	Spring	2013	650	660	625	30	32	29	30	30	3.6		Yes	No
16	2	139940	Semester	Fall	2013	650	660	625	30	32	29	30	30	3.6		Yes	No
17	2	139940	Semester	Spring	2014	650	660	625	30	32	29	30	30	3.6		Yes	No
8	3	139940	Semester	Fall	2010	500	490	515	21	20	24	22	23	3.05		Yes	No
19	3	139940	Semester	Spring	2011	500	490	515	21	20	24	22	23	3.05		Yes	No
20	3	139940	Semester	Fall	2011	500	490	515	21	20	24	22	23	3.05		Yes	No
21	3	139940	Semester	Spring	2012	500	490	515	21	20	24	22	23	3.05		Yes	No
22	3	139940	Semester	Summer	2012	500	490	515	21	20	24	22	23	3.05		Yes	No
23	3	139940	Semester	Fall	2012	500	490	515	21	20	24	22	23	3.05		Yes	No
24	3	139940	Semester	Spring	2013	500	490	515	21	20	24	22	23	3.05		Yes	No
25	3	139940	Semester	Fall	2013	500	490	515	21	20	24	22	23	3.05		Yes	No
26	3	139940	Semester	Spring	2014	500	490	515	21	20	24	22	23	3.05		Yes	No

- Delete row containing original column headers (row 1)
- Microsoft Accessfriendly column headers move from row 2 to row 1



### Step 3: Format Data Tables

#### Tab: Data–Education Abroad

_	А	В	С	D	E	F	G	Н	<u> </u>
	-	enrollterm			edabr_loc1	edabr_loc2	edabr_loc3	edabr_loc4	edabr_loc5
2	1	Fall	2010	Yes	4305				
3	2	Fall	2010	Yes	7000				
4	3	Fall	2011	Yes	4151				
5	5	Fall	2010	Yes	3189				
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- Delete row containing original column headers (row 1)
- Microsoft Accessfriendly column headers move from row 2 to row 1



### Step 3: Format Data Tables

#### Tab: Data–Title VI

4	А	В	С	D	Е	F	G	Н	I	J	K	L	М	Ν
		enrollterm		titlevi_ind	titlevi_prog									
	1	Fall	2010	Yes	Centers for International Business Education									
-	2	Fall	2010	Yes	Language Resource Center									
	5	Fall	2010	Yes	Foreign Language and Area Studies Fellowships									
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- Delete row containing original column headers (row 1)
- Microsoft Accessfriendly column headers move from row 2 to row 1



### Step 4: Rename and Save

- Save and rename file as appropriate
- You are now ready for Phase II!



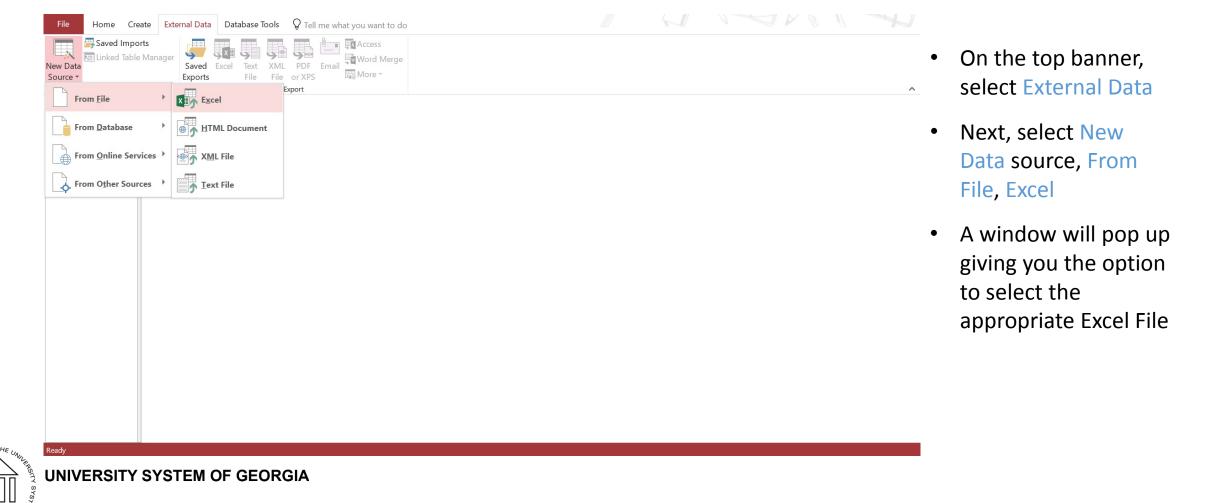
# Phase II

Required Software: Microsoft Access



### Step 1: Create New Access Database

¢	Test Database : Database- C:\U	ers\Darian\Documents\~GA	Tech\Assistantships\USG - Boa	ard of Regents - CASSIE - Sprin	ng 2018 - December 2018\Tasl	kings\08-10 Darian Agne	ew ? – 🗇	×	
Info New	New							•	Open Microsoft Access Program
Open Save Save As Print Close Account Feedback	Search for online templa Suggested searches: Data		lustry Lists Personal Con	tacts				•	Select Blank Database Option You should see a screen with two empty window
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	Database Tools 🛛 P Tell me what you want to do	
New Data Source ~ Linked Table Manager Source ~ Exports		~
All Acc © « Search )	Specify the source of the definition of the objects.         Lile name:       Cyteers/Darian/Documents/       Browse.         Specify how and where you want to store the data in the current database.       We will not import table relationships, calculated columns, validation rules, default values, and columns of certain legacy data types such as OLE Object.         Specify how and where you want to store the data in the current database.       If the specified table does not exist, Access will create it. If the specified table already exists, Access might overwrite its contents with the imported data. Changes made to the source data will not be reflected in the database.         Image: Ima	

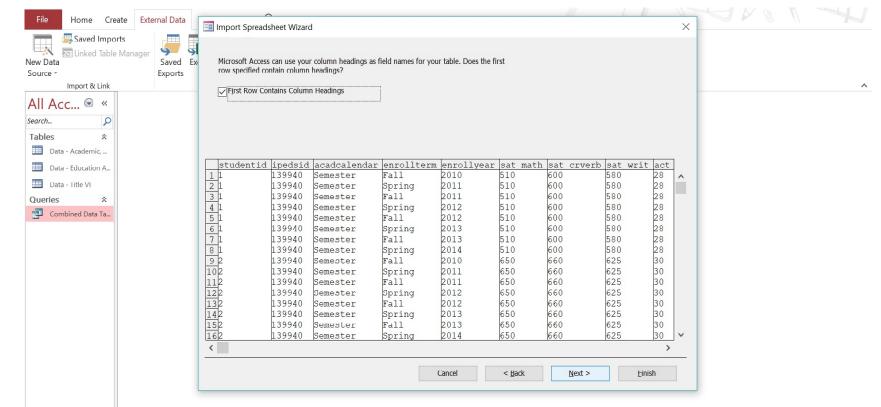
- Click the Browse button to navigate to Excel file created from Phase 1, Step 4
- Double-click on appropriate Excel file
- Do not change default settings
- Settings should default to Import the source data into a new table in the current database

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		91	139940	Semester	Spring	2014	510	600	580	28		
		102	139940	Semester	Fall	2010	650	660	625	30		
		112	139940	Semester	Spring	2011	650	660	625	30		
		122	139940	Semester	Fall	2011	650	660	625	30		
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- New window will appear, listing names to tabs in excel file as well as a preview of data records and fields on the selected tab
- Do not change default settings on this screen
- Before clicking Next, ensure the Data – Academics, Demographics tab is highlighted.





- Ensure the First Row Contains Column Headings option is selected.
- Click Next
- Click Next again



mport Spreadsheet Wizard

Import & Link	Saved Ex Exports		soft Access recommends that you def uely identify each record in your table. Let Access add primary key. Choose my own primary key.	ne a primary key for your It allows you to retrieve da	new table. A primary key is used to ta more quickly.		
		ID 1 SR ID 2	SR Term 1	SR Term 2	SR Term 3		
	11	139940	Semester	Fall	2010	~	
	21	139940	Semester	Spring	2011		
	31	139940	Semester	Fall	2011		
	41	139940	Semester	Spring	2012		
	51	139940	Semester	Fall	2012		
	61 71	139940	Semester	Spring	2013		
		139940	Semester	Fall	2013		
	81	139940	Semester	Spring	2014		
	92	147035 147035	Semester	Fall	2010		
	102	147035	Semester Semester	Spring Fall	2011 2011		
	112	147035	Semester		2011		
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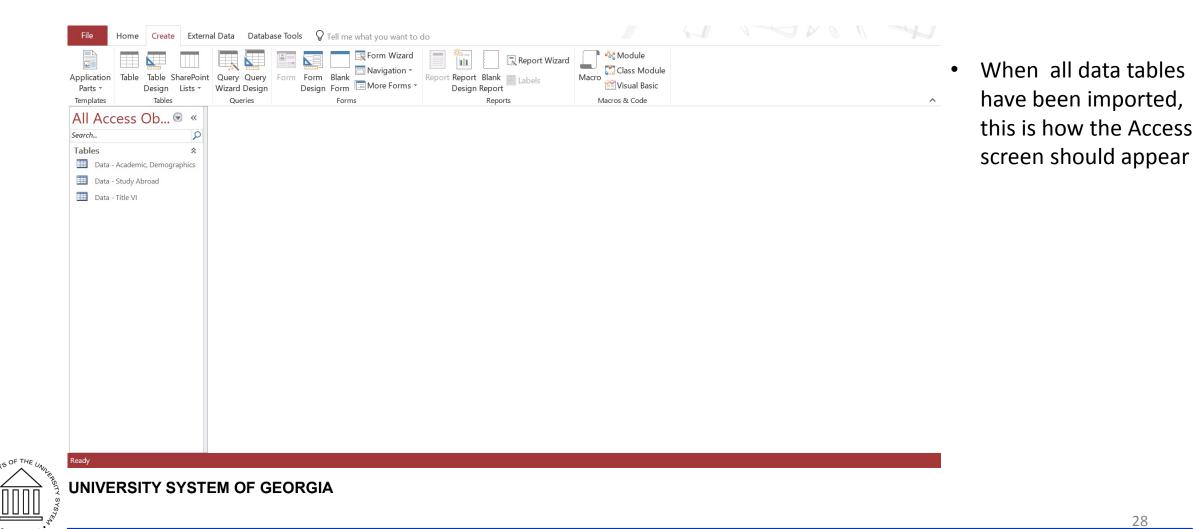
- Select the No primary key option.
- Click Next
- Click Next again
- Click Close

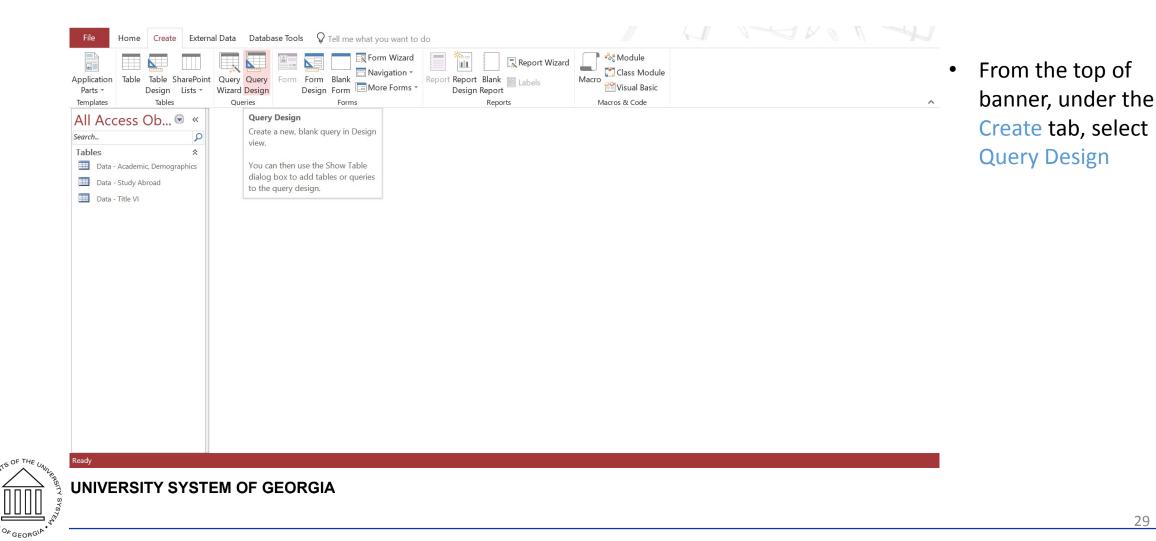




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File Home Create External Data Database Tools $Q$ Tell me what you want to do	
Saved Imports       Saved Table Manager         New Data       Saved Linked Table Manager         Source *       Import & Link         Import & Link       File         File       File         Exports       Export	A new table will     appear with the
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	<ul> <li>Repeat these steps for the next two Tabs</li> </ul>
Ready	

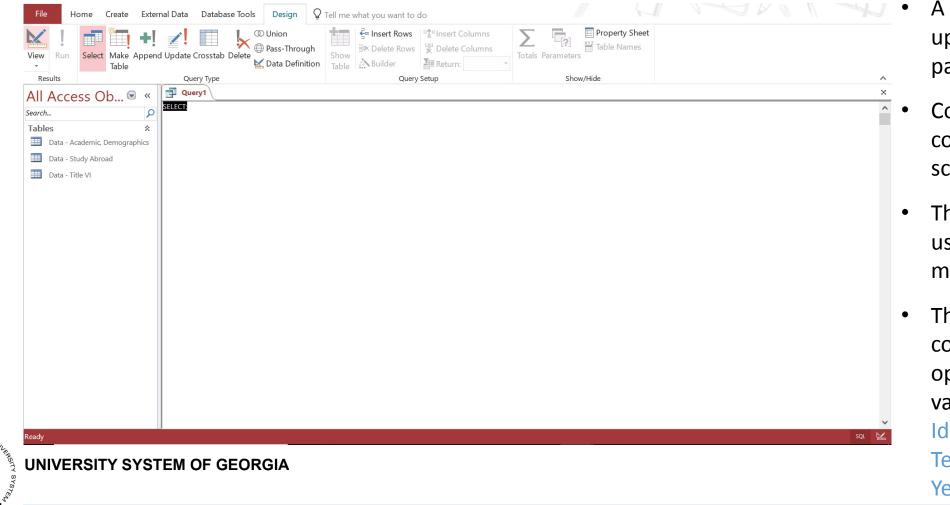




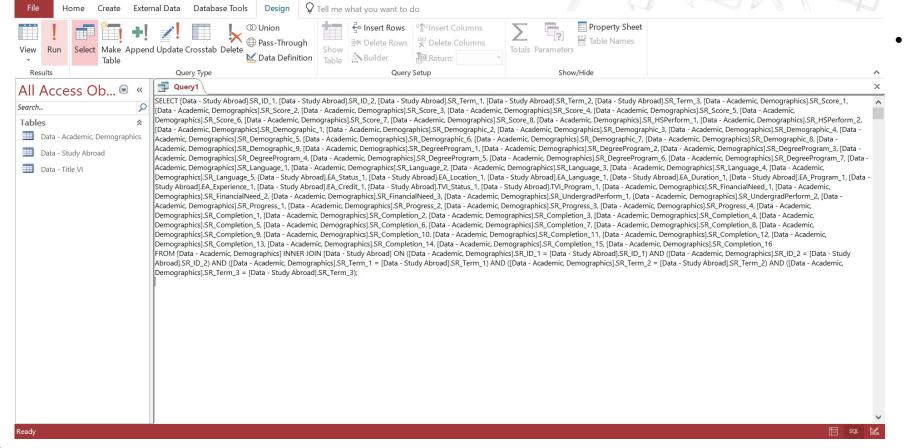
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- A window will automatically pop up on the screen. Close this window
- A tab will also automatically open and will be labeled Query1
- On the top right of the banner under Design, click SQL





- A blank screen will open up on the left window pane
- Copy and Paste the SQL code provided into this screen.
- The SQL code will be used to execute the merge operation
- The SQL code will complete the merge operation using 3 variables: Unique Identifier, Enrollment Term, and Enrolment Year



On the banner towards the right, select the Run button

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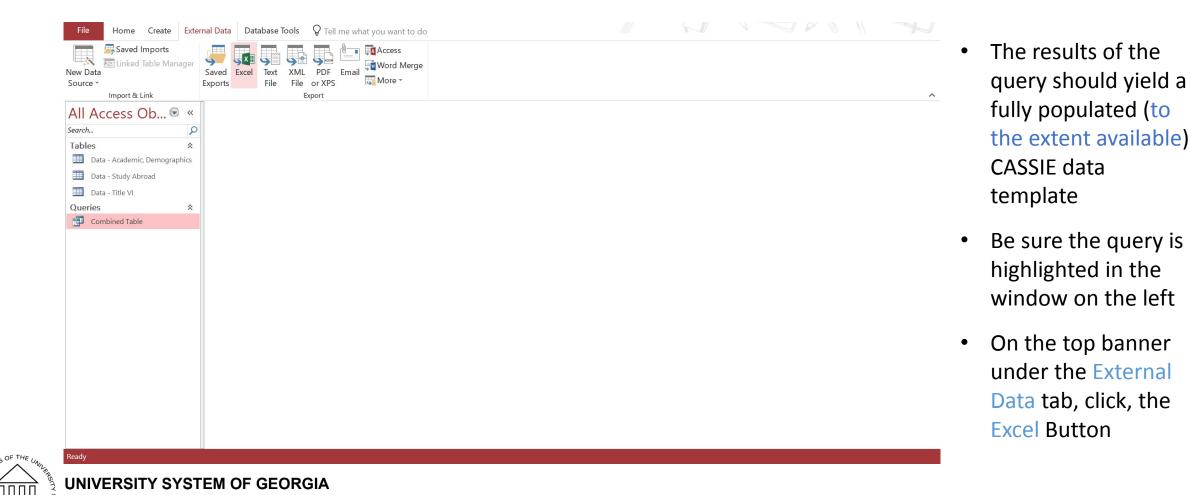
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### Step 4: Export Query Results



### Step 4: Export Combined Data Table

Saved Imports	Export - Excel Spreadsheet ? ×
v Data urce v Import & Link	Select the destination for the data you want to export
II Access Ob	Specify the destination file name and format.         Eile name:       C:\Users\Darian\Documents\Combined Table.xlsx         Browse
Data - Academic, Demographics Data - Study Abroad	File format: Excel Workbook (*.xlsx)
Data - Title VI ueries  Combined Table	Specify export options. We will not import table relationships, calculated columns, validation rules, default values, and columns of certain legacy data types such as OLE Object.
	Search for "Import" in Access 2016 Help for more information.  Export data with formatting and layout. Select this option to preserve most formatting and layout information when exporting a table, query, form, or report.  Open the destingtion file after the export operation is complete. Select this option to view the results of the export operation. This option is available only when you export formatted data.  Export only the selected records.
	Select this option to export only the selected records. This option is only available when you export formatted data and have records selected.
	OK Cancel

- This window will pop up
- Click the Browse button and select the destination for the output table
- Click OK



## **CASSIE Member Experience**

- Cathy Ficzner, Student Records Manager and Technology Coordinator at University of South Carolina Study Abroad Office
- USC Study Abroad Student Records Database—Symplicity by Horizons
  - Coming Soon—Mobility Online
- USC Institutional Research Outreach
- Challenges
  - Before/After Symplicty and Banner Integration
  - Manual manipulation of data



### <u>Questions</u>

- Open Q & A
- Merging data using Excel and Access
  - Darian Agnew <u>darian.agnew@usg.edu</u>
- General questions about CASSIE
  - Don, Angie, Rachana or Darian at cassie@usg.edu

