

Tableau Users' Manual

Using Tableau Server to Access the Acorn Institutional Data Warehouse

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Navigation on Tableau Server

Tableau Server Login address: <https://idw-bi.ualberta.ca>

Definitions:

- Views - Pages that display data in tables or graphs and the display of the information can be change by manipulating elements of the page (e.g. filters)
- Workbooks – contains a group of pages that were developed together from a common data source and can have linked views that are displayed as tabbed views.
- Projects – organizational folders where workbooks can be stored with designated access rights

Projects contain workbooks and **workbooks** are made up of **views**.

Accessing a View through the Project screen

The Project screen is what you see the first time you login to the Tableau server. This will be your start page unless you manually change where you want to start (see page 11). To return to this page at any point, click on the UofA logo in the top left corner.

The project page will list all the projects that you have permission to access.

- 1) Click on the link to the Project you would like to access.

The screenshot shows the Tableau Server interface. At the top left is the University of Alberta logo. A red arrow points to it with the text "Click on logo on any page to return to start page". Below the logo is a sidebar with a list of items: Projects (1), Workbooks (4), Views (22), and Data Sources (0). The "Projects" item is highlighted with an orange bar. A blue box surrounds this list, with a blue arrow pointing to it from a text box that says "Numbers associated with projects, workbooks, views and data sources refers to all the items that you have access too". To the right of the sidebar is a header "Projects" with a red arrow pointing to it and the text "Page Name". Below the header is a list of projects, with "Student" selected. A red arrow points to "Student" with the text "Click here to get a page listing workbooks located in the student project folder". Below the project list are filters for PROJECT, OWNER, TAG, and MODIFIED ON OR AFTER, each with a dropdown menu. At the bottom of the page is a footer with copyright information: "©2014 Tableau Software, Incorporated and its licensors. All rights reserved. Version 8.2.5 (8200.14.1117.2110) 64-bit".

Note The orange bar next to the "Projects" in the left-hand sidebar indicates that projects are displayed on the screen*

- This will direct you to a page with a list of all the workbooks that are associated with that project. Click on the workbook that contains the view that you want to see.

Workbooks

Projects: 1
Workbooks: 4
 Views: 22
 Data Sources: 0

Filters: Clear All x

Search for content

PROJECT: Student x

OWNER: Any Owner

TAG: Any Tag

MODIFIED ON OR AFTER: Any Date

MODIFIED ON OR BEFORE: Any Date

FAVORITES: Show Only Favorites

RECENTLY USED: Show Only Recently Us...

Workbook: Applicant and Enrolment Management Report

Workbook: Convocation

Click here to open workbook Convocation

Name of Project containing these workbooks

Numbers next to headings are associated ONLY with the number of items found in the Student project and therefore varies from the start page

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(Note* The orange bar next to the “Workbooks” in the left-hand sidebar indicates that workbooks are displayed on the screen)

- This page shows links to all the views included in the workbook selected in step 2. Click on the view (image or title) that you wish to look at.

Workbooks

Projects: 1
Workbooks: 4
 Views: 22
 Data Sources: 0

Filters: Clear All x

Search for content

PROJECT: Any Project

OWNER: Any Owner

TAG: Any Tag

MODIFIED ON OR AFTER: Any Date

MODIFIED ON OR BEFORE: Any Date

FAVORITES: Show Only Favorites

RECENTLY USED: Show Only Recently Us...

Workbook: FLE and Headcount in Project: Student

Workbook name containing Views

Click link to return to Project workbook is located in

View: Fall Headcount Six Year Trend

View: Fall Headcount & FLE

View: Fall Headcount

Click on the name or image of the view to open the page

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- 4) This page displays the view you selected. All other views in the workbook are represented by tabs and can be accessed by clicking on the tab (rather than going back to the workbook level).

The screenshot shows the 'FLE and Headcount' workbook interface. At the top, there is a header bar with the workbook name 'FLE and Headcount' and a 'Back' button. Below this, there are tabs for different views: 'Fall Headcount', 'Six Year Trend', 'Fall Headcount & FLE', 'Fall Headcount', 'Full Load Equivalent (FLE)', and 'About'. The 'Fall Headcount & FLE' tab is currently selected. Below the tabs, there are dropdown menus for 'Reporting Year' (set to '(Multiple values)'), 'Academic Career' (set to '(All)'), and 'Academic Career Level' (set to '(All)'). The main content area displays a table with the following data:

Enrolment Reporting Status	Reporting Year	Undergraduate	PhD	Masters	Oti
Final	2009/10	1,461	70	92	
	2010/11	1,355	80	84	
	2011/12	1,367	74	69	
	2012/13	1,434	69	75	
	2013/14	1,607	63	76	

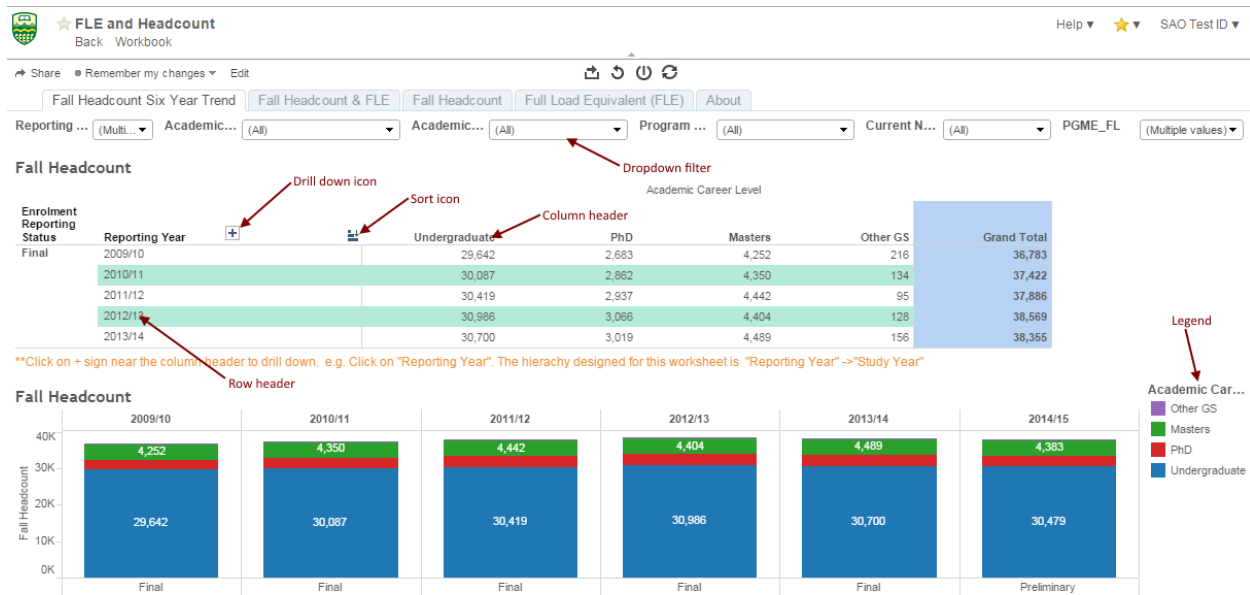
Annotations on the screenshot include:

- 'Workbook name' pointing to the 'FLE and Headcount' header.
- 'Click here to go back to the workbook level (lists all workbook views)' pointing to the 'Back' button.
- 'View Name' pointing to the 'Fall Headcount' tab.
- 'Click on the tab to change to another view' pointing to the 'Fall Headcount & FLE' tab.
- 'Click on back to go back to previous viewed page (May be different than workbook level)' pointing to the 'Back' button.

**Click on + sign near the column header to drill down. e.g. Click on "Reporting Year". The hierarchy designed for this worksheet is "Reporting Year" -> "Stu"

Modifying the displayed information on a view

The information displayed in a Tableau view can be changed so that you see less information (filtering, keep, exclude, drill up), more information (drill down), reordered (sorting) or highlighted.



Filtering data

- 1) Click on the upside down triangle on left side of the dropdown filter.
- 2) Select either one item on the dropdown filter (single value menu) or multiple items (multiple value menu)

Single value selection

Program ... (All) Current

Academic Car

Null

Agric, Life & Environ Sciences

Arts

Augustana Faculty

Business

Education

Engineering

Extension

Faculte Saint-Jean

Faculty of Native Studies

Graduate Studies and Research

Law

Medicine and Dentistry

Nursing

Open Studies

Pharmacy & Pharmaceutical Sci

Physical Educ & Recreation

Public Health

Rehabilitation Medicine

Science

Multiple value selection

Academic... (All)

☒ (All)

☒ Masters

☒ Other GS

☒ PhD

☒ Undergraduate

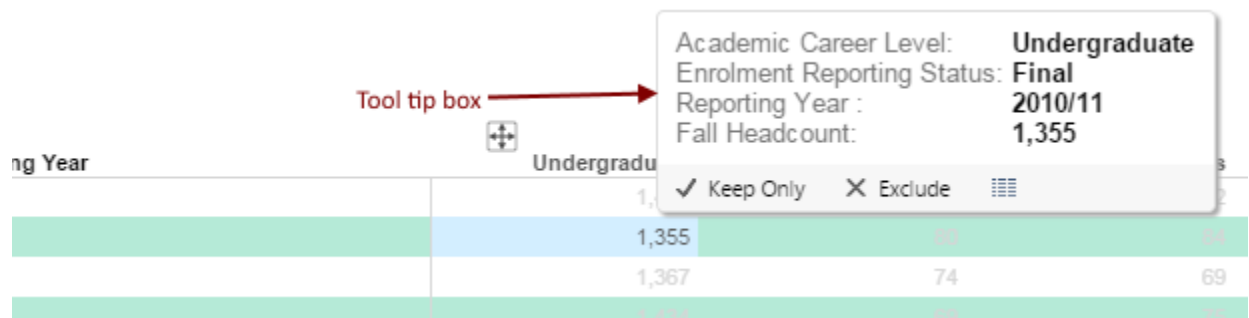
Undergraduate PhD

Click on boxes of the values to be included or excluded in the table or figure being viewed.

Keep or exclude one or more data cells

1) One data cell

- I. Move your mouse over a cell in a table until a tool tip box appears.



The screenshot shows a table with a tooltip box over a cell. The tooltip box contains the following information:

- Academic Career Level: Undergraduate
- Enrolment Reporting Status: Final
- Reporting Year: 2010/11
- Fall Headcount: 1,355

The table has a header row with 'Reporting Year' and 'Undergraduate'. The data rows show the following values:

Reporting Year	Undergraduate
2009/10	1,367
2010/11	1,355
2011/12	1,367
2012/13	1,355

- II. Select “Keep Only” to display only that one cell/value in the displayed table or graph.
Select “Exclude” to remove only that one cell/value in the displayed table or graph.

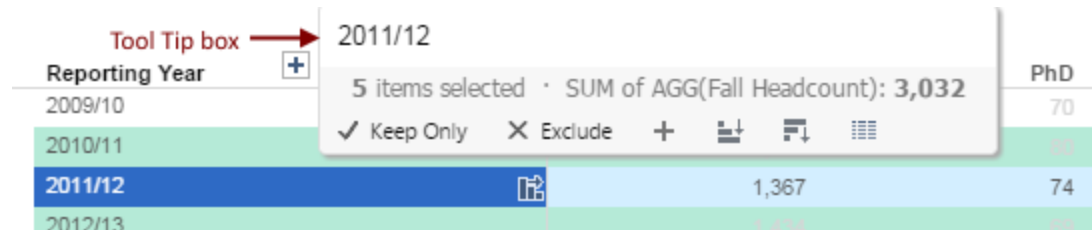
2) Multiple data cells

- I. Hold the [Ctrl] key down (or the Command key [⌘] when using a Mac) and then select each cell you want. A tool tip box will pop up when you select each cell.
- II. Once all the cells are selected, click on the “Keep Only” or “exclude” buttons on the tool tip box

Keep or exclude one or more rows or columns of a table

3) One row/column

- I. Select the row header for the row you want to keep or exclude. A tool tip box will pop up when you select the row.



The screenshot shows a table with a tooltip box over a row header. The tooltip box contains the following information:

- 5 items selected · SUM of AGG(Fall Headcount): 3,032
- Keep Only (checked)
- Exclude
- Buttons: +, -, <=>, <=>

The table has a header row with 'Reporting Year' and 'PhD'. The data rows show the following values:

Reporting Year	PhD
2009/10	70
2010/11	70
2011/12	74
2012/13	70

- II. Select “Keep Only” to display only that row/column in the displayed table. Select “Exclude” to remove only that one row/column in the displayed table.

4) Multiple data rows/columns

- I. Hold the [Ctrl] key down (or the Command key [⌘] when using a Mac) and then select each row/column you want. A tool tip box will pop up when you select each row/column.
- II. Once all the rows/columns are selected, click on the “Keep Only” or “exclude” buttons on the tool tip box

Drill-down or drill-up in a table or graph

The drill-down or drill-up function refers to either expanding or contracting the detail of a particular row or column in a table or Graph

1) Drill-down

- I. Move the mouse over a particular row or column. A box with a “+” in it appears over the row or column

Fall Headcount

Enrolment Reporting Status	Reporting Year		Undergraduate
Final	2009/10		1,461
	2010/11		1,355
	2011/12		1,367
	2012/13		1,434
	2013/14		1,607

- II. Click on the “+” to drill-down to a level below reporting year. An additional column showing an additional breakdown of reporting year into the student study year appears between reporting year and undergraduate in the table.

Fall Headcount

Enrolment Reporting Status	Reporting Year	Study Year	Undergraduate
Final	2009/10	00	
		Y1	284
		Y2	150
		Y3	557
		Y4	470

2) Drill-up

- I. Move the mouse over a particular row or column. A box with a “-” in it appears over the row or column.

Fall Headcount


Enrolment Reporting Status	Reporting Year	Study Year	Undergraduate
Final	2009/10	00	
		Y1	284
		Y2	150
		Y3	557
		Y4	470

- II. Click on the “-” to collapse the column to the left of the reporting year (the column disappears). The column to the right of the “-” gave a more detailed breakdown of the reporting year column (e.g. Undergraduate headcount in Y1 for reporting year 2009/10).


Sorting data

Sorting allows you to reorder rows in a table based on the values found in one column. When you hover over a table column a triangular shaped image appears (made up of 3 horizontal bars).

To order the column from highest to lowest values, click on the icon that looks like an upside-down triangle at the right corner of the column header.

Reporting Year	Undergraduate	PhD	Masters 	Other GS
2009/10	1,461	70	92	23
2010/11	1,355	80	84	8
2011/12	1,367	74	69	6
2012/13	1,434	69	75	8
2013/14	1,607	63	76	5

The sort reorders all the rows in based on the sort order of the column. Therefore, the reporting year order results in the non-sequential order (2009/10; 2010/11; 2013/14; 2012/13; 2011/12). Also notice that the sort icon now remains visible indicating that a sort was done on this column.

Reporting Year	Undergraduate	PhD	Masters 	Other GS
2009/10	1,461	70	92	23
2010/11	1,355	80	84	8
2013/14	1,607	63	76	5
2012/13	1,434	69	75	8
2011/12	1,367	74	69	6

Highlighting

Highlighting changes the brightness of parts of a table or figure which makes them stand out more in the view.

Highlighting in tables

- Highlight a row or column by selecting it's header
- Highlight a cell by selecting the cell

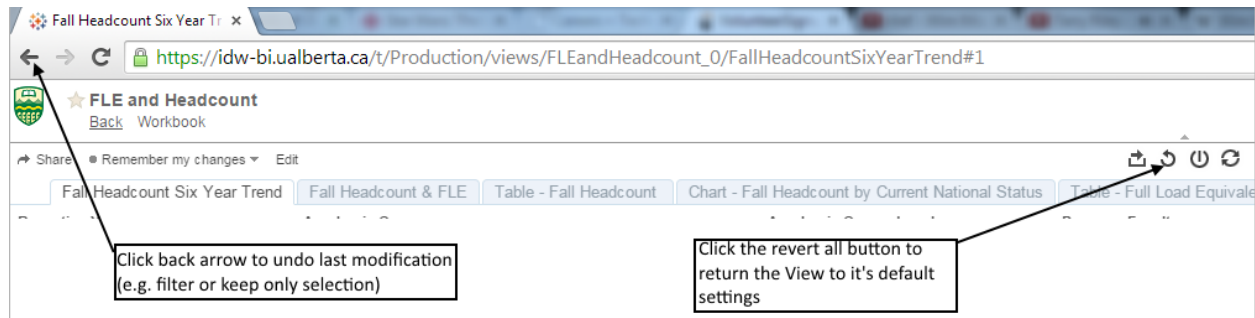
Highlighting in figures

- Highlight a value in a graph by selecting the element in the graph (e.g. a bar in a chart or a colour in a stacked bar chart.
- Highlight a value in a graph by selecting the value in a colour legend for the figure.

*(Note*The highlight selected items icon next to the legend title should be selected first and appear grey in order for it to work)*

Resetting and removing changes to Views

Remove the last change to a view or all the changes



Remembering and saving information

Remember my settings

When you leave a Tableau view, all the changes that you made (e.g. filters, highlights, drill-downs etc.) are lost.

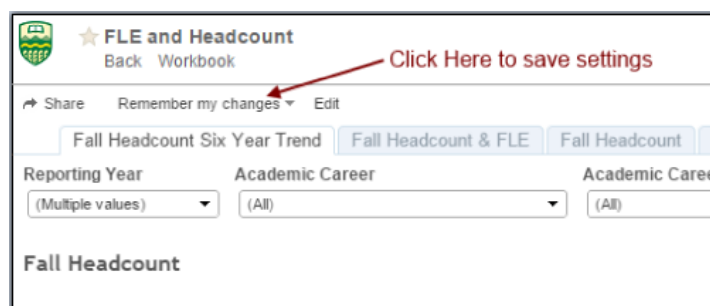
To save your setting:

Click on “remember my settings” in the top left section of the screen. Type in what you want to call the custom view in the field at the top of the drop-down menu. You can save multiple different configurations for a view and call them whatever makes sense to you.

The name of the “Remember my Settings” menu changes to “Original View” once you have saved your first custom view

Change custom views:

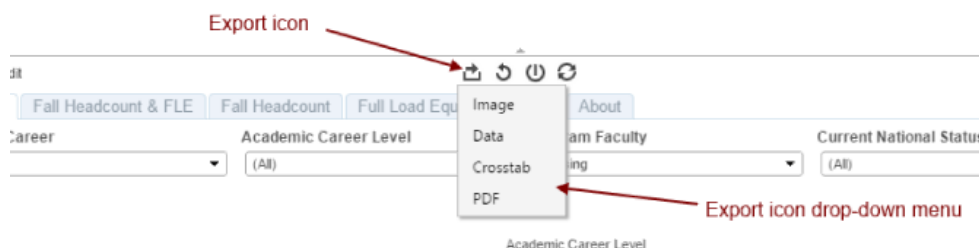
Edit the saved views by clicking “Manage custom views” on the “Original View” menu. You can either delete a custom view or publish it so everyone with access to the workbook can access the custom view you created.



Exporting data

Method 1 – Downloads whole table

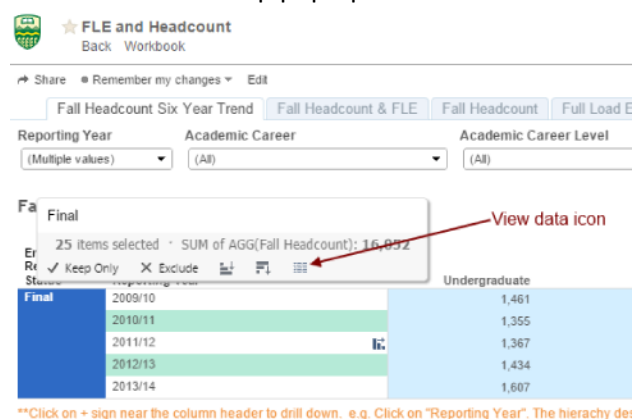
1. Click on the “Export” icon found on the top center of the page.
2. Select cross-tab data. A download prompt appears asking if you want to download a text file that can be viewed in excel.



You can also use the export icon to export the view as either an **image** or a **pdf file**.

Method 2 – Downloads data for selected rows or columns only

1. Click on all the row or column headers of the data you want to download. Select the “View data” icon from the Tool Tip pop-up screen.





2. A pop-up windows appears with a table that has all the data that you selected. At the top and bottom of the table you will find a link that says “download all rows as a text file”. The download file appears as a text file with each row corresponding to a row in the table and a comma between each value in a row (comma delimited). This file can easily be imported into excel for additional analysis.




Printing


WARNING - If you try to print a view using the print function (button or key-stroke) the output may have part of the graph cut off.

1. Click on the “Export” icon found at the top, center of the page and save as a pdf with the following page size and scaling settings:

Export PDF

Layout:   Paper Size: Scaling:

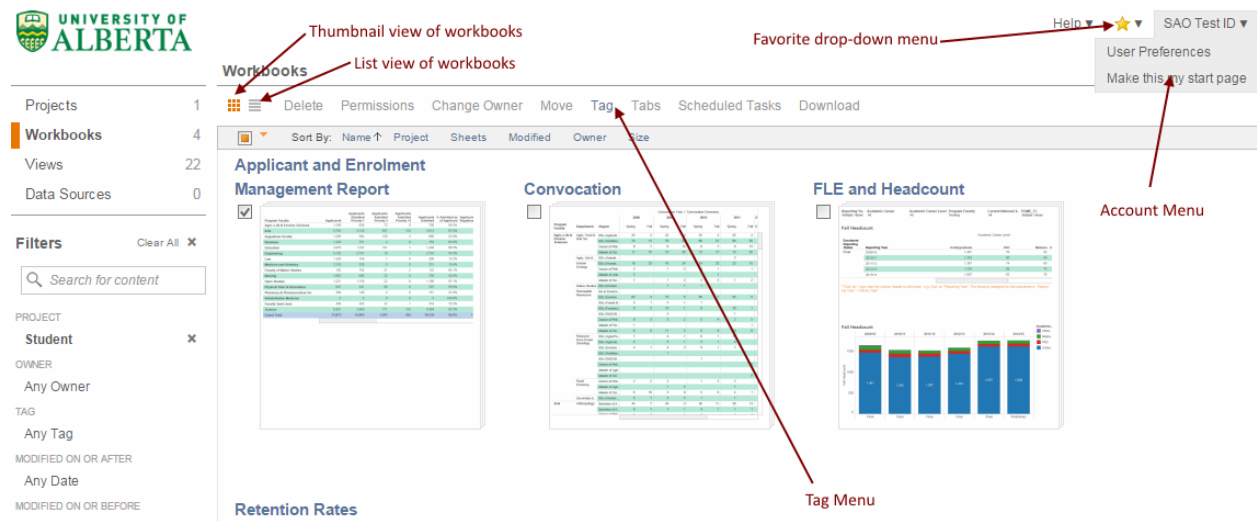
Content:   

Sheets to Export: 

Export **Cancel**

2. Open and print the pdf

Improving Navigation



The screenshot shows the Tableau interface for the University of Alberta. Red arrows point to various navigation elements:

- Thumbnail view of workbooks**: Points to the 'Workbooks' tab icon in the left sidebar.
- List view of workbooks**: Points to the 'List' icon in the left sidebar.
- Favorite drop-down menu**: Points to the star icon in the top right corner.
- Account Menu**: Points to the 'User Preferences' and 'Make this my start page' options in the top right corner.
- Tag Menu**: Points to the 'Tag' tab in the top navigation bar.

The interface includes a left sidebar with a search bar, filters (Project, Student, Owner, Tag, Modified), and a main content area displaying three workbooks: 'Applicant and Enrolment Management Report', 'Convocation', and 'FLE and Headcount'.

Display of Workbooks and views

You can display workbooks and views as thumbnails (small images of the workbook) or as a lists.

- Thumbnails – works better if you are looking for information displayed in a particular way (table or graph)
- Lists – works better if you have a lot of workbooks or views and you need to display them as a list to get them all displayed on the page.

Set start page

1. Navigate to the page (project, workbook or view) that you want to start on when you first login to Tableau server.

- Click on the “Account” menu in the top left corner of the screen and select “Make this my start page”

Favorites

Add a Favorite

- Thumbnail view - Move your over the workbook or view image. Click on the faint outline of a star next to the name on the tool tip that appears.
- List view - click on this star next to the workbook or view to make it a favorite.

Navigating to Favorite - Go to the “Favorite” drop-down menu and selecting the favorite that you want.

Remove a Favorite – Click on the yellow star next to the workbook or view name (list view). In the thumbnail view click on the star that appears next to the name on the images tool tip.

Advance searching

UNIVERSITY OF ALBERTA

Help ★ SAO Test ID

Projects

Projects	1	Student	# Workbooks: 4
Workbooks	4	Student (SAC)	
Views	22		
Data Sources	0		

Projects per page: 10 Pages: 1 / 1 Prev Next

Filters

Search for content

PROJECT
Any Project

OWNER
Any Owner

TAG
Any Tag

MODIFIED ON OR AFTER
Any Date

MODIFIED ON OR BEFORE
Any Date

FAVORITES
Show Only Favorites

RECENTLY USED
Show Only Recently Us...


Advance searching

You can do advance searches by using the “Filter” panel on the left side of the screen. Search by:

- Content found in the name of workbooks or information in a view.
- Filter by selecting a project, owner, tag, date or favorite. This displays all the workbooks or views associated with the selection. For example, selecting an owner will display all workbooks and views that are owned by a particular owner.
- You can add multiple filters. For example, you can have it display all the workbooks in “student” projects that have content related to “retention”.

Web Authoring

People can use the web authoring function (also known as “Web Edit”) to customize workbooks published on the Tableau server. Using the web authoring function, users gain access to the data set behind the workbooks. They can pick the dimensions and measures from the data set, and customize report content to suit their data need. In this section, various components on the web authoring interface will be discussed. At the end, two examples are given to demonstrate how web authoring can be used to change table content and transform a table into a graph format. The “U of A Staff” workbook in the Staff Project is used for the purpose of illustration.

 Site: Production

Home > Staff > U of A Staff > UofA Staff Headcount

Share Remember my changes Edit

Click on the "Edit" menu to open the workbook in web edit mode.

UofA Staff Headcount UofA Staff Headcount by Faculty UofA Staff FTE UofA Staff FTE by Faculty UofA Professoriate Headcount by Faculty and Rank UofA Profess

UofA Staff Headcount

Select Filters to Apply to Data

HR Academic Year
(Multiple values)

Employee Group
(All)

Employee Category
(All)

Employee St
(All)

Click on the "+" on the column header to drill down. This expands the table to include the Employee Subcategory.

Employee Group	Employee Category	Employee Subcategory	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Employee	Academic	Administrative Professional Officer	384	413	457	476	521	521	529	554	550	522	527
		Contingent Faculty	281	320	383	430	470	462	455	448	442	432	439
		Contingent Faculty Service Officer	2	3	2	6	8	7	8	13	19	22	22
		Contract Academic Staff, Teaching Faculty		848	913	941	906	882	977	990	985	922	924
			1,549	1,566	1,626	1,676	1,714	1,674	1,680	1,680	1,694	1,621	1,650
		Faculty Service Officer	48	47	52	62	67	66	70	69	66	74	78

Workbook in Web Edit Mode

Web Edit mode provides tools for customizing a workbook on Tableau server. In fact, the Web Edit interface is very similar to what developers use for creating Tableau workbooks on their desktop. The graph below depicts the items on the web authoring interface. The details for each item are explained in the following sections. It is important to understand the items on the web authoring interface before jumping into customizing workbooks.

Items highlighted in red font are only accessible in Web Edit and they are the tools for customizing the display area, which is highlighted in green font.

1. The URL with the word "authoring" in it indicates the workbook is in web edit mode.

2. List of Dimensions

3. List of Measures

4. Toolbar

5. Filter Shelf

6. Marks Card

7. Column Shelf

8. Row Shelf

9. Filters displayed in the view

10. Table/Graph – Data Display Area


11. Worksheets in the Workbook

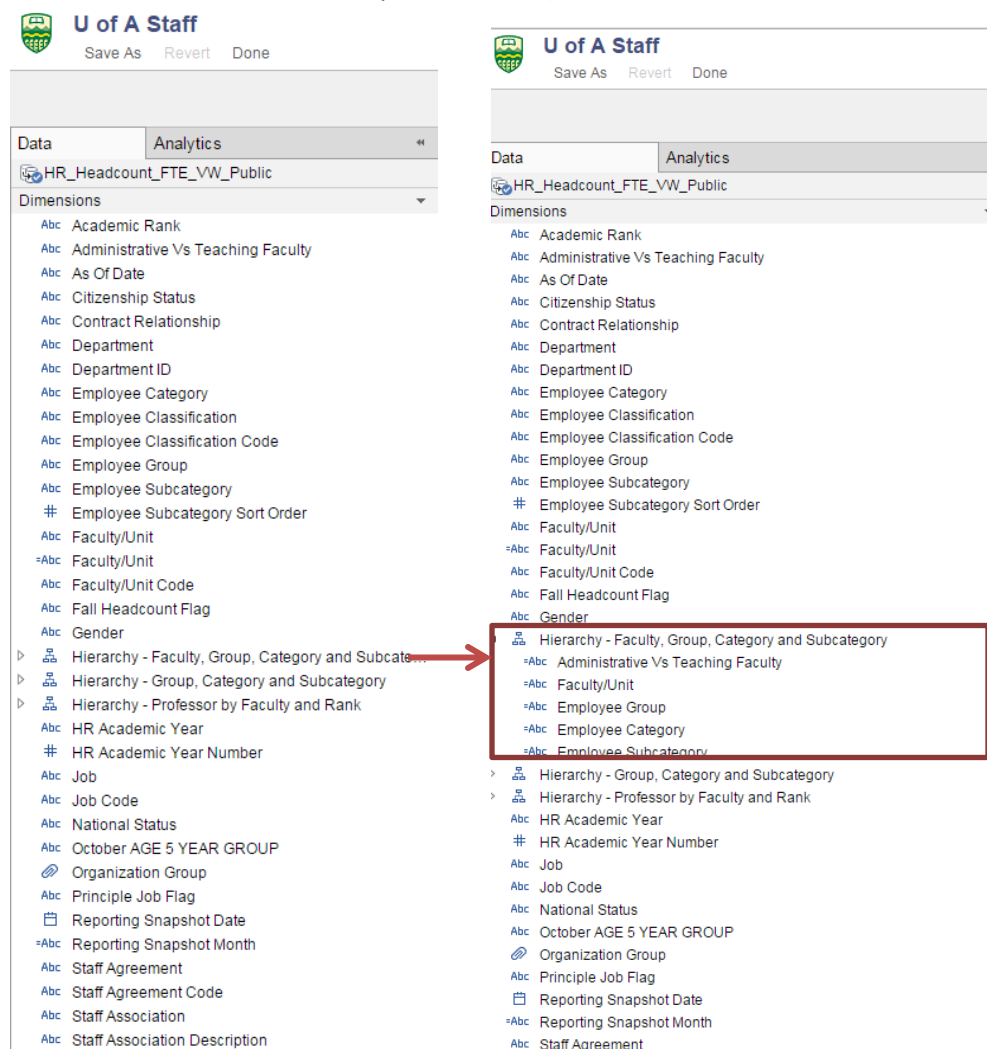
Employee Group	Employee Category	Employee Subcategory	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Administrative Professional Officer	Administrative Professional Officer	Administrative Professional Officer	384	413	457	476	521	521	529
Contingent Faculty	Contingent Faculty	Contingent Faculty	281	320	383	430	470	482	455
Contingent Faculty Service Officer	Contingent Faculty Service Officer	Contingent Faculty Service Officer	2	3	2	6	8	7	8
Contract Academic Staff, Teaching Faculty	Contract Academic Staff, Teaching Faculty	Contract Academic Staff, Teaching Faculty	848	913	941	906	882	977	
Faculty Service Officer	Faculty Service Officer	Faculty Service Officer	1,549	1,566	1,626	1,678	1,714	1,674	1,680
Librarian	Librarian	Librarian	48	47	52	62	67	66	70
Other Academic	Other Academic	Other Academic	57	57	60	61	64	62	65
Research Academic Staff	Research Academic Staff	Research Academic Staff	1,858	416	389	389	421	381	368
Temporary Admin Professional	Temporary Admin Professional	Temporary Admin Professional	450	371	365	379	385	408	407
Support, Operating Funded	Support, Operating Funded	Support, Operating Funded	1,029	262	222	217	180	189	187
Support, Operating Funded, Casual	Support, Operating Funded, Casual	Support, Operating Funded, Casual	3,104	2,981	3,069	3,153	3,214	3,113	3,179
Support, Trust Funded	Support, Trust Funded	Support, Trust Funded	842	923	1,013	1,051	1,072	1,012	
Support, Trust Funded, Casual	Support, Trust Funded, Casual	Support, Trust Funded, Casual	1,321	1,144	1,095	1,159	1,155	1,190	1,179
Post Doctoral Fellows	Post Doctoral Fellows	Post Doctoral Fellows	452	611	591	779	783	846	
Excluded Students (Undergraduates)	Excluded Students (Undergraduates)	Excluded Students (Undergraduates)	370	420	456	446	503	513	558
Graduate Assistants (GTA/GRA/Other)	Graduate Assistants (GTA/GRA/Other)	Graduate Assistants (GTA/GRA/Other)	587	676	696	661	678	602	616
Grand Total	Grand Total	Grand Total	2,468	2,505	2,691	2,712	2,891	3,000	3,113
			13,052	13,056	13,758	14,055	14,715	14,658	14,946

"Other Academic" includes staff who are excluded from the AASUA association; and, casual, contract and visiting speakers.

1. The word "authoring" is part of the URL when the workbook is in the Web Authoring Mode.

2. Dimensions are characteristics of an entity. In the example above, each record is a person's job record (limited to Active Leave With Pay or Leave of Absence {APL} status) in the "staff headcount and FTE" dataset. The dimensions are mostly the qualitative attributes about the job and the person who holds the job, such as "Department" the job belongs to, "National Status" the employee has and the "Staff Agreement" the job is classified into. The dimensions are frequently used to pivot/slice the data. In this example, the Employee Category and Employee Sub Category are used on the row shelf to slice the headcount.

Hierarchy is built on top of the dimensions to represent the hierarchical relationships among them. A hierarchy ( Hierarchy - Faculty, Group, Category and Subcategory) has a triangle shape and a flow chart sign beside its name. When the triangle shape gets clicked, the hierarchy is unfolded and the underlying dimensions are displayed. You can use the dimensions belonging to a hierarchy in the same way as the stand-alone dimensions (e.g. drag the dimensions to Row and Column Shelves to further pivot the data).

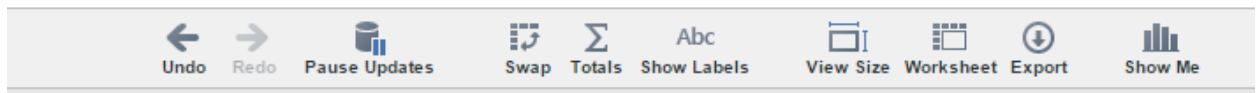


The screenshot displays the 'U of A Staff' software interface, which is divided into two panels. Both panels show a list of dimensions under the 'Data' tab. The left panel shows a list of dimensions, including 'Hierarchy - Faculty, Group, Category and Subcategory'. The right panel shows the same list, but the hierarchy is expanded, revealing its components: 'Administrative Vs Teaching Faculty', 'Faculty/Unit', 'Employee Group', 'Employee Category', and 'Employee Subcategory'. A red box highlights these components in the right panel, and a red arrow points from the hierarchy name in the left panel to the expanded view in the right panel.

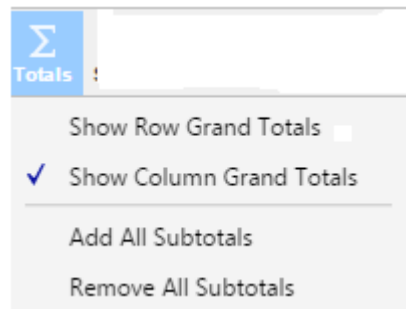
3. Measures are usually the quantitative attributes of an entity. Measures are mostly numeric, and mathematical calculations can be performed on the measures. For instance, each person's job

record has an FTE (Full Time Equivalent) number. FTE can be added together so that the total number of FTE in a department can be measured. If the measure is to be displayed in a table, the corresponding measure should be placed on the **Mark Shelf (#6** in the screen shot on page 15 above). If the measure is to be displayed in a line/bar graph, the measure should be placed on the **Column Shelf (#7)** or **Row Shelf (#8)**.

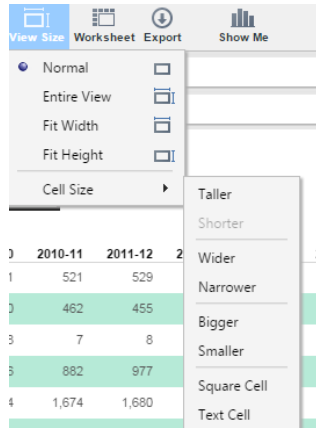
4. In the Web Edit mode, the tool bar menu provides many options for users to change the layout of the view, create brand new sheets and to export results in various formats.



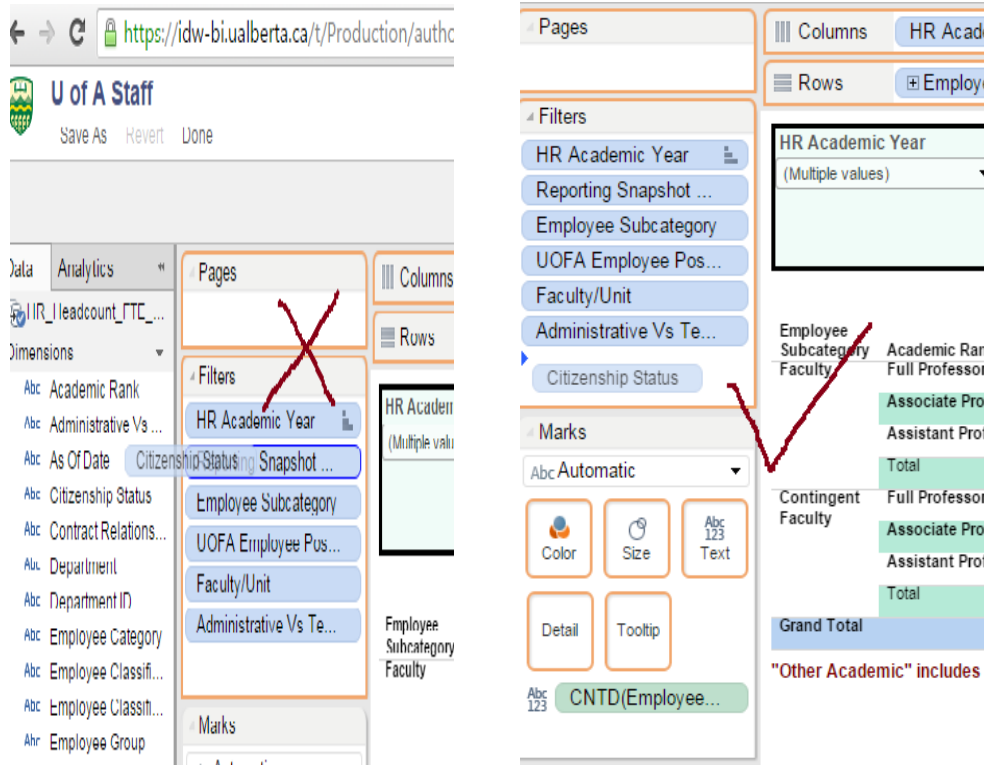
- a. **Pause Updates** – Users can ignore this option. It is related to updating data sources using live connections. Up to this point, the data sources provided by the Strategic Analysis and Data Warehousing (SADW) Office use data extracts rather than live connections. Clicking or unclicking on this menu will not change anything in the workbook.
- b. **Swap** – Clicking on “Swap” causes the column and row headings in the view area (table or graph) to get swapped (row items move to column and column items move to row). It is similar to the “Transposed” function in Excel.
- c. **Totals** – “Totals” have four sub menu items which can be used to turn on and off the totals and subtotals in the data display area.



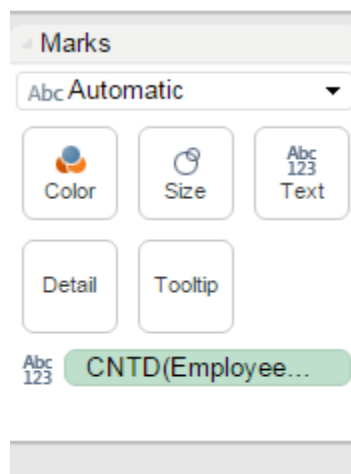
- d. **Show Labels** - toggles the labels in the graph format. It has no effect table format.
- e. **View Size** – this menu can be used to control the item size in the display area. For instance, if the table cell is too narrow, the content will be displayed as “#####”. To resize the cell and view the number masked by “#####”, users can click on “View Size”->“Cell Size”->“Wider”.



- f. **Worksheet** - allows users to create a new sheet from scratch or duplicate an existing sheet. It also allows you to rename an existing sheet.
 - g. **Export** – users can export worksheets to Image, Data, PDF and Crosstab formats. Please refer to page 11 for usage details discussed earlier in this text.
 - h. **Show Me** – it is an intelligent feature that would suggest a graph based on the data element currently presented in the display area. You might need to adjust the dimensions on the column and row shelves to turn the suggested graph into the desired layout.
5. **Filters Shelf (#5 on page 15)** has all the filters which control the data presented in the workbook. Dimensions can be dragged into Filters Shelf to further restrict data. **Please be cautious when adding new filters.** Some filters used in the report such as “Reporting Snapshot Month” is essential for getting the correct headcount. It is advised that users add more filters into the Filters Shelf rather than removing any existing filters. When adding filters, please be careful not to drag the new dimension over existing filters on the Filters Shelf because such action would remove an existing filter. To add a new filter, drag the new dimension to the empty space on the Filters Shelf. The two images below show the wrong way and the correct way of adding filters.



6. The **Marks Card (#5 on page 15)** controls various parts in the data display area. You can drag the dimensions and measures into the Marks Card to control the graph type, colour, size, tooltip value and so on. Tableau online help has full coverage on this topic. You can find the details by following this URL: http://onlinehelp.tableau.com/current/pro/online/windows/en-us/buildmanual_shelves_marks.html



7. **Column Shelf** – dimension Column Shelf. Each item placed on the Column Shelf corresponds to a table column in the display area. When a measure is placed on the Column Shelf, a graph is created in the display area. More details can be found in Example#2 on page 27.

Employee Group	Employee Category	Employee Subcategory	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Employee	Academic	Administrative Professional Officer	384	413	457	476	521	521
		Contingent Faculty	281	320	383	430	470	462
		Contingent Faculty Service Officer	2	3	2	6	8	7
		Contract Academic Staff, Teaching Faculty		848	913	941	906	882
			1,549	1,566	1,626	1,676	1,714	1,674
		Faculty Service Officer	48	47	52	62	67	66
		Librarian	57	57	60	61	64	62

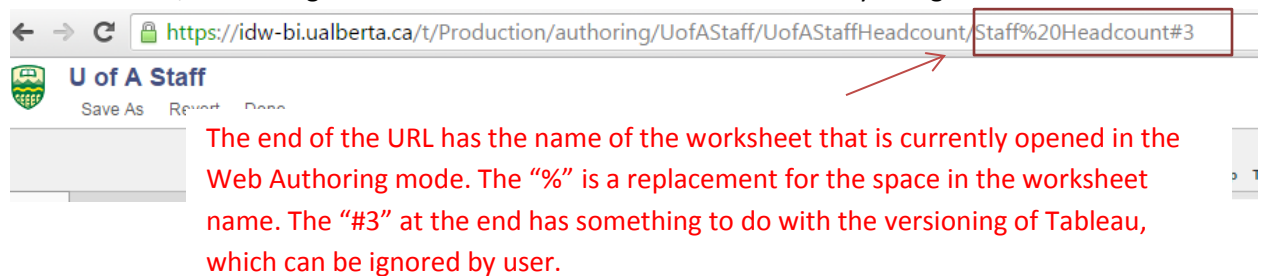
8. **Row Shelf** – dimensions can be placed on the Row Shelf. Items placed on the Row Shelf correspond to rows in the table. When a measure is placed on the Row Shelf, a graph is created in the display area. More details can be found in Example#2 on page 27.

Employee Group	Employee Category	Employee Subcategory	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Employee	Academic	Administrative Professional Officer	384	413	457	476	521	521
		Contingent Faculty	281	320	383	430	470	462
		Contingent Faculty Service Officer	2	3	2	6	8	7
		Contract Academic Staff, Teaching Faculty		848	913	941	906	882
			1,549	1,566	1,626	1,676	1,714	1,674
		Faculty Service Officer	48	47	52	62	67	66
		Librarian	57	57	60	61	64	62

9. Filters shown in the display area – All the filters for the workbook are on the **Filters Shelf (Item #5 as explained earlier)**. Per the author's discretion, some filters are hidden from the user, and some filters are presented to the user in the display area. The filters presented in the displayed area are intended to be controlled by the user for changing the values.

10. **Table/Graph – Data Display Area (#10 on page15)** – This is where the information is presented to the user. It could be in the format of a table or a graph. By changing the elements in the Marks Shelf, the presentation of the data can be changed (e.g. changing from line graph to bar graph).

11. **Worksheets in the Workbook (#11 on page 15)** – a workbook usually contains a number of worksheets. In the Web Authoring view, users can work on one worksheet at a time to customize the content. Users can switch to different worksheets by clicking on the various tabs located on the bottom of the display page. Please pay close attention to which worksheet you are editing. One clue is that the current worksheet tab is a slightly lighter colour compared to other tabs (however, it is not easy to tell the difference among gray colours). Another clue is to check the URL, the ending is the name of the worksheet that is currently being edited.



Example 1: Web Authoring – Add Gender to Professor Headcount Table

This example demonstrates the steps taken to add the Gender dimension into the Profess Headcount worksheet using the Web Authoring Interface.

1. In the “U of A Staff project”, find the “UofA Staff Headcount” workbook. Once in the workbook, navigate to and click on the “UofA Professoriate Headcount by Faculty and Rank” worksheet (5th tab at the top of the display page). The table shows the professor headcount by Employee Subcategory (Faculty vs Contingent Faculty) and Academic Rank (Full/Associate/Assistant Professor). You can further detail the headcount by gender by using Web Authoring. To enter the Web Authoring Interface, click on the Edit menu under workbook path (top left hand of display page).

UNIVERSITY OF ALBERTA Site: Production

Home > Staff > U of A Staff > UofA Professoriate Headcount by Faculty and Rank

UofA Professoriate Headcount by Faculty and Rank

Select Filters to Apply to Data

HR Academic Year (Multiple values) Administrative Vs Teaching Faculty (All) Faculty/Unit (All)

Click on the "*" on the column header to drill down. This expands the table to include the Faculty.

Employee Subcategory	Academic Rank	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Faculty	Full Professor	779	788	812	840	857	835	849	848	873	832	852
	Associate Professor	463	457	469	476	483	482	492	515	537	536	533
	Assistant Professor	307	321	345	360	374	357	339	317	284	253	265
	Total	1,549	1,566	1,626	1,676	1,714	1,674	1,680	1,680	1,694	1,621	1,650
Contingent Faculty	Full Professor	43	50	60	75	87	94	100	110	122	128	134
	Associate Professor	95	111	119	140	163	159	165	179	198	209	212
	Assistant Professor	143	159	204	215	220	209	190	159	122	95	93
	Total	281	320	383	430	470	462	455	448	442	432	439
Grand Total		1,830	1,886	2,009	2,106	2,184	2,136	2,135	2,128	2,136	2,053	2,089

- Once in the Web Authoring Interface, double check that the correct worksheet is being worked on. You can do this by checking the ending of the URL, which should contain the worksheet name. In this case, it should be similar to ...UofAProfessoriateHeadcountbyFacultyandRank#SomeNumber”.

← → ↻ <https://idw-bi.ualberta.ca/t/Production/authoring/UofAStaff/UofAProfessoriateHeadcountbyFacultyandRank#10>

U of A Staff Save As Revert Done

Undo Redo Pause Updates Swap Totals Show Labels

Data Analytics Pages

HR_Headcount_FTE...

Dimensions

- Academic Rank
- Administrative Vs ...
- As Of Date
- Citizenship Status
- Contract Relations...
- Department

Filters

- HR Academic Year
- Reporting Snapshot ...
- Employee Subcategory
- UOFA Employee Pos...
- Faculty/Unit

Columns

- HR Academic Year

Rows

- Employee Subc...
- Academic Rank

HR Academic Year (Multiple values) Administrative Vs Teachi... Faculty/Unit (All)

You can also check this by looking for the worksheet tab “Professor Headcount” at the bottom of the page, which should be slightly highlighted.

U of A Staff

Save As Revert Done

Columns: HR Academic Year

Rows: Employee Subcategory, Academic Rank

Filters: HR Academic Year, Reporting Snapshot, Employee Subcategory, UOFA Employee Pos..., Faculty/Unit, Administrative Vs Te...

Marks: Abc Automatic

Abc 123 CNTD/Employee...

Employee Subcategory	Academic Rank	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Faculty	Full Professor	779	788	812	840	857	835	849	848	873	832	852
	Associate Professor	463	457	469	476	483	482	492	515	537	536	533
	Assistant Professor	307	321	345	360	374	357	339	317	284	253	265
	Total	1,549	1,566	1,626	1,676	1,714	1,674	1,680	1,680	1,694	1,621	1,650
Contingent Faculty	Full Professor	43	50	60	75	87	94	100	110	122	128	134
	Associate Professor	95	111	119	140	163	159	165	179	198	209	212
	Assistant Professor	143	159	204	215	220	209	190	159	122	95	93
	Total	281	320	383	430	470	462	465	448	442	432	439
Grand Total		1,830	1,886	2,009	2,106	2,184	2,136	2,135	2,128	2,136	2,053	2,089

"Other Academic" includes staff who are: excluded from the AA SUA association; and, casual, contract and visiting speakers.

Professor FTE Professor Headcount Staff FTE Staff FTE by Faculty Staff Headcount Staff Headcount by Faculty

- Once you are in the right worksheet, you can begin editing. Try to find dimension "Gender" from Dimensions Pane on the Left. The dimensions are sorted alphabetically.

U of A Staff
Save As Revert Done

Undo Redo Pause Updates Swap

Data Analytics

HR_Headcount_FTE_VW_Public

Dimensions

- Academic Rank
- Administrative Vs Teaching Faculty
- As Of Date
- Citizenship Status
- Contract Relationship
- Department
- Department ID
- Employee Category
- Employee Classification
- Employee Classification Code
- Employee Group
- Employee Subcategory
- Employee Subcategory Sort Order
- Faculty/Unit
- Faculty/Unit
- Faculty/Unit Code
- Fall Headcount Flag
- Gender**
- Hierarchy - Faculty, Group, Category and S...
- Hierarchy - Group, Category and Subcateg...
- Hierarchy - Professor by Faculty and Rank
- HR Academic Year
- HR Academic Year Number
- Job
- Job Code
- National Status
- October AGE 5 YEAR GROUP
- Organization Group
- Principle Job Flag
- Reporting Snapshot Date
- Reporting Snapshot Month
- Staff Agreement
- Staff Agreement Code
- Staff Association
- Staff Association Description
- UOFA Employee Position Flag
- Measure Names

Measures

- Employee FTE
- Employee ID
- Number of Records
- Measure Values

Pages

Filters

- HR Academic Year
- Reporting Snapshot ...
- Employee Subcategory
- UOFA Employee Pos...
- Faculty/Unit
- Administrative Vs Te...

Marks

Automatic

Color Size Text

Detail Tooltip

Columns

HR Academic Year

Rows

Employee Subcategory Academic Rank

Employee Subcategory	Academic Rank	2005-06	2006-07	2007-08
Faculty	Full Professor	779	788	812
	Associate Professor	463	457	469
	Assistant Professor	307	321	345
	Total	1,549	1,566	1,626
Contingent Faculty	Full Professor	43	50	60
	Associate Professor	95	111	119
	Assistant Professor	143	159	204
	Total	281	320	383
Grand Total		1,830	1,886	2,009

"Other Academic" includes staff who are: excluded from the AA SUA

- Left click your mouse on the "Gender" dimension, hold on the left mouse button and drag the "Gender" Dimension to the Column Shelf. You should drop the "Gender" dimension after "HR Academic Year" on the Column Shelf.

U of A Staff

Save As Revert Done

Undo Redo Pause Updates Swap Totals Show Labels

Data Analytics

HR_Headcount_FTE_VW_Public

Dimensions

- Academic Rank
- Administrative Vs Teaching Faculty
- As Of Date
- Citizenship Status
- Contract Relationship
- Department
- Department ID
- Employee Category
- Employee Classification
- Employee Classification Code
- Employee Group
- Employee Subcategory
- Employee Subcategory Sort Order
- Faculty/Unit
- Faculty/Unit Code
- Fall Headcount Flag
- Gender
- Hierarchy - Faculty, Group, Category and S...
- Hierarchy - Group, Category and Subcateg...
- Hierarchy - Professor by Faculty and Rank
- HR Academic Year
- HR Academic Year Number

Filters

- HR Academic Year
- Reporting Snapshot ...
- Employee Subcategory
- UOFA Employee Pos...
- Faculty/Unit
- Administrative Vs Te...

Marks

ABC Automatic

Color Size Text

Detail Tooltip

ABC 123 CNTD(Employee...

Columns

HR Academic Year

Rows

Employee Subc... Academic Rank

HR Academic Year (Multiple values)

Administrative Vs Teachi... (All)

Faculty/Unit (All)

Employee Subcategory	Academic Rank	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Faculty	Full Professor	779	788	812	840	857	857
	Associate Professor	463	457	469	476	483	483
	Assistant Professor	307	321	345	360	374	374
	Total	1,549	1,566	1,626	1,676	1,714	1,714
Contingent Faculty	Full Professor	43	50	60	75	87	87
	Associate Professor	95	111	119	140	163	163
	Assistant Professor	143	159	204	215	220	220
	Total	281	320	383	430	470	470
Grand Total		1,830	1,886	2,009	2,106	2,184	2,184

"Other Academic" includes staff who are: excluded from the AASUA association; and, casual,

The above graph shows that Gender dimension is being dragged out from the dimension pane, and moving toward the column shelf. The graph below shows the gender dimension ended up on the column shelf. At the same time, the headcount is further sliced by gender (female and male).

U of A Staff

Save As Revert Done

Undo Redo Pause Updates Swap Totals Show Labels View Size Worksheet Export Show Me

Data Analytics

HR_Headcount_FTE_VW_Public

Dimensions

- Academic Rank
- Administrative Vs Teaching Faculty
- As Of Date
- Citizenship Status
- Contract Relationship
- Department
- Department ID
- Employee Category
- Employee Classification
- Employee Classification Code
- Employee Group
- Employee Subcategory
- Employee Subcategory Sort Order
- Faculty/Unit
- Faculty/Unit Code
- Fall Headcount Flag
- Gender
- Hierarchy - Faculty, Group, Category and S...
- Hierarchy - Group, Category and Subcateg...
- Hierarchy - Professor by Faculty and Rank
- HR Academic Year
- HR Academic Year Number
- Job
- Job Code

Filters

- HR Academic Year
- Reporting Snapshot ...
- Employee Subcategory
- UOFA Employee Pos...
- Faculty/Unit
- Administrative Vs Te...

Marks

ABC Automatic

Color Size Text

Detail Tooltip

ABC 123 CNTD(Employee...

Columns

HR Academic Year Gender

Rows

Employee Subc... Academic Rank

HR Academic Year (Multiple values)

Administrative Vs Teachi... (All)

Faculty/Unit (All)

Employee S. Faculty	Academic R.	2005-06		2006-07		2007-08		2008-09		2009-10		2010-11	
		Female	Male	Female	Male	Female	Male	Female	Male	Female	Male		
Faculty	Full Professor	171	608	175	613	183	629	198	642	213	644	213	622
	Associate Pr...	172	291	184	273	194	275	189	287	189	294	188	294
	Assistant Pr...	124	183	124	197	137	208	156	204	167	207	160	197
	Total	467	1,082	483	1,083	514	1,112	543	1,133	569	1,146	561	1,113
Contingent Faculty	Full Professor	6	37	10	40	11	49	17	58	20	67	23	71
	Associate Pr...	36	59	35	76	42	77	52	88	66	97	65	94
	Assistant Pr...	62	81	75	84	99	105	103	112	105	115	101	108
	Total	104	177	120	200	152	231	172	258	191	279	189	273
Grand Total		571	1,259	603	1,283	666	1,343	715	1,391	760	1,424	750	1,386

"Other Academic" includes staff who are: excluded from the AASUA association; and, casual, contract and visiting speakers.

- If you would like the gender dimension to appear on the row rather than the table column, you can drag the gender dimension from Column Shelf onto the Row Shelf. In the table, the gender now shows up right beside the Academic Rank.

U of A Staff
Save As Revert Done

Undo Redo Pause Updates Swap Totals Show Labels View Size Worksheet Export Show Me

Data Analytics Pages

HR_Headcount_FTE_VW_Public

Dimensions

- Academic Rank
- Administrative Vs Teaching Faculty
- As Of Date
- Citizenship Status
- Contract Relationship
- Department
- Department ID
- Employee Category
- Employee Classification
- Employee Classification Code
- Employee Group
- Employee Subcategory
- Employee Subcategory Sort Order
- Faculty/Unit
- Faculty/Unit Code
- Full Headcount Flag
- Gender
- Hierarchy - Faculty, Group, Category and S...
- Hierarchy - Group, Category and Subcateg...
- Hierarchy - Professor by Faculty and Rank
- HR Academic Year
- HR Academic Year Number
- Job
- Job Code
- National Status
- October AGE 5 YEAR GROUP
- Organization Group

Filters

- HR Academic Year
- Reporting Snapshot ...
- Employee Subcategory
- UOFA Employee Pos...
- Faculty/Unit
- Administrative Vs Te...

Marks

ABC Automatic

Color Size Text

Detail Tooltip

CNTD(Employee...

Columns: HR Academic Year

Rows: Employee Subcategory Academic Rank Gender

HR Academic Year (Multiple values) Administrative Vs Teaching Faculty (All) Faculty/Unit (All)

Employee Subcategory	Academic Rank	Gender	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Faculty	Full Professor	Female	171	175	183	198	213	213	223	223	223
		Male	608	613	629	642	644	622	626	625	625
	Associate Professor	Female	172	184	194	189	189	188	198	206	206
		Male	291	273	275	287	294	294	294	309	309
	Assistant Professor	Female	124	124	137	156	167	160	153	147	147
Total	Male	183	197	208	204	207	197	196	170	170	
Contingent Faculty	Full Professor	Female	6	10	11	17	20	23	25	26	26
		Male	37	40	49	58	67	71	75	84	84
	Associate Professor	Female	36	35	42	52	66	65	66	77	77
		Male	59	76	77	88	97	94	99	102	102
	Assistant Professor	Female	62	75	99	103	105	101	97	76	76
Total	Male	81	84	105	112	115	108	93	83	83	
Grand Total			1,830	1,886	2,009	2,106	2,184	2,136	2,135	2,128	2,128

"Other Academic" includes staff who are: excluded from the AASUA association; and, casual, contract and visiting speakers.

6. If you would like to export this table as an image, you can click on the Export menu on the top menu bar, and choose "Image".

U of A Staff
Save As Revert Done

Undo Redo Pause Updates Swap Totals Show Labels View Size Worksheet Export Show Me

Data Analytics Pages

HR_Headcount_FTE_VW_Public

Dimensions

- Academic Rank
- Administrative Vs Teaching Faculty
- As Of Date
- Citizenship Status
- Contract Relationship
- Department
- Department ID
- Employee Category
- Employee Classification
- Employee Classification Code
- Employee Group
- Employee Subcategory
- Employee Subcategory Sort Order
- Faculty/Unit
- Faculty/Unit Code
- Full Headcount Flag
- Gender
- Hierarchy - Faculty, Group, Category and S...
- Hierarchy - Group, Category and Subcateg...
- Hierarchy - Professor by Faculty and Rank
- HR Academic Year
- HR Academic Year Number
- Job
- Job Code

Filters

- HR Academic Year
- Reporting Snapshot ...
- Employee Subcategory
- UOFA Employee Pos...
- Faculty/Unit
- Administrative Vs Te...

Marks

ABC Automatic

Color Size Text

Detail Tooltip

CNTD(Employee...

Columns: HR Academic Year

Rows: Employee Subcategory Academic Rank Gender

HR Academic Year (Multiple values) Administrative Vs Teaching Faculty (All) Faculty/Unit (All)

Export

- Image
- Data
- Crosstab
- PDF

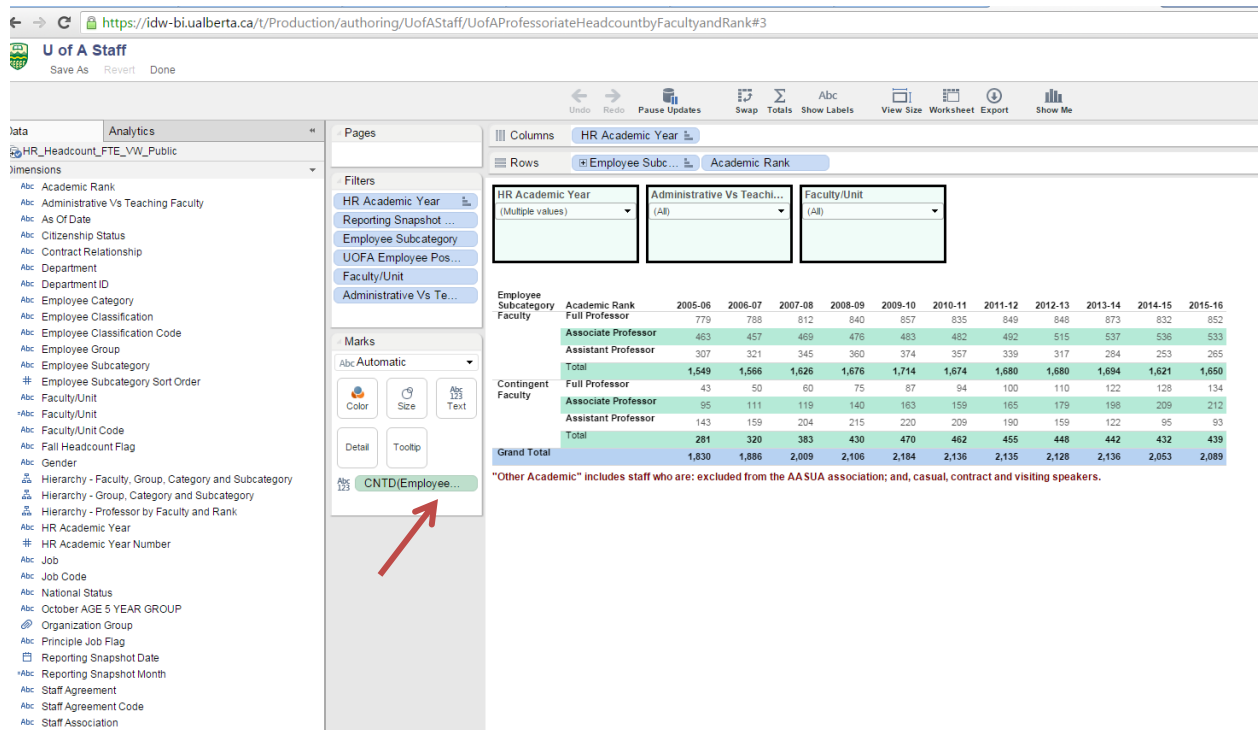
Employee Subcategory	Academic Rank	Gender	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Faculty	Full Professor	Female	171	175	183	198	213	213	223	223	234	215	220
		Male	608	613	629	642	644	622	626	625	639	617	632
	Associate Professor	Female	172	184	194	189	189	188	198	206	218	222	231
		Male	291	273	275	287	294	294	294	309	319	314	302
	Assistant Professor	Female	124	124	137	156	167	160	153	147	125	110	116
Total	Male	183	197	208	204	207	197	186	170	159	143	149	
Contingent Faculty	Full Professor	Female	6	10	11	17	20	23	25	26	30	36	38
		Male	37	40	49	58	67	71	75	84	92	92	96
	Associate Professor	Female	36	35	42	52	66	65	66	77	87	91	100
		Male	59	76	77	88	97	94	99	102	111	118	112
	Assistant Professor	Female	62	75	99	103	105	101	97	76	57	40	41
Total	Male	81	84	105	112	115	108	93	83	65	55	52	
Grand Total			1,830	1,886	2,009	2,106	2,184	2,136	2,135	2,128	2,136	2,063	2,089

"Other Academic" includes staff who are: excluded from the AASUA association; and, casual, contract and visiting speakers.

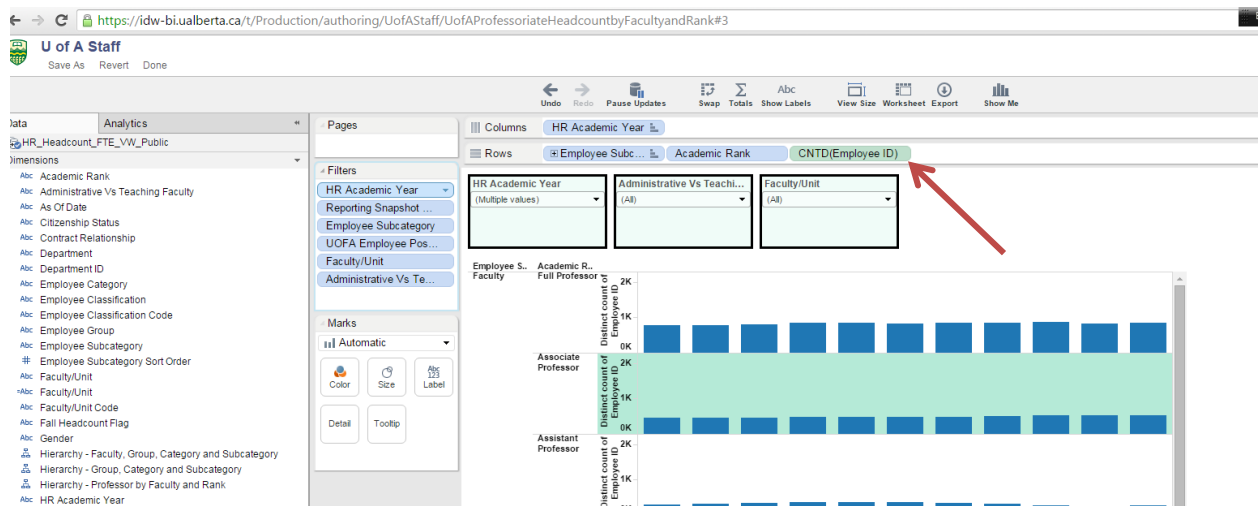
Example 2: Web Authoring - Turn a Professor Headcount Table from a Table to a Bar Graph

The Web Authoring interface also provides you tools to transform a table into a graph. This example will guide you through the process.

1. Enter the web edit mode for the worksheet “UofA Professoriate Headcount by Faculty and Rank”. Click on “Edit”. We have a table with professor headcount by Employee Subcategory, Academic Rank and HR Academic Year. This is our starting point.

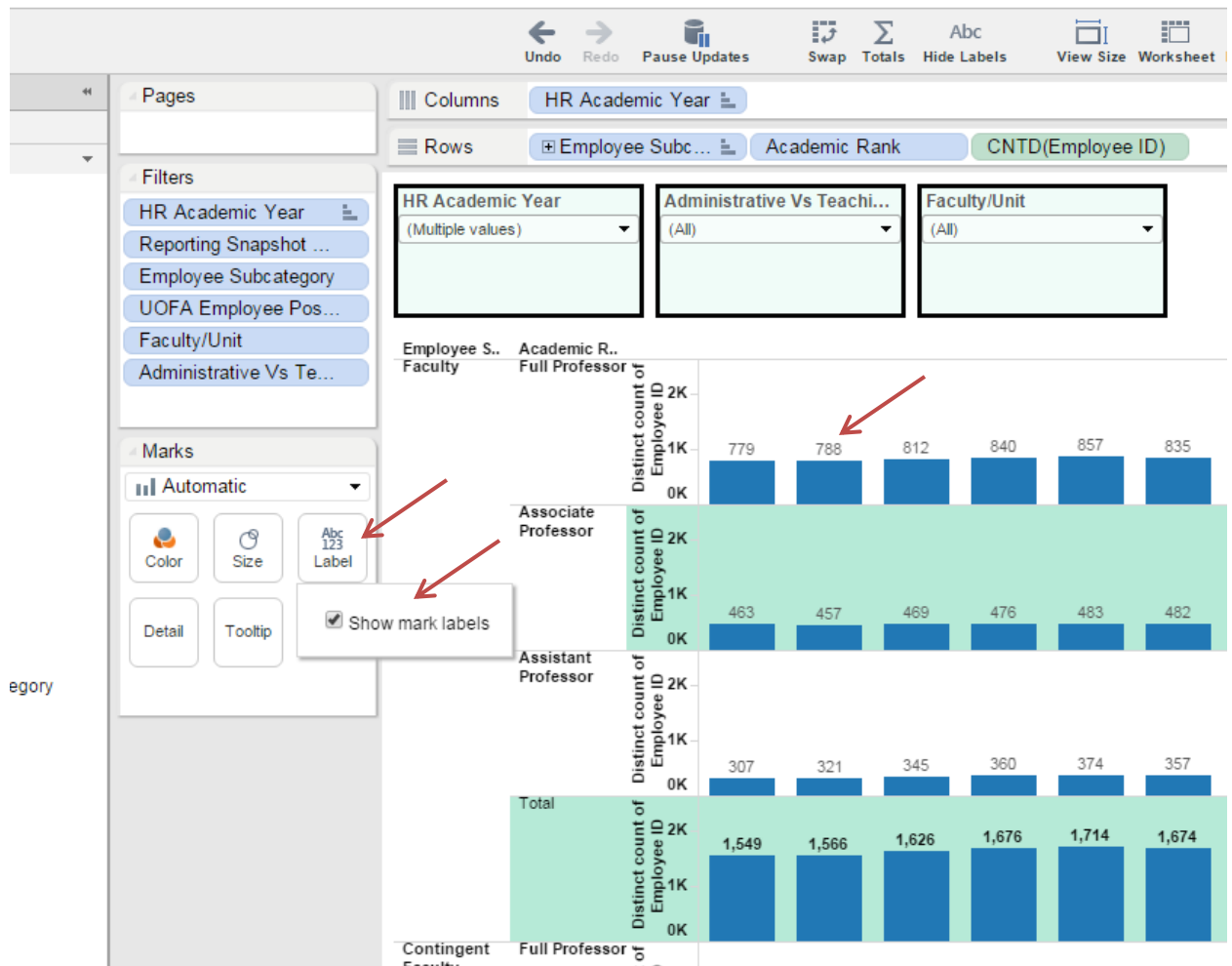


2. On the Marks Card find the measure “CNTD(Employee ID)” (AKA. Headcount). Drag it to the Column Shelf. You will find the table gets transformed into a bar graph.

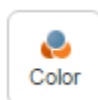


- You can label the headcount on the bar graph by clicking on the “Labels” icon in the Marks Card, and check the box “Show mark Labels”.

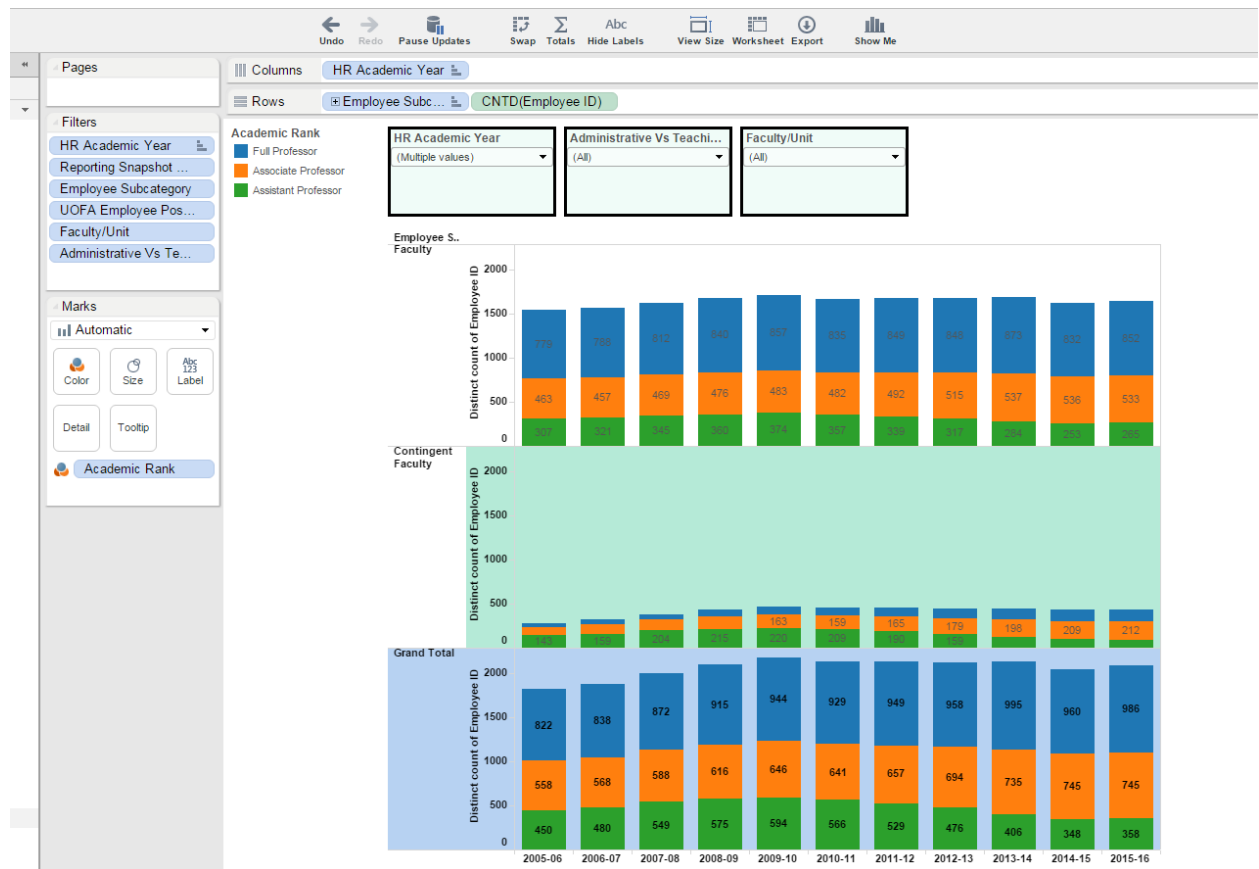
'Production/authoring/UofAStaff/UofAProfessoriateHeadcountbyFacultyandRank#3



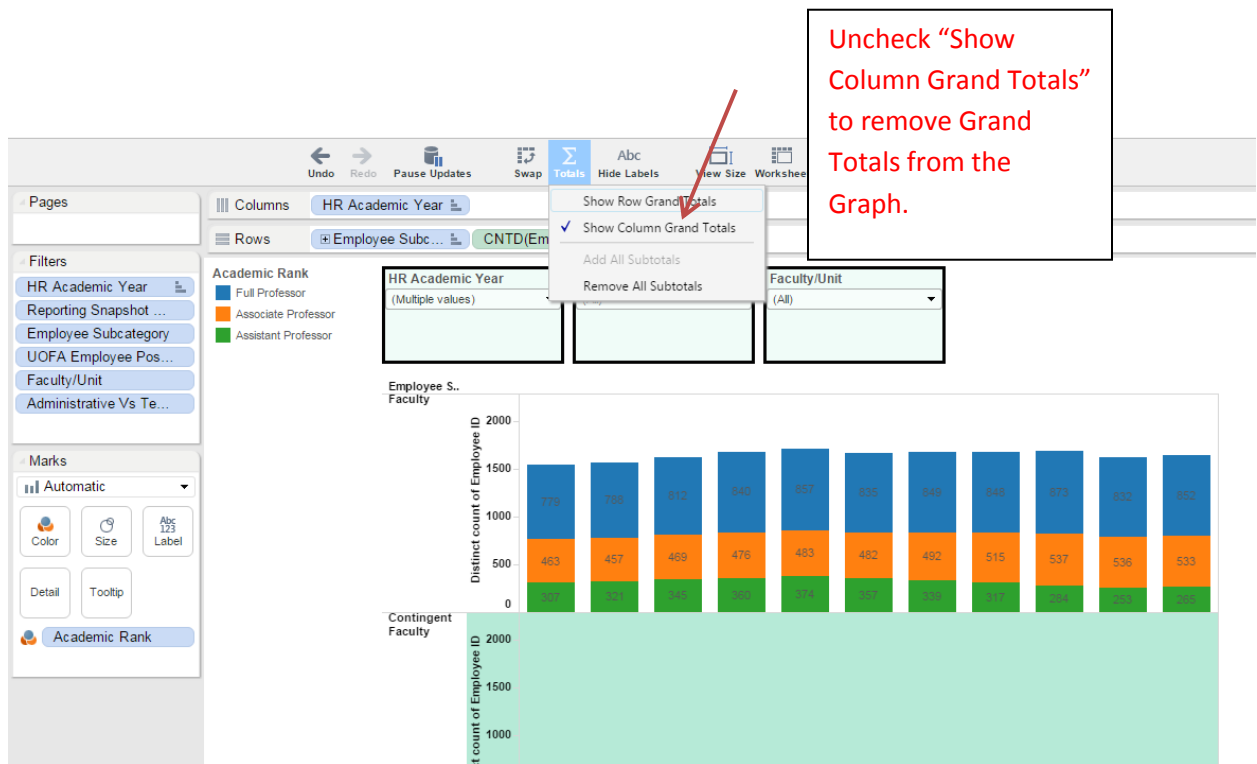
- If we would like to see the proportion of professor headcount based on academic rank, you can move the Academic Rank dimension out of Row Shelf and place it in the Marks Card on the Color icon. Please note that you need to drop the Academic Rank dimension on top of the Color icon.



As shown in the graph below, each vertical bar represents the total professor headcount in the year for either Faculty or Contingent Faculty. Each colour in the bar represents the professor headcount belonging to an academic rank. The legend on the side indicates which colour represents which academic rank.



5. The Grand Total might not be needed. We can remove it by unchecking the “Show Column Grand Totals” option from the “Totals” menu.



The graph below shows the graph without Grand Totals.

