# macOS Instructor Guide for MEASURE

## Faculty of Engineering, McMaster University

January 9, 2020


**BY**

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**Modification Log**

| Version | Modification Date | Author | Comments |
|---|---|---|---|
| 3.00 | January 9, 2020 | Andrew Aran | • Updated to reflect MEASURE 3.0 |

Click here to view previous modification log.

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# Introduction

The Instructor's Guide describes part of MEASURE (McMaster Engineering Accreditation System for UndeRgraduatE).

MEASURE's purpose is to:

- Facilitate the continual improvement of the curriculum of the programs offered by the Faculty of Engineering
- Assist with generating accreditation reports for the Canadian Engineering Accreditation Board (CEAB)

MEASURE is built using corporate performance management software, (Vena) that combines Excel spreadsheets, a central database, and workflow management.

This document outlines the MEASURE tasks that take place at the instructor level.

Specifically, each instructor will update the Rubric Input Template for each section of every course taught.

Additional information on MEASURE can be found in the Administrator's Guide and in the Department Contributor's Guide. The latest version of all these documents, along with other resources, are available at http://measure.mcmaster.ca

Issue Reporting: https://www.eng.mcmaster.ca/forms/measure-issue-tracking

Technical Support: measure@mcmaster.ca

# Prerequisites

## macOS

### System Requirements

| | Recommended | Minimum |
|---|---|---|
| **Operating System** | Mac OS X version 10.10 or later | -- |
| **MS Office** | Office 2016 for Mac or newer<br>• Click here for instructions to download Office (via UTS) | -- |
| **Browser** | Latest version of:<br>• Internet Explorer<br>• Microsoft Edge<br>• Mozilla Firefox<br>• Google Chrome | • Internet Explorer 10+<br>• Microsoft Edge<br>• Mozilla Firefox 12.0+<br>• Google Chrome |
| **RAM** | 4 GB | -- |
| **CPU** | A Mac computer with an Intel processor | -- |
| **Reference:** | https://products.office.com/en-us/office-system-requirements | |

### About the Vena Contributor Connector

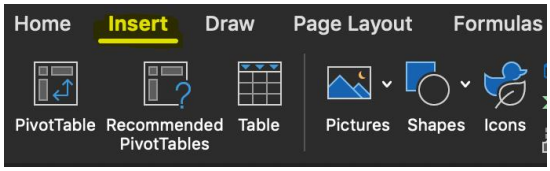
The Contributor Connector is a special version of the Vena Add-In that is designed for Office for Mac and Office Online.

Similar to the Windows Add-In, the Contributor Connector enables users to perform various Vena functions in Excel, such as saving data inputs to the Vena database, choosing among data sets, drilling on intersection data, and working with Line Item Details.

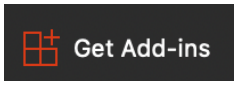
### Installing Vena for Mac Users

1. Open **Microsoft Excel for Mac**

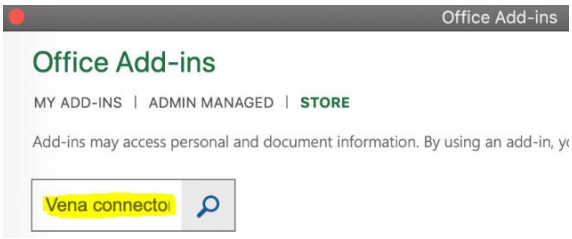
2. Select the **Insert** tab



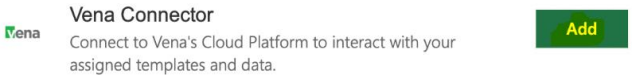

3. Select **Get Add-ins**



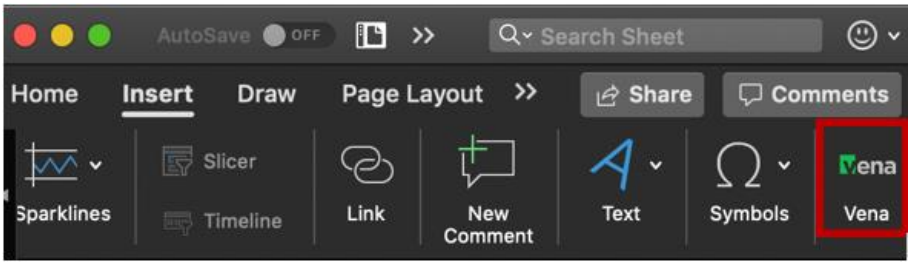

4. Search for “Vena Connecter”




5. Press **Add**




6. After successfully adding the Vena Connector, the Vena add-in icon will be displayed under the Insert tab.



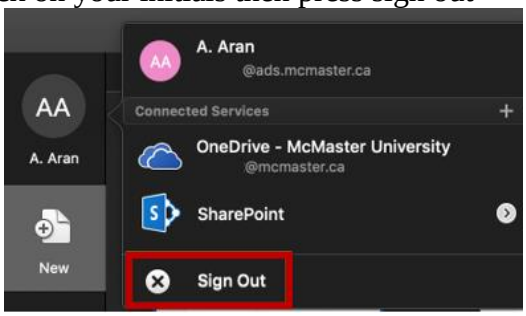

If Microsoft Office is preventing the installation of the add-in (i.e. Office has been configured to not allow individual add-ins), it is because the user is signed in as a domain user (ads.mcmaster.ca).

Signing in as a domain user will prevent users from adding certain Excel Add-ins because UTS controls what add-ins are allowed. Users will need to sign out to install the Vena add-in.

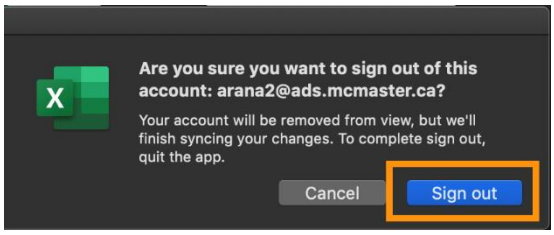
Steps to signing out:

1. Open **Excel for Mac**

2. Click on your initials then press sign out



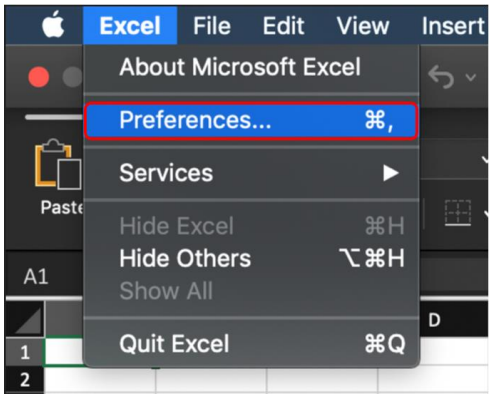

3. Confirm **sign out**



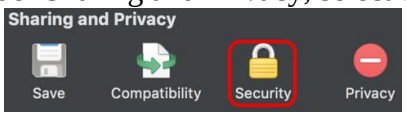

## Enabling Trust Access to the VBA Project Object Model

After successfully installing the Contributor Connector, access to the VBA project object model will need to be trusted for Vena to run properly.

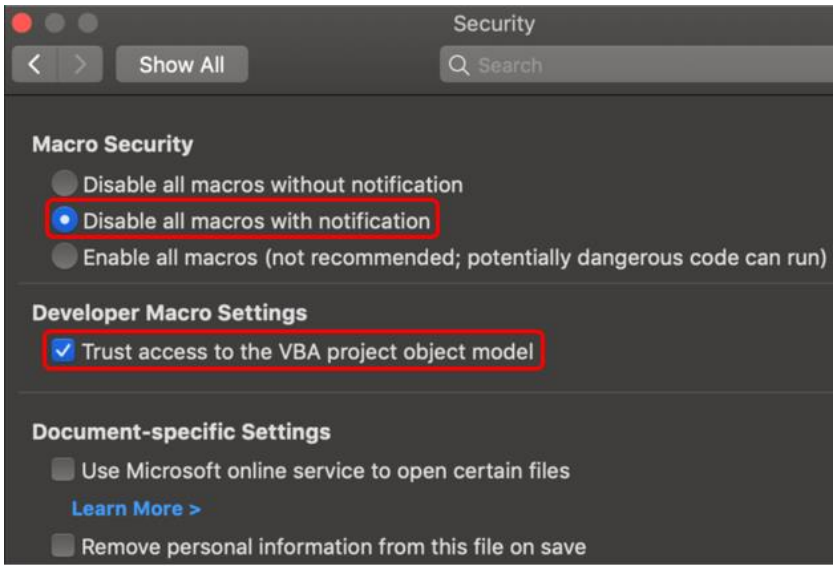
1. Open **Excel**
2. Select a **Blank Workbook**
3. Select **Excel → Preferences**




4. Under Sharing and Privacy, select **Security**




5. Ensure that **Disable all macros with notification** is selected
6. Check the box next to **Trust access to the VBA project object model**




7. Close all instances of Excel for the settings to take effect.

## Other Operating Systems

Vena is currently compatible for Windows and macOS users with Microsoft Office. Users who do not have a compatible operating system and/or Microsoft Office will need to access Vena using a virtual machine.

## Instructions to Access a Virtual Machine:

https://www.eng.mcmaster.ca/sites/default/files/vminstruct.pdf

## Questions/Comments/Technical Support:

measure@mcmaster.ca

## Annual Timeline

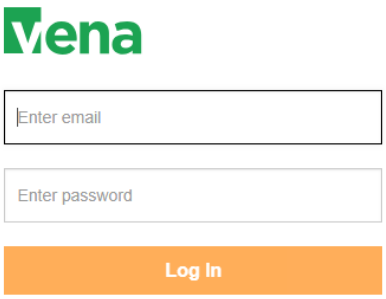
The table below summarizes the typical tasks performed during the course of an academic year. Instructor responsibilities are highlighted in **green**.

| Date | Task Description | Section | Template | Task Owner |
|---|---|---|---|---|
| January | • Instructor enters rubric and continuous improvement plan for Term 1 | Windows<br>macOS | Rubric Input Template | Instructor |
| January | • Instructor reviews the continuous improvement plan from the previous year for Term 1 | Click here | Rubric Input Template and Curriculum Committee Recommendations Report (Prev. Year) | Instructor |
| January | • Review current rubric entry status<br>• Contact users who have yet to complete their Vena rubric entry | Department Guide | See Department Guide | Department |
| April | • Update global variable and point to Term 2 (after Term 1 data entry is complete) | Admin Guide | See Administrator's Guide | Associate Dean's Office |
| May | • Instructor enters rubric and continuous improvement plan for Term 2 | Windows<br>macOS | Rubric Input Template | Instructor |
| May | • Instructor reviews continuous improvement plan from the previous year for Term 2 | Click here | Rubric Input Template and Curriculum Committee Recommendations Report (Prev. Year) | Instructor |
| May | • Review current rubric entry status<br>• Contact instructors who have yet to complete their Vena rubric entry | Department Guide | See Department Guide | Department |
| May | • Curriculum committees review (this year) course reports and continuous improvement plan reports | Department Guide | See Department Guide | Department |
| August | • Archive previous year<br>• Start New Academic Year<br>• Update global variable and point to Term 1 (after Term 2 data entry is complete) | Admin Guide | See Administrator's Guide | Associate Dean's Office |
| August | • Update Measurement Mapping | Department Guide | See Department Guide | Department |
| August | • Update Curriculum Mapping<br>  ○ Consult with Instructors | Department Guide | See Department Guide | Department |
| August | • Update Curriculum Recommendations | Department Guide | See Department Guide | Department |
| August | • Review Programs in Vena<br>• Notify Associate Dean's Office if changes are needed | Department Guide | See Department Guide | Department |
| August | • Add/Update/Un-map courses in the Vena Database<br>• **Do not delete Courses** | Department Guide | See Department Guide | Department |
| September | • Faculty reviews departmental continuous improvement plan report from previous year | Admin Guide | See Administrator's Guide | Associate Dean's Office |

| | | | | |
|---|---|---|---|---|
| | • Prepare/review Graduate Attribute Report | | | |
| December | • Execute Backup and Restore Process | Admin Guide | See Administrator's Guide | Associate Dean's Office |

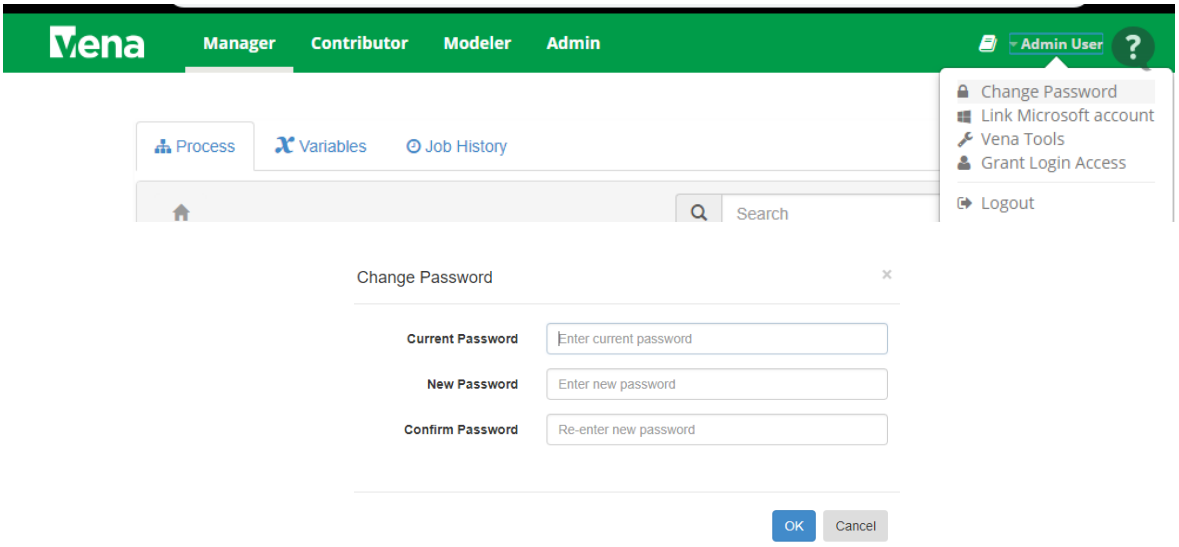
## Accessing Vena

1. Open a web browser
2. Visit https://vena.io
3. In the email textbox, enter your McMaster email address (i.e. macid@mcmaster.ca)
4. Your password has been previously communicated. If you do not remember, or do not have an account, please contact Measure Support (measure@mcmcaster.ca)




## Changing Vena Password

Your password can be changed by clicking the user's name in the upper right corner of the screen and then selecting "Change Password".
You will be prompted to enter the current and new password.



## Instructor Input

For each course being measured, the continuous improvement plan and rubric data will need to be entered and saved. They will need to be entered in a single spreadsheet called the Rubric Input Template.

When the data entry for the Rubric Input Template is complete, you are done. Although the Vena interface shows a Submit button, the button is disabled.

*****You do not need to worry about using the Submit button*****

### Vena Checklist

Prior to entering/reviewing rubric data with Vena, please ensure the following tasks are complete:

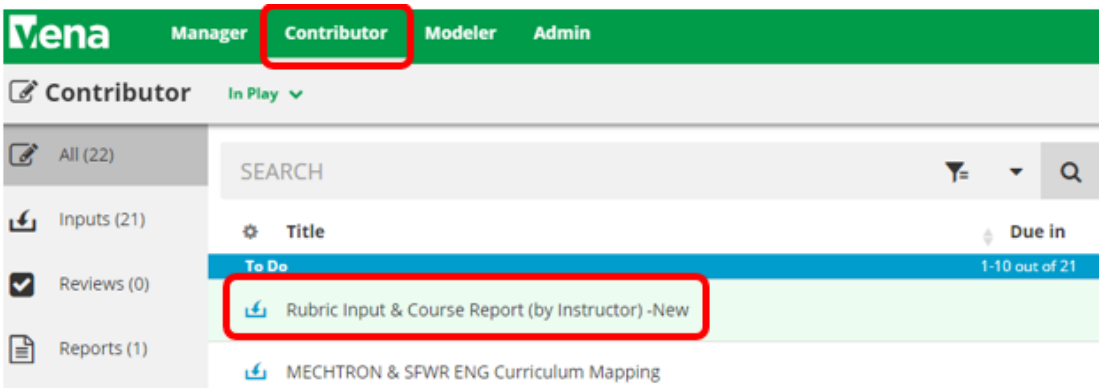
| Task | macOS |
|---|---|
| The device meets the system requirements | Click here |
| Microsoft Excel 2010 or later is installed | Click here |
| Vena Add-In is installed | Click here |
| Enabling Trust Access to Vena | Click here |

### macOS Guide

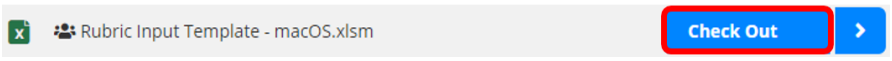
This section of the guide is intended for macOS users.

### Accessing Rubric Input Template

1. Under Contributor view, select on Task **Rubric Input & Course Report (by Instructor) - New**

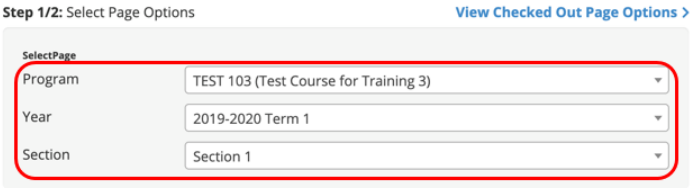



2. Select **Check Out** beside the **Rubric Input Template – macOS.xlsm**

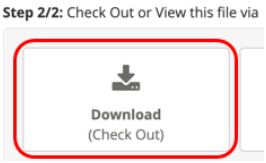



3. A new section will display to select the Course, Year, and Section

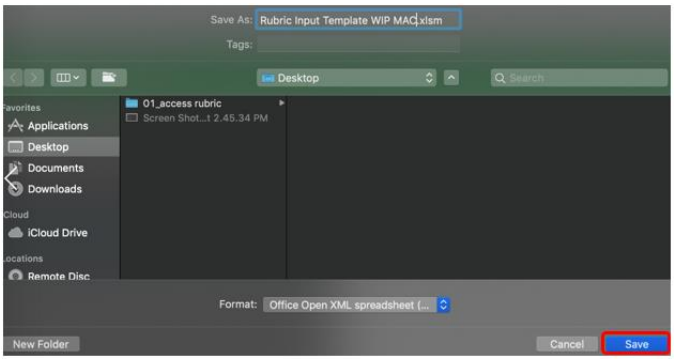
a. **Program:** Select the course for data entry. Pressing the dropdown will let users see the list of available courses. However, typing the course name in the textbox will help find it quicker.
b. **Year:** Press the dropdown button to select the corresponding year and term.
c. **Section:** The default section is Section 1 (unless otherwise stated).



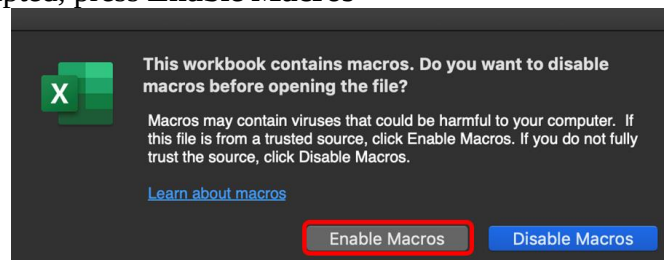

4. Press **Download (Check Out)**




5. A pop-up will appear to save the template. Click **save** and remember the saved location of the template.




6. **Open** the Excel File
   a. If prompted, press **Enable Macros**




## Updating Rubric Input Template

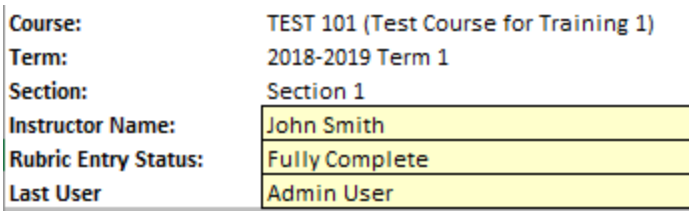
If an instructor has rubric information from the previous year, the same rubric information will be prepopulated as a starting point for the current year.

If this is the first time a course is being measured, the user may need to insert new learning outcomes (rows) to enter the rubric data.

**Tip:** Users can enter/update data where cells are highlighted in yellow.

1. **Instructor Name**
   a. Enter the instructor's name for the course

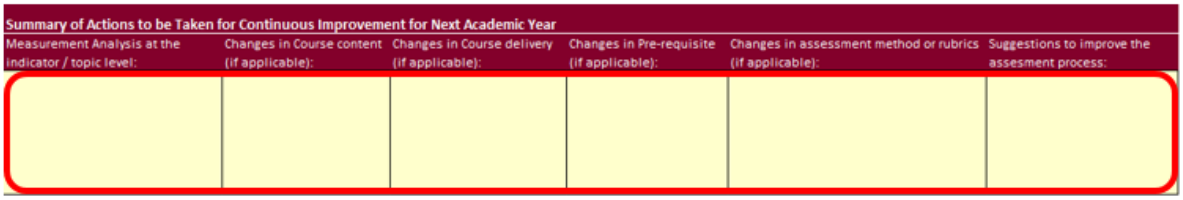
2. **Rubric Entry Status**
   a. Select a status from the dropdown menu
      i. Not Started – User has not entered rubric data
      ii. WIP – User has entered rubric data, but not complete
      iii. Fully Complete – User has completed entering rubric data



| | |
|---|---|
| **Course:** | TEST 101 (Test Course for Training 1) |
| **Term:** | 2018-2019 Term 1 |
| **Section:** | Section 1 |
| **Instructor Name:** | John Smith |
| **Rubric Entry Status:** | Fully Complete |
| **Last User** | Admin User |

3. **Updated By:**
   a. Enter your name

4. **Summary of Actions to be Taken for Continuous Improvement for Next Academic Year**
   a. Instructors can enter their continuous improvement plan(s) under the section "Summary of Actions to be Taken for Continuous Improvement for Next Academic Year"

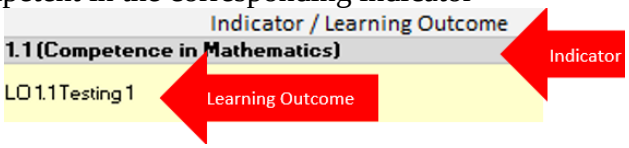


| Summary of Actions to be Taken for Continuous Improvement for Next Academic Year | | | | | |
|---|---|---|---|---|---|
| Measurement Analysis at the indicator / topic level: | Changes in Course content (if applicable): | Changes in Course delivery (if applicable): | Changes in Pre-requisite (if applicable): | Changes in assessment method or rubrics (if applicable): | Suggestions to improve the assesment process: |
| | | | | | |

   b. To attach a file:
      i. Select a cell
      ii. Under Vena Comments, click **Add New**
      iii. Below the comments, click **Attach**
      iv. Select your file and click **Open**
      v. The new file will be displayed as an attachment in the comments section
      vi. Press the back arrow button
      vii. Click **Save** to save the changes
      viii. When re-opening the template, the cell containing the attachment will now be highlighted in blue for visibility

5. **Indicators/Learning Outcomes**
   **Indicators** - descriptors of what students must achieve to be considered competent in the corresponding attribute

   **Learning Outcomes** – descriptors of what the instructor expects the student to learn to be considered competent in the corresponding indicator




*** Every indicator must have at least (1) learning outcome (row) inserted ***

   a. **Adding Topics (rows)**
      i. Select an **Indicator** (grey cell)
      ii. Click the + button under the Line Item Details section
         1. A new row will be inserted below the selected indicator
      iii. **Enter** the Learning Outcome in the newly inserted row

   b. **Deleting Topics (rows)**
      i. Select the **Learning Outcome** you wish to remove
      ii. Click button under the Line Item Details section
         1. The selected Learning Outcome row will be removed

   c. **Missing Indicators**
      i. If an indicator is missing or is not required, please contact your department representative or MEASURE Support to update the Measure Indicators Template

6. **Measurement Date**
   a. Enter the current date in YYYY-MM-DD format (e.g. 2019-12-31, etc.)

7. **Expectations**
   **Description**: Describes a given expectation that applies to a learning outcome

   **Number**: The numbers in this column should be the number of students that apply to the given category, not the percentage of the class in that category

   a. **Enter** a description and number for each expectation

8. **Used (1/0)**
   The column "Used (1/0)" is set to 1 if the data in a particular row is used for the calculation of the indicator.

If users wish to record the information for future reference, but do not intend for it to be averaged into the indicator, enter a 0. The default value is 0.

a. **Enter** a **1** or **0** for each row
    i. If you are unsure, enter 1 to include the number with the average indicator

**9. Measurement Category**

The Measurement Category has a dropdown menu with a list of possible values pertaining to the learning outcome (i.e. Assignment, Lab, Exam, etc.)

a. **Select** a category from the dropdown box for each row.

**10. Attaching Sample Files**

Reminder: For privacy and security reasons, remove any information that may identify a student

To attach a file:

i. Select a cell
ii. Under Vena Comments, click **Add New**
iii. Below the comments, click **Attach**
iv. Select your file and click **Open**
v. The new file will be displayed as an attachment in the comments section
vi. Press the back arrow button
vii. Click **Save** to save the changes
viii. When re-opening the template, the cell containing the attachment will now be highlighted in blue for visibility

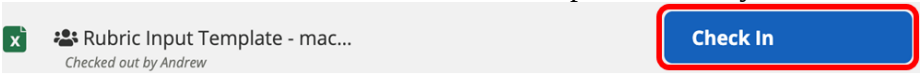
**11. Saving Data**

a. Click the Save button
b. If successful, Success! will temporarily appear over the save button

**12. Closing and Checking in the Template**

After saving the changes and closing the Excel template, you will need to go back to the web browser and check the file back in.

a. **Open** your web browser
b. Visit **Vena** (https://vena.io)
c. Under Contributor view, click on **Task Rubric Input & Course Report (by Instructor) - New**
d. Press the **Check-In** button next to the template currently checked out

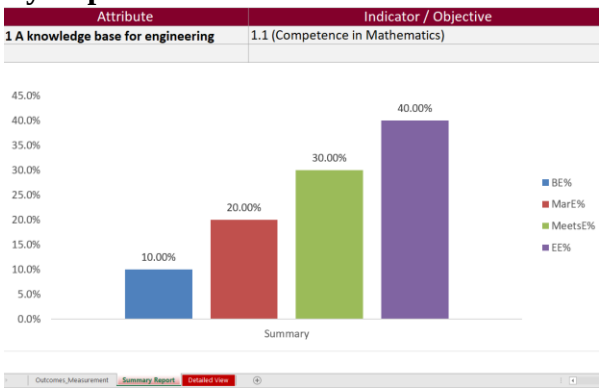


## Viewing Summary Chart

The Summary Chart is a graphical summary of every Indicator containing rubric data. The chart may contain up to four bars where each bar represents an Expectation.

After entering/updating rubric data:

1. Click the Save button
2. On the template, RefreshCharts button
3. Select the **Summary Report** worksheet.

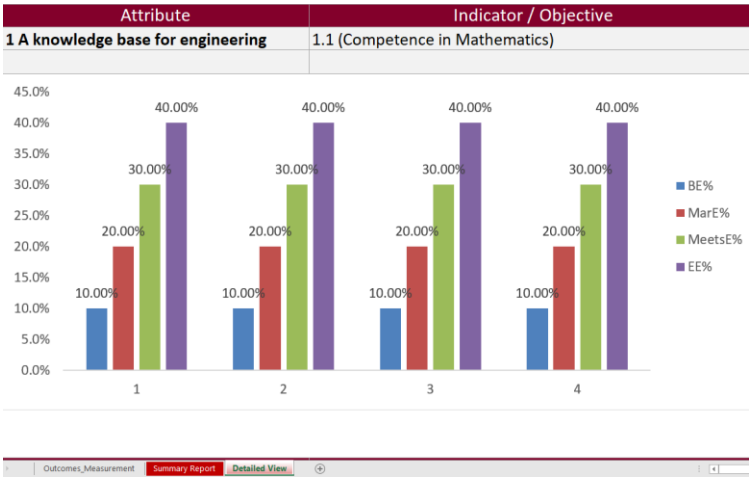



**Tip**: If the charts do not reflect the data, click Vena's Save button, close and check-in the template, then check-out and download the template.

## Viewing Detailed Chart

The Detailed Chart is a graphical summary of every Learning Outcome containing rubric course data. Every learning outcome may contain up to four bars where each bar represents an Expectation.

1. Click the Save button
2. On the template, press the RefreshCharts button
3. Select the **Detailed View** worksheet.



**Tip**: If the charts do not reflect the data, click Vena's Save button, close and check-in the template, then check-out and download the template.

## Reports

Throughout the year, instructors can look at the reports generated by MEASURE. These reports can help fill out the CEAB questionnaire during the accreditation years.

Most of the report types are described in the Departmental Guide. However, the reports that are of particular interest to instructors are described here.

The Vena Reports are best viewed using a Windows-based operating system.

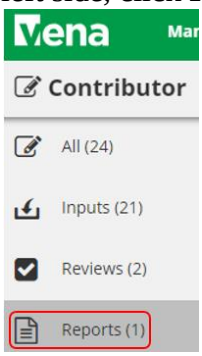
In particular, instructors will want to view:

- CEAB Attribute Report
- Faculty and Curriculum Committee Recommendation's Report
- Historical Course Measurement Report
- Historical Program Measurement Report
- Measurement Map Report

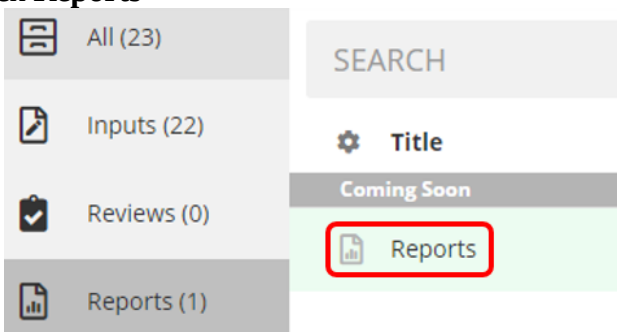
## Accessing the Reports

1. Ensure the Contributor tab is selected


2. On the left side, click **Reports** (the centre section will reload to only display Reports)




3. Click **Reports**

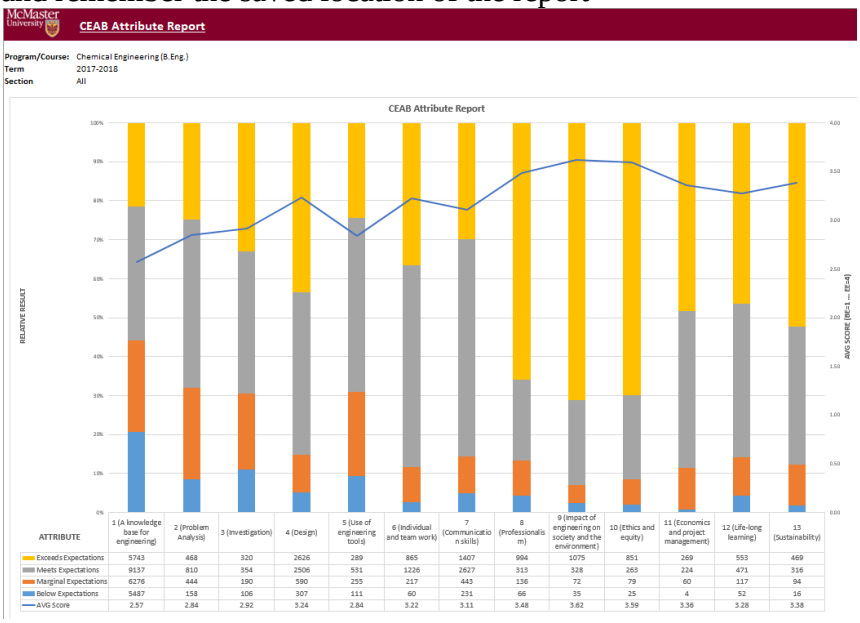


## CEAB Attribute Report

The CEAB Attribute Report displays the attribute results of a given program/course by year or term. Each bar in the report represents a Graduate Attribute. The bar may divide into 4 expectations.

The line indicates the average score for each attribute where 1 = Below expectations and 4 = Exceeds expectations.

1. Press **View** next to CEAB Attribute Report
2. Select a Course/Program, Term, and Section
3. **Download** and remember the saved location of the report



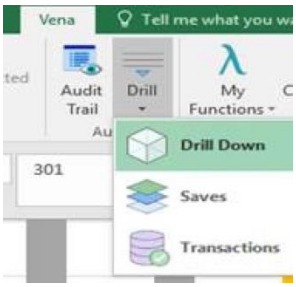

## Vena's Drill Down Feature

The Drill down feature enables users to view the raw data making up the sum of a selected expectation.

1. Select a cell intersecting an Attribute and Expectation

| Attributes | Expectations | | | |
|---|---|---|---|---|
| | Below Expectations | Marginal Expectations | Meets Expectations | Exceeds Expectations |
| 1 (A knowledge base for engineering) | 1194 | 1352 | 4330 | 2911 |
| 2 (Problem Analysis) | 566 | 333 | 804 | 1528 |
| 3 (Investigation) | 162 | 108 | 606 | 1862 |
| 4 (Design) | 279 | 571 | 1782 | 1192 |
| 5 (Use of engineering tools) | 132 | 153 | 613 | 345 |
| 6 (Individual and team work) | 27 | 24 | 273 | 264 |
| 7 (Communication skills) | 45 | 182 | 1210 | 689 |
| 8 (Professionalism) | 53 | 137 | 67 | 937 |
| 9 (Impact of engineering on society and the environment) | 19 | 62 | 381 | 1103 |
| 10 (Ethics and equity) | 16 | 299 | 604 | 75 |
| 11 (Economics and project management) | 5 | 22 | 13 | 258 |
| 12 (Life-long learning) | 21 | 135 | 274 | 342 |

2. Select Drill Down
   a. For **Windows users**, select Vena Tab → Drill → Drill Down




b. For **macOS users**, select Drill Down


c.

3. A new Excel worksheet will be generated displaying a breakdown of the data by course, year, attribute, section, value, etc.
    a. The sum of the value column will equal the value of the selected cell

| Program | Year | Attribute | Section | Outcome | Scenario | Measure | Rollup Multiplier | Value |
|---|---|---|---|---|---|---|---|---|
| ELEC ENG 4FJ4 (Microwave Engineering) | 2018-2019 Term 1 | 4.1 (Recognizes and follows an engineering design process.) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 3 |
| ELEC ENG 4FJ4 (Microwave Engineering) | 2018-2019 Term 1 | 4.3 (Proposes solutions to open-ended problems) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 4 |
| ELEC ENG 4FJ4 (Microwave Engineering) | 2018-2019 Term 1 | 4.6 (Determines and employs applicable standards and codes of practice) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 1 |
| ENGINEER 1C03 (Engineering Design and Graphics) | 2018-2019 Term 1 | 4.1 (Recognizes and follows an engineering design process.) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 20 |
| ENGINEER 1C03 (Engineering Design and Graphics) | 2018-2019 Term 1 | 4.2 (Recognizes and follows engineering design principles including appropriate consideration of environmental, social and economic aspects as well as health and safety issues) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 117 |
| ENGINEER 1C03 (Engineering Design and Graphics) | 2018-2019 Term 1 | 4.3 (Proposes solutions to open-ended problems) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 20 |
| ENGINEER 1D04 (Engineering Computation) | 2018-2019 Term 1 | 4.1 (Recognizes and follows an engineering design process.) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 56 |
| ENGINEER 1D04 (Engineering Computation) | 2018-2019 Term 1 | 4.2 (Recognizes and follows engineering design principles including appropriate consideration of environmental, social and economic aspects as well as health and safety issues) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 51 |
| ENGINEER 1P03 (Engineering Profession and Practice) | 2018-2019 Term 1 | 4.1 (Recognizes and follows an engineering design process.) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 0 |
| ENGINEER 1P03 (Engineering Profession and Practice) | 2018-2019 Term 1 | 4.3 (Proposes solutions to open-ended problems) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 0 |
| ENGINEER 1P03 (Engineering Profession and Practice) | 2018-2019 Term 1 | 4.4 (Employs appropriate techniques for generation of creative ideas such as brainstorming and structured inventive thinking) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 1 |
| ENGINEER 1P03 (Engineering Profession and Practice) | 2018-2019 Term 1 | 4.5 (Includes appropriate health and safety considerations) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 1 |
| ENGINEER 4A03 (Sustainability and Ethics in Engineering) | 2018-2019 Term 1 | 4.5 (Includes appropriate health and safety considerations) | Section 1 | Below Expectations | Actual | Number of Measurements | 1 | 5 |

## Faculty and Curriculum Committee Recommendation Report

Displays the recommendations from the curriculum committee at both course and program level. This report can be viewed for any year where data is available. The data comes from the feedback provided in the Curriculum Committee Recommendations Input Template and as described in the Departmental Guide.

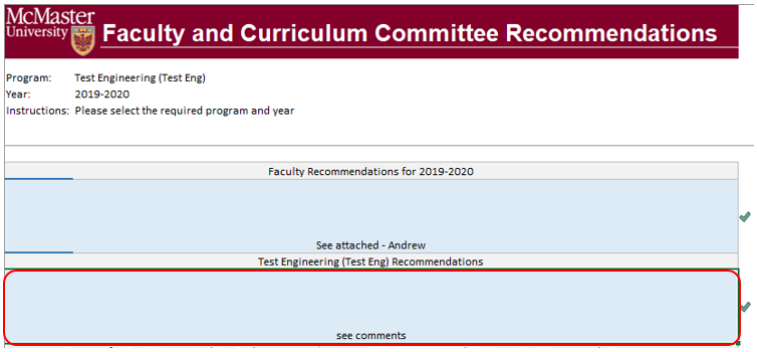
1. Press **View** next to Faculty and Curriculum Committee Recommendations Report

2. Select a Course/Program and Year

3. **Download** and remember the saved location of the report

To view an attached file:

a. Select a cell containing an attachment



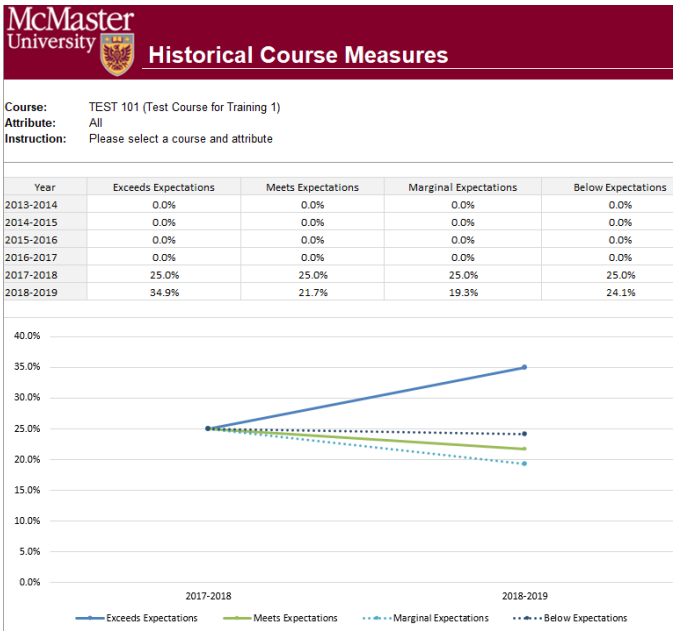

b. Click on **Comments** under **Vena** Tab
c. On the right-hand side, select the attached file


4. For macOS users, click View All under Vena Comments
5. On the right-hand side, select the attached file

## Historical Course Measurement Report

Shows the historical trend for each course at different levels (indicator, attribute and all).

1. Press **View** next to Historical Course Measurement Report
2. **Download** and remember the saved location of the report
3. Select a Course (and Graduate Attribute if necessary)
4. If prompted, **Enable Content** and **Enable Macros**



McMaster University **Historical Course Measures**

**Course:** TEST 101 (Test Course for Training 1)
**Attribute:** All
**Instruction:** Please select a course and attribute

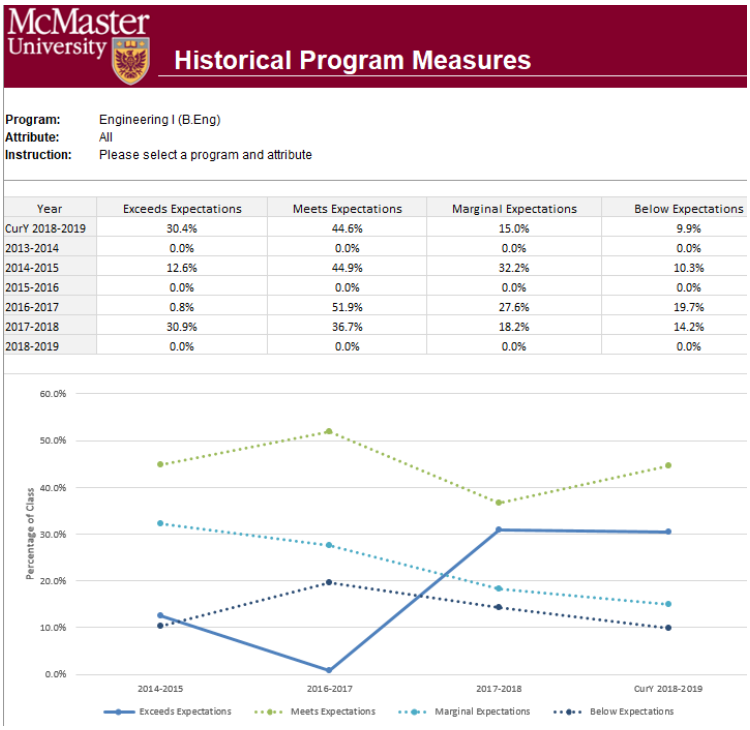
| Year | Exceeds Expectations | Meets Expectations | Marginal Expectations | Below Expectations |
|---|---|---|---|---|
| 2013-2014 | 0.0% | 0.0% | 0.0% | 0.0% |
| 2014-2015 | 0.0% | 0.0% | 0.0% | 0.0% |
| 2015-2016 | 0.0% | 0.0% | 0.0% | 0.0% |
| 2016-2017 | 0.0% | 0.0% | 0.0% | 0.0% |
| 2017-2018 | 25.0% | 25.0% | 25.0% | 25.0% |
| 2018-2019 | 34.9% | 21.7% | 19.3% | 24.1% |



## Historical Program Measurement Report

Shows the historical trend for each program at different levels (indicator, attribute and all).

1. Press **View** next to Historical Program Measurement Report
2. **Download** and remember the saved location of the report
3. Select a Program (and Graduate Attribute if necessary)
4. If prompted, **Enable Content** and **Enable Macros**



McMaster University **Historical Program Measures**

**Program:** Engineering I (B.Eng)
**Attribute:** All
**Instruction:** Please select a program and attribute

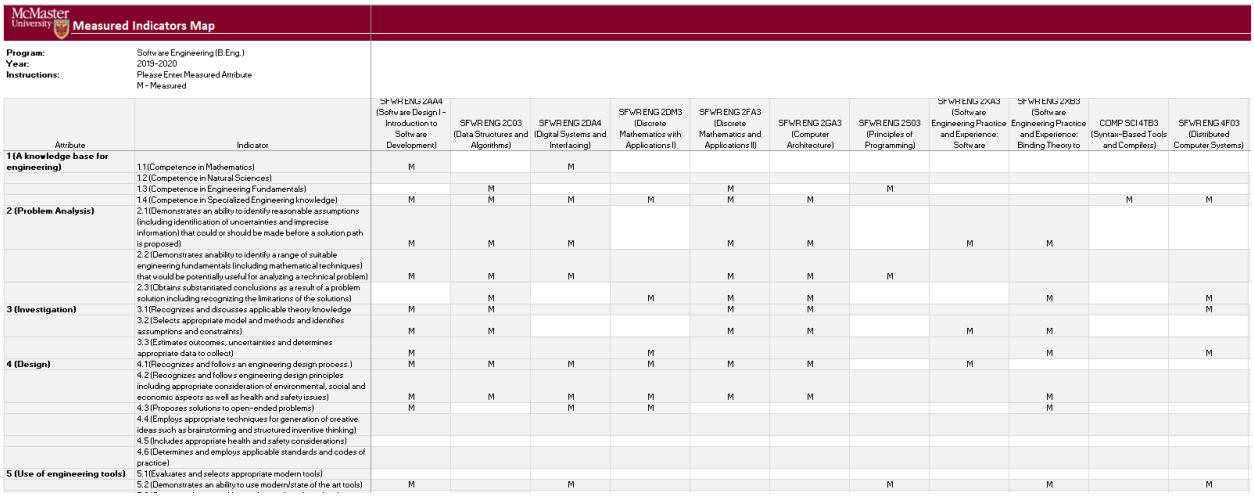
| Year | Exceeds Expectations | Meets Expectations | Marginal Expectations | Below Expectations |
|---|---|---|---|---|
| CurY 2018-2019 | 30.4% | 44.6% | 15.0% | 9.9% |
| 2013-2014 | 0.0% | 0.0% | 0.0% | 0.0% |
| 2014-2015 | 12.6% | 44.9% | 32.2% | 10.3% |
| 2015-2016 | 0.0% | 0.0% | 0.0% | 0.0% |
| 2016-2017 | 0.8% | 51.9% | 27.6% | 19.7% |
| 2017-2018 | 30.9% | 36.7% | 18.2% | 14.2% |
| 2018-2019 | 0.0% | 0.0% | 0.0% | 0.0% |



## Measurement Map Report

Indicates attributes the instructors will need to measure for a given year.

1. Press **View** next to Measurement Map Report
2. **Download** and remember the saved location of the report
3. Select a Program and Year
4. If prompted, **Enable Content** and **Enable Macros**



McMaster University **Measured Indicators Map**

**Program:** Software Engineering (B.Eng.)
**Year:** 2019-2020
**Instructions:** Please Enter Measured Attribute
M - Measured

| Attribute | Indicator | SFWRENG 2AA4 (Software Design I - Introduction to Software Development) | SFWRENG 2C03 (Data Structures and Algorithms) | SFWRENG 2DA4 (Digital Systems and Interfacing) | SFWRENG 2DM3 (Discrete Mathematics with Applications I) | SFWRENG 2FA3 (Discrete Mathematics and Applications II) | SFWRENG 2GA3 (Computer Architecture) | SFWRENG 2S03 (Principles of Programming) | SFWRENG 2XA3 (Software Engineering Practice and Experience: Software | SFWRENG 2XB3 (Software Engineering Practice and Experience: Binding Theory to | COMP SCI 4TB3 (Syntax-Based Tools and Compilers) | SFWRENG 4F03 (Distributed Computer Systems) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1 (A knowledge base for engineering)** | 1.1 (Competence in Mathematics) | M | | M | | | | | | | | |
| | 1.2 (Competence in Natural Sciences) | | | | | | | | | | | |
| | 1.3 (Competence in Engineering Fundamentals) | | M | | | M | | M | | | | |
| | 1.4 (Competence in Specialized Engineering knowledge) | M | M | M | M | M | M | | | | M | M |
| **2 (Problem Analysis)** | 2.1 (Demonstrates an ability to identify reasonable assumptions (including identification of uncertainties and imprecise information) that could or should be made before a solution path is proposed) | M | M | M | | M | M | | M | M | | |
| | 2.2 (Demonstrates anability to identify a range of suitable engineering fundamentals (including mathematical techniques) that would be potentially useful for analyzing a technical problem) | M | M | M | | M | M | M | | | | |
| | 2.3 (Obtains substantiated conclusions as a result of a problem solution including recognizing the limitations of the solutions) | | M | | M | M | M | | | M | | M |
| **3 (Investigation)** | 3.1 (Recognizes and discusses applicable theory knowledge | M | M | | | M | M | | | | | M |
| | 3.2 (Selects appropriate model and methods and identifies assumptions and constraints) | M | M | | | M | M | | M | M | | |
| | 3.3 (Estimates outcomes, uncertainties and determines appropriate data to collect) | M | | | M | | | | | M | | M |
| **4 (Design)** | 4.1 (Recognizes and follows an engineering design process.) | M | M | M | M | M | M | | M | | | |
| | 4.2 (Recognizes and follows engineering design principles including appropriate consideration of environmental, social and economic aspects as well as health and safety issues) | M | M | M | M | M | M | | | M | | |
| | 4.3 (Proposes solutions to open-ended problems) | M | | M | M | | | | | M | | |
| | 4.4 (Employs appropriate techniques for generation of creative ideas such as brainstorming and structured inventive thinking) | | | | | | | | | | | |
| | 4.5 (Includes appropriate health and safety considerations) | | | | | | | | | | | |
| | 4.6 (Determines and employs applicable standards and codes of practice) | | | | | | | | | | | |
| **5 (Use of engineering tools)** | 5.1 (Evaluates and selects appropriate modern tools) | | | | | | | | | | | |
| | 5.2 (Demonstrates an ability to use modern/state of the art tools) | M | | M | | | | M | | M | | M |

## Cascade

***** Vena Feature currently available to Windows Users only *****

The cascade feature enables users to generate the same Vena report for multiple courses or programs. This feature eliminates the need to manually generate the same report for multiple courses.

### Generating a Mass Course Report

The steps below will show how to create

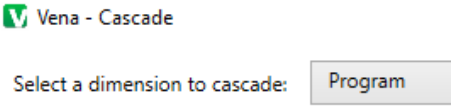
1. Select Contributor → Reports → Course Reports → **View**

2. Download and open the Course Report
    a. Click **Enable Editing** and **Edit Content** if the pop-up appears

3. Select a Course (belonging to the program), Year, Term, Section

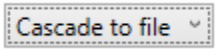
4. Select the Vena Tab then click **Cascade**


5. For dimension, select **Program**




6. Select the courses belonging to the program (hold shift + click)

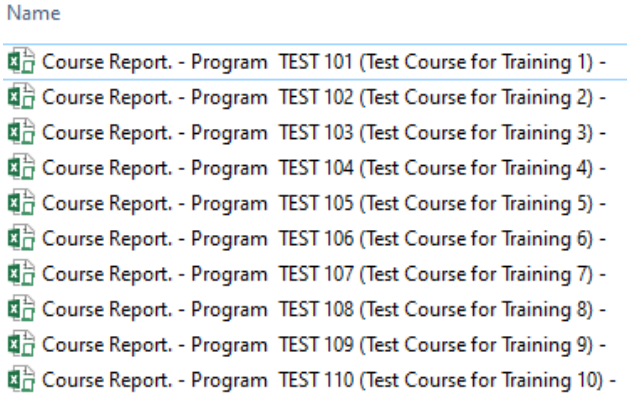

7. Change option from Cascade to Sheet to **Cascade to File**




8. Choose a location to save the files

9. Click **OK**

10. The Cascade feature will take approximately 5-10 minutes to complete



# Appendix I: Report Overview

| Report Overview | |
|---|---|
| **Report** | **Description** |
| Attribute Map Report | Displays all the courses for a program and the highest measure level for each Graduate Attribute |
| Attribute Map Summary Report | Similar to the Attribute Map Report, instead of displaying the level (A, D, I), the summary report displays an "X" to indicate that the course is measured for a specific attribute |
| CEAB Attribute Report | Displays a bar chart of the rubric data entered for each graduate attribute in a given program/course |
| Course Report | Displays the rubric data entered from the Rubric Input Template in a bar chart. Also contains (if any) continuous improvement plans |
| Curriculum Committee Recommendations Report | Displays the committee recommendations for the program and its courses |
| Historical Course Measurement Report | Displays the course's year to year trend of the measured expectations |
| Historical Program Measurement Report | Displays the program's year to year trend of the measured expectations |
| Indicator Map Report | Displays all the Graduate Attribute Indicators and the lowest measure level for each course |
| Measurement Map Report | Assigns an "M" for each course measured for the year |
| Rubric Entry Report | Displays the rubric entry status, indicates if a course is measured, the instructor's name, the last user to save rubric data, and when it was last saved |

# Appendix II: Previous Modification Log

| Version | Modification date | Author | Comments |
|---|---|---|---|
| 1.0 | July 5, 2016 | Evan Situ | |
| 1.1 | August 28, 2016 | Evan Situ | Split the instructor document added section 3.1 and 1.4 |
| 1.2 | November 21, 2016 | Evan Situ | Removed Other Resource |
| 1.3 | December 20, 2016 | Michelle Zheng | Updated sections 2-6 |
| 1.4 | January 2, 2017 | Spencer Smith | Updated timeline, instructor input, reports, submit button |
| 1.5 | January 9, 2017 | Spencer Smith | Addition of password change instructions |
| 1.6 | January 19, 2017 | Spencer Smith | Removal of request to use the Submit button |
| 1.7 | January 31, 2017 | Spencer Smith | Explicit statement that each indicator has to have at least one learning outcome |
| 1.8 | April 19, 2017 | Spencer Smith | Explanation of columns in the Rubric Input template |