Windows Instructor Guide for MEASURE

Faculty of Engineering, McMaster University

January 12, 2024

BY

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Modification Log

Version	Modification Date	Author	Comments
3.02	January 12, 2024	Heather Snow	• Updated screenshots include updated Vena GUI • Updated website links to new version
3.01	July 30, 2021	Andrew Aran	• Updated text to rubric entry process • Updated instructions for accessing Annual & YoY Attribute reports
3.00	January 9, 2020	Andrew Aran	• Updated to reflect MEASURE 3.0

Click here to view previous modification log.

Table of Contents

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

Windows

System Requirements

	Recommended	Minimum
Operating System	Latest version of Windows 10 (64-bit)	Windows 7 (32-bit)
MS Office	Office 2016 or newer • Click here for instructions to download Office (via UTS)	Office 2010
.NET	Latest version of .NET	4.5
Browser	Latest version of: • Internet Explorer • Microsoft Edge • Mozilla Firefox • Google Chrome	• Internet Explorer 10+ • Microsoft Edge • Mozilla Firefox 12.0+ • Google Chrome
RAM	16 GB	4 GB
CPU	2+ Cores	--
Reference:	https://support.venasolutions.com/hc/en-us/articles/115000622006-Vena-Add-In-System-Requirements	

About the Vena Add-In

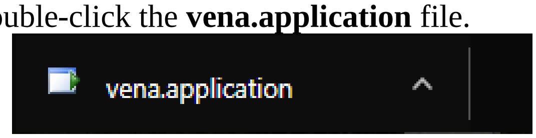
Vena uses both Microsoft Excel and the Vena website (https://vena.io) to give users access to the rubric input template and various accreditation reports. Before users can update their course data in Excel, they will need to install the Vena Add-In for Microsoft Excel. This Add-In provides functionality to Excel that allows users to view, edit, and save their rubric data to the Vena cloud.

Installing Vena Add-In for Windows Users

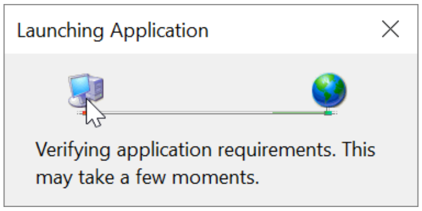
1. Visit the add-in website http://addin.vena.io/release/vena.application

2. Save the **vena.application** file.

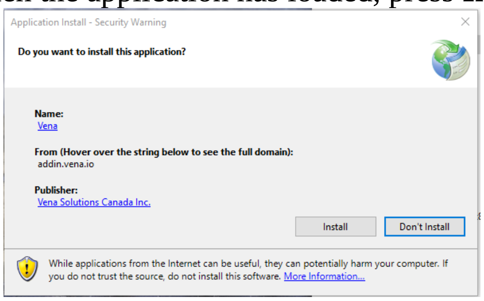
3. Double-click the **vena.application** file.



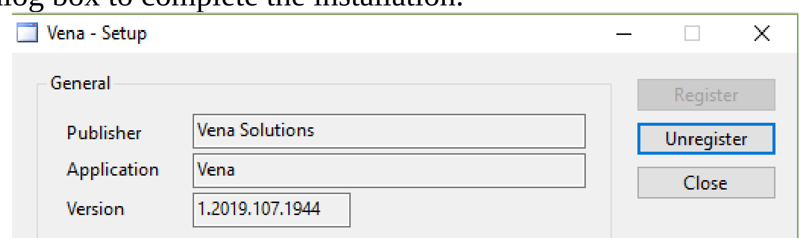
4. Run the installer. The following dialog box will appear:



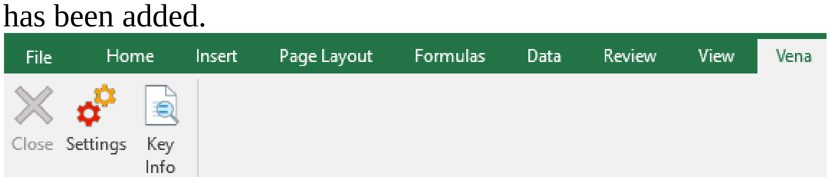
5. When the application has loaded, press **Install.**



6. When the installation has completed, the following dialog box will appear. **Close** this dialog box to complete the installation.



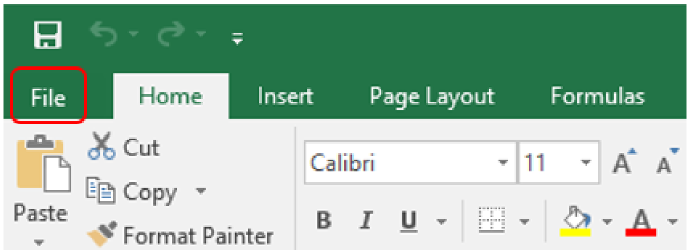
7. To ensure Vena has successfully installed, open Microsoft Excel, and confirm the Vena tab has been added.



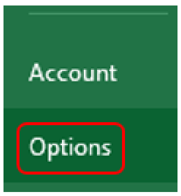
Enabling Trust Access to the VBA Project Object Model

After installing the Excel Vena Add-in, access to the VBA project object model will need to be trusted for Vena to run properly.

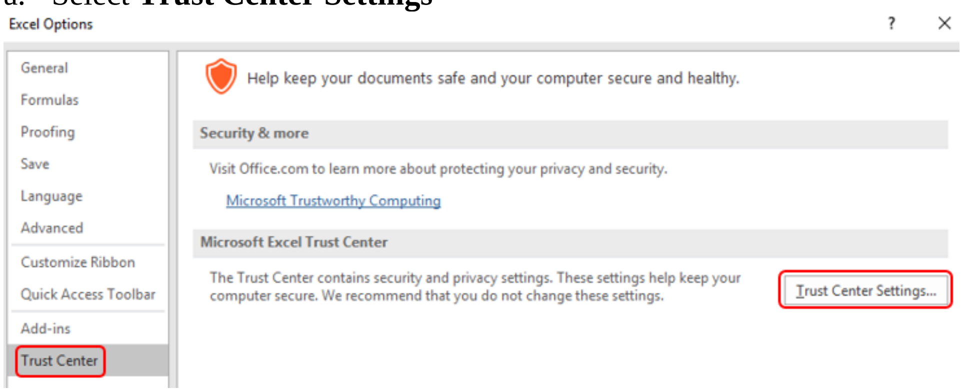
1. Open **Excel**
2. Select a **Blank Workbook**
3. Select **File**



4. On the bottom of the left menu, select **Options.**



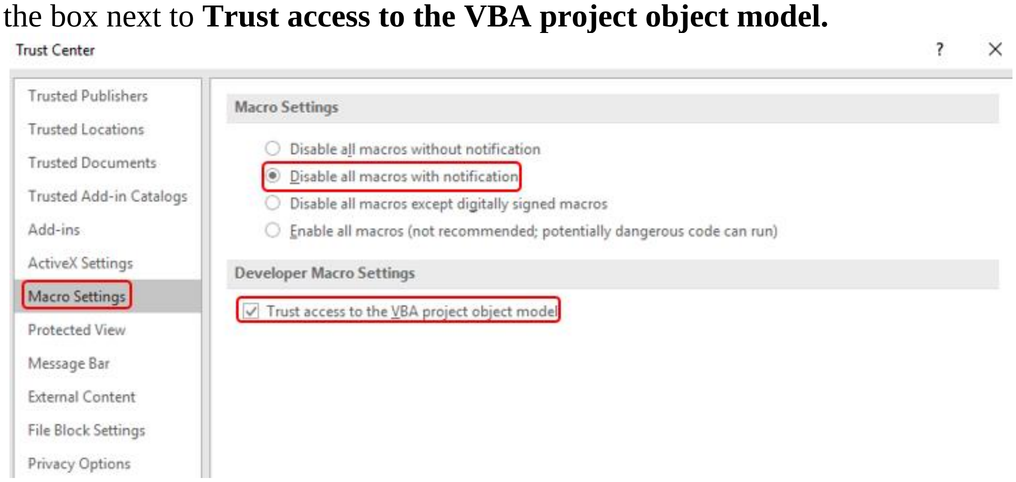
5. Select **Trust Center**
    a. Select **Trust Center Settings**



6. Select **Marco Settings.**

7. Ensure that **Disable all macros with notification** is selected.

8. Check the box next to **Trust access to the VBA project object model.**



9. 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

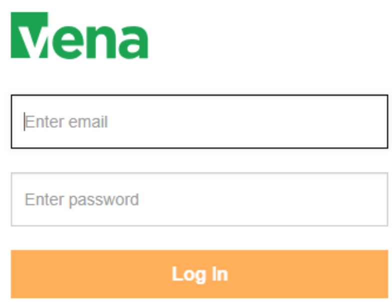
The table below summarizes the typical tasks performed during the course of an academic year. Instructor responsibilities are highlighted in **green**.

Date	Task Description	Section	Template	Task Owner
January	• Instructor enters rubric and continuous improvement plan for Term 1	Windows 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 • 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 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 • 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 • Start New Academic Year • 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 ○ Consult with Instructors	Department Guide	See Department Guide	Department
August	• Update Curriculum Recommendations	Department Guide	See Department Guide	Department
August	• Review Programs in Vena • 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 • **Do not delete Courses**	Department Guide	See Department Guide	Department

September	• Faculty reviews departmental continuous improvement plan report from previous year • Prepare/review Graduate Attribute Report	Admin Guide	See Administrator's Guide	Associate Dean's Office
December	• Execute Backup and Restore Process	Admin Guide	See Administrator's Guide	Associate Dean's Office

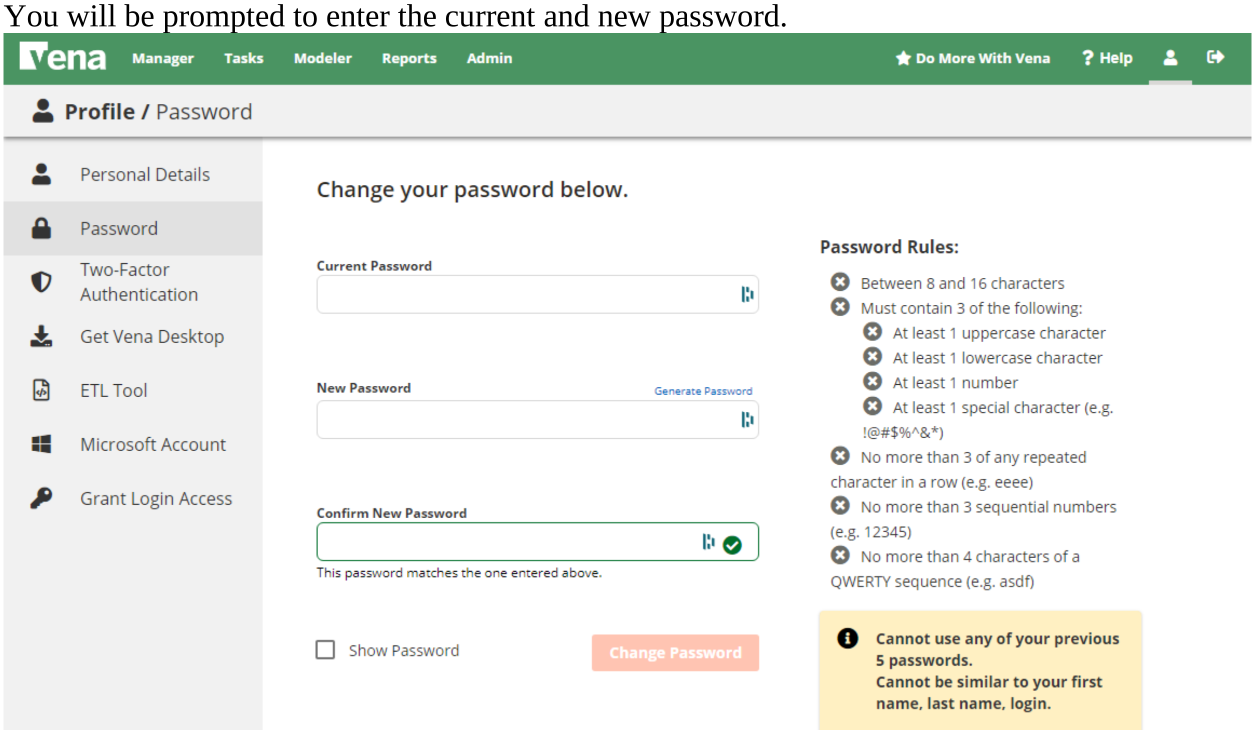
Accessing Vena

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 "Password", located on the left-hand side.
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:

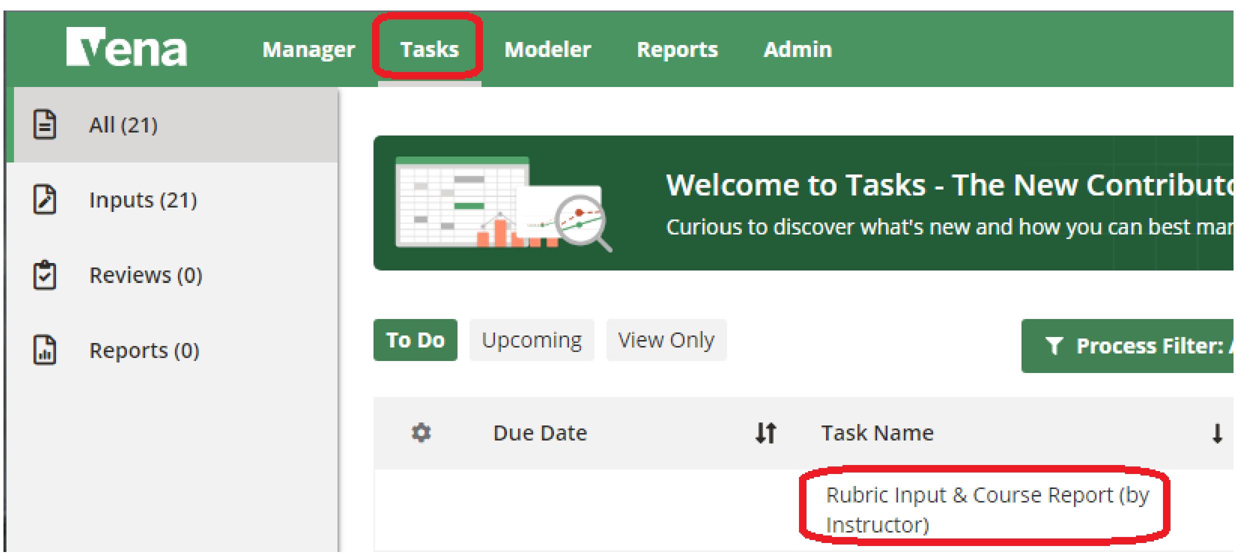
Task	Windows	macOS
The device meets the system requirements	Click here	
Microsoft Excel 2010 or later is installed	Click here	
Vena Add-In is installed	Click here	Click here
Enabling Trust Access to Vena	Click here	Click here

Windows Guide

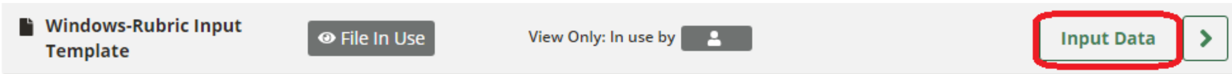
This section of the guide is intended for Windows (10/11) operating system users.

Accessing Rubric Input Template

1. Under Tasks view, select Task **Rubric Input & Course Report (by Instructor).**

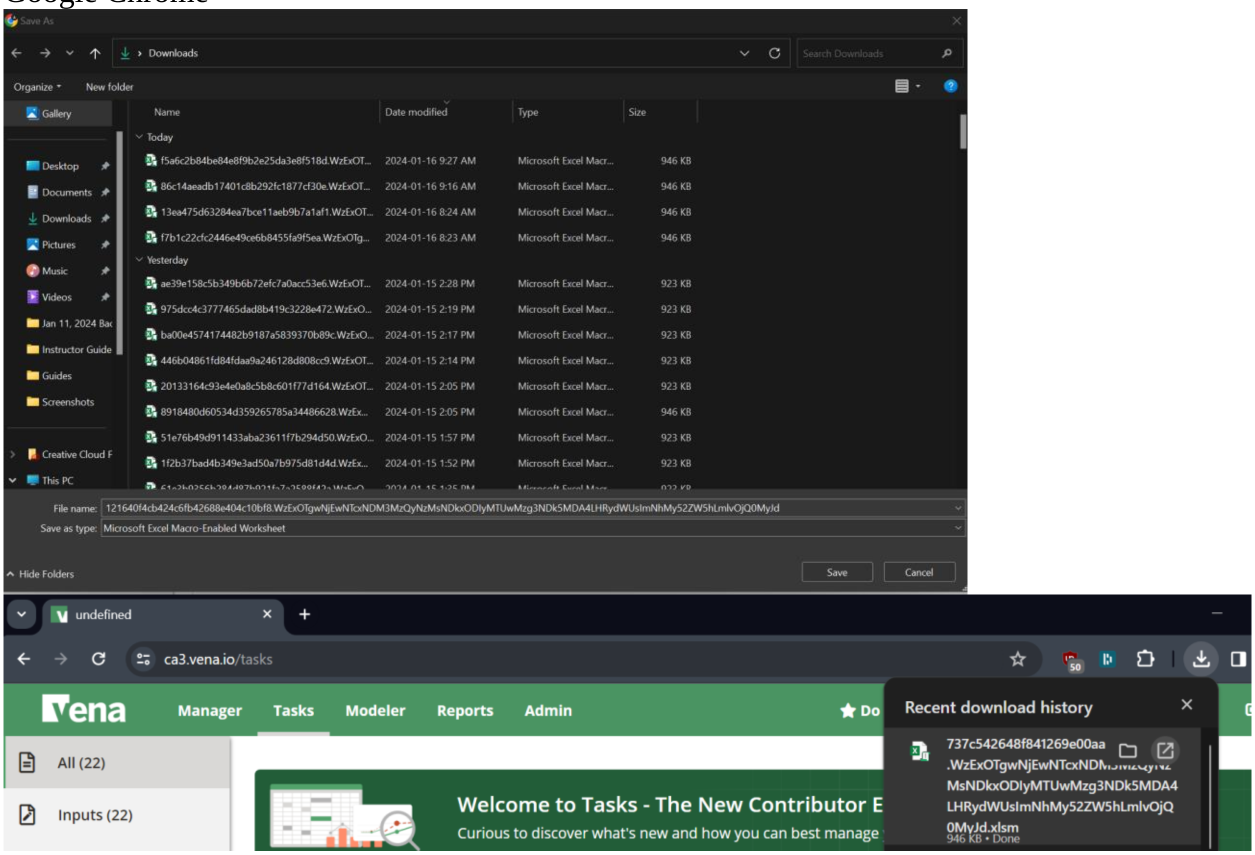


2. Select **Input Data** beside the **Rubric Input Template – Windows.xlsm**

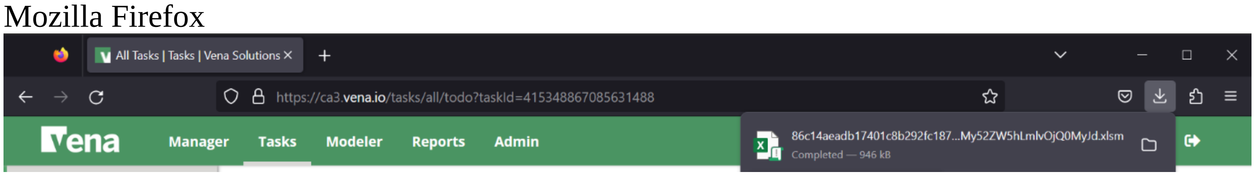


3. A pop-up will appear to save the template. Click **Save** and remember the saved location of the template. Go to the **Recent Download** section of your web browser or go to the saved location to open the template.

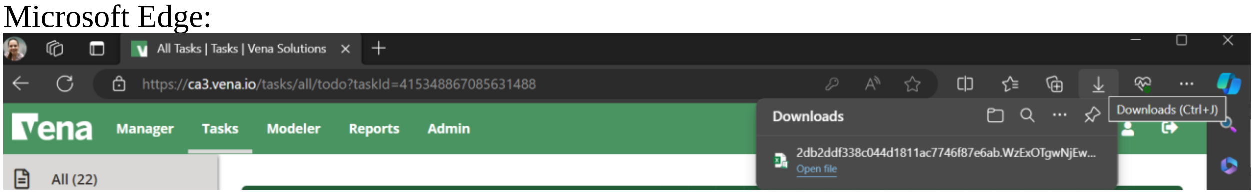
Google Chrome



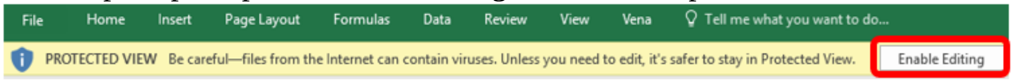
Mozilla Firefox



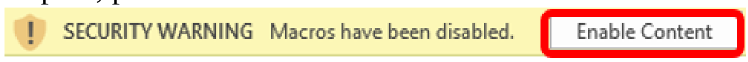
Microsoft Edge:



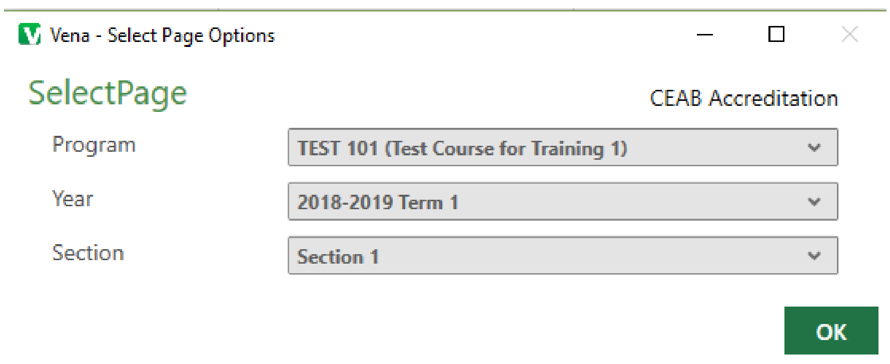
4. Open the Excel File
    a. If prompted, press Enable Editing in the Excel spreadsheet.



    b. If prompted, press Enable Content to allow Macros.



5. Selecting 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).



Updating Rubric Input Template

If an instructor has entered rubric information from the previous year, the same rubric information will be carried over 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.

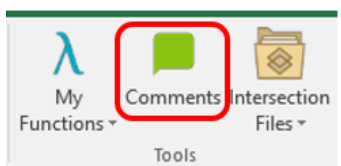
Course:	TEST 101 (Test Course for Training 1)
Term:	2018-2019 Term 1
Section:	Section 1
Instructor Name:	John Smith
Rubric Entry Status:	Fully Complete

3. 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:

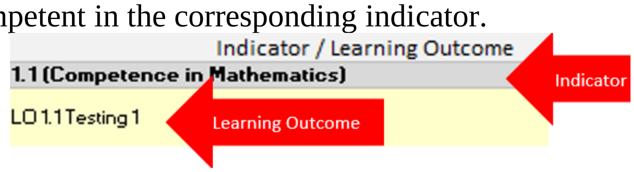
b. To attach a file:
   i. Select a cell.
   ii. Click **Comments.**
   iii. In the **Comments** section, click **Details** Tab.
   iv. Click the **Add Comment** button.
   v. Click the **paper clip** and attach your file.
   vi. Click **Upload** when asked to upload the file as a comment.
   vii. Include text in the selected cell such as '**See attached file**' to notify users the template contains attachments.



4. 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 **Insert** under the Vena Tab
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 **Remove** under the Vena Tab
1. The selected 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

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

6. **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 describing each expectation.
b. **Enter** the number of students corresponding to each expectation.

7. **Used (1/0)**
The "Used (1/0)" column is updated to determine if the row will be part of the calculation for the Summary and Detailed View charts.

If users wish to record the rubric data and include it as part of the calculation for the Summary and Detailed View charts, set the value to 1.

If users wish to record the rubric data, but **not** include it as part of the calculation for the Summary and Detailed View charts, set the value to 0.

If unsure, always set the value to 1.

8. **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.)

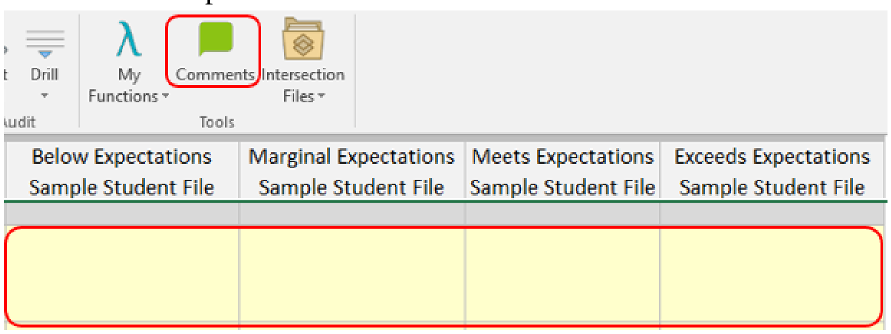
a. **Select** a category from the dropdown menu for each row.

9. Attaching Sample Files

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

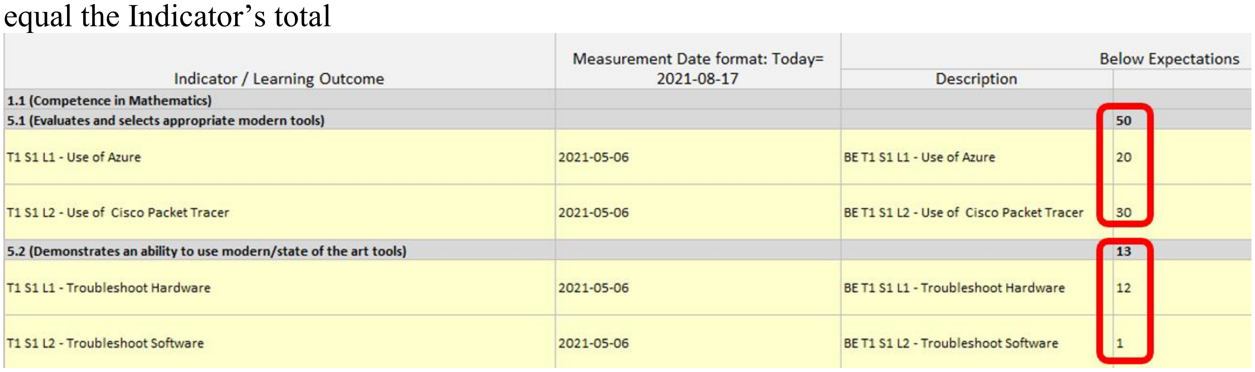
To attach a file:

i. Select a cell.
ii. Click **Comments.**
iii. In the **Comments** section, click **Details** Tab.
iv. Click the **Add Comment** button .
v. Click the **paper clip** and attach your file.
vi. Click **Upload** when asked to upload the file as a comment.
vii. Please include text in the field such as ‘See attached file’ to notify users the template contains attachments.



10. Reviewing the Number Values

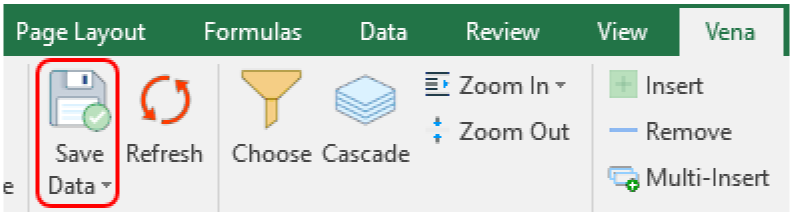
After entering the student count for each expectation, ensure the sum of the line item’s equal the Indicator’s total



Indicator / Learning Outcome	Measurement Date format: Today= 2021-08-17	Description	Below Expectations
1.1 (Competence in Mathematics)			
5.1 (Evaluates and selects appropriate modern tools)			50
T1 S1 L1 - Use of Azure	2021-05-06	BE T1 S1 L1 - Use of Azure	20
T1 S1 L2 - Use of Cisco Packet Tracer	2021-05-06	BE T1 S1 L2 - Use of Cisco Packet Tracer	30
5.2 (Demonstrates an ability to use modern/state of the art tools)			13
T1 S1 L1 - Troubleshoot Hardware	2021-05-06	BE T1 S1 L1 - Troubleshoot Hardware	12
T1 S1 L2 - Troubleshoot Software	2021-05-06	BE T1 S1 L2 - Troubleshoot Software	1

11. Saving Data

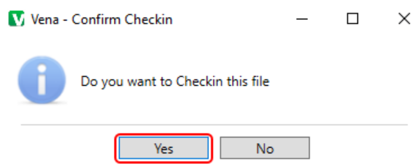
a. Select the Vena Tab
b. Click **Save Data**



12. Closing and Checking in the Template

a. When closing the Rubric Input Template, you will be prompted to **Check-in**

b. Select **Yes**

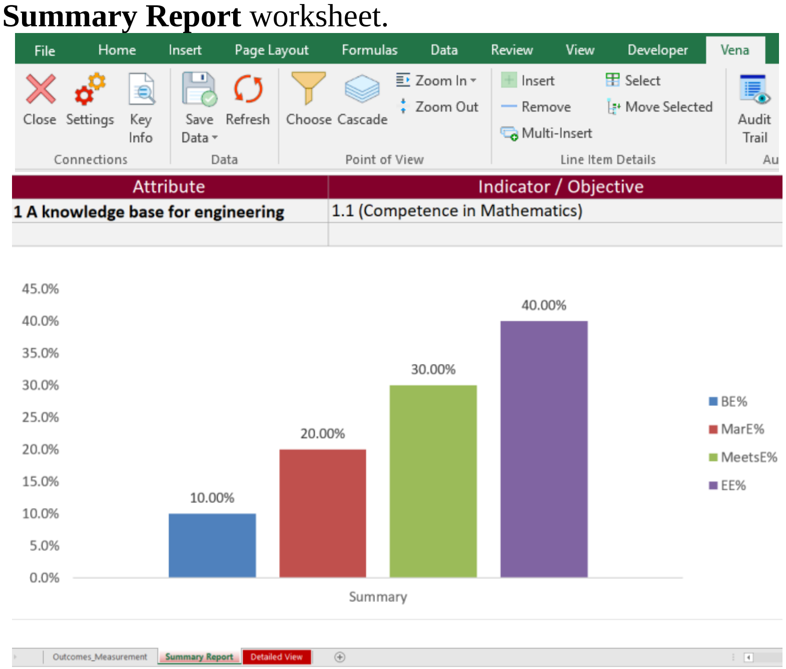


Viewing Summary Chart

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

After entering/updating rubric data:

1. Press **Save Data.**
2. Press the **Refresh** button under the Vena tab.
3. Select the **Summary Report** worksheet.

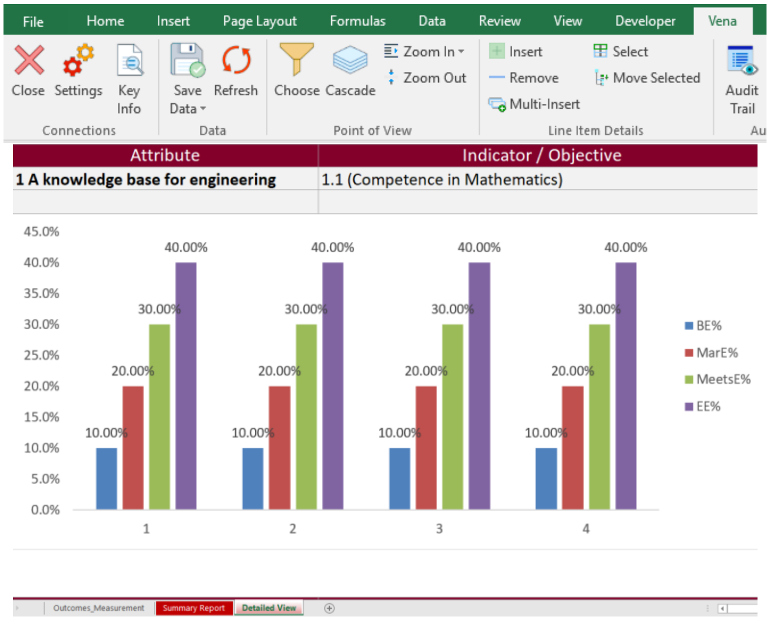


Viewing Detailed Chart

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.

After entering/updating rubric data,

1. Press **Save Data**
2. Press the **Refresh** button under the Vena tab.
3. Select the **Detailed View** worksheet.



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.

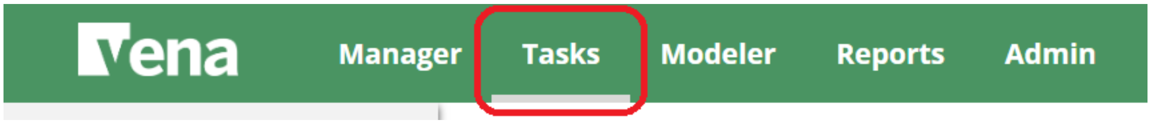
The Vena Reports are best viewed using a Windows-based operating system.

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

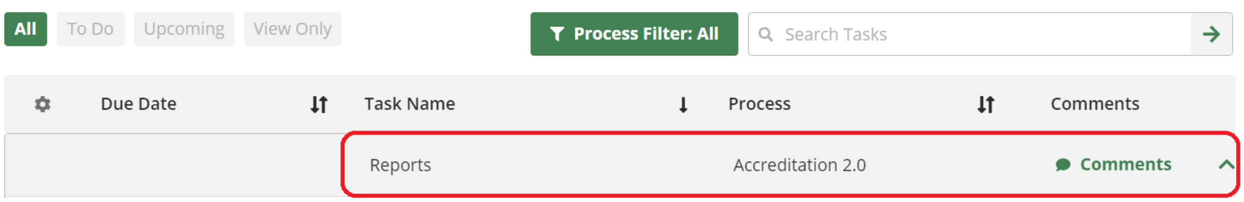
Accessing the Reports

1. Ensure the Tasks tab is selected.

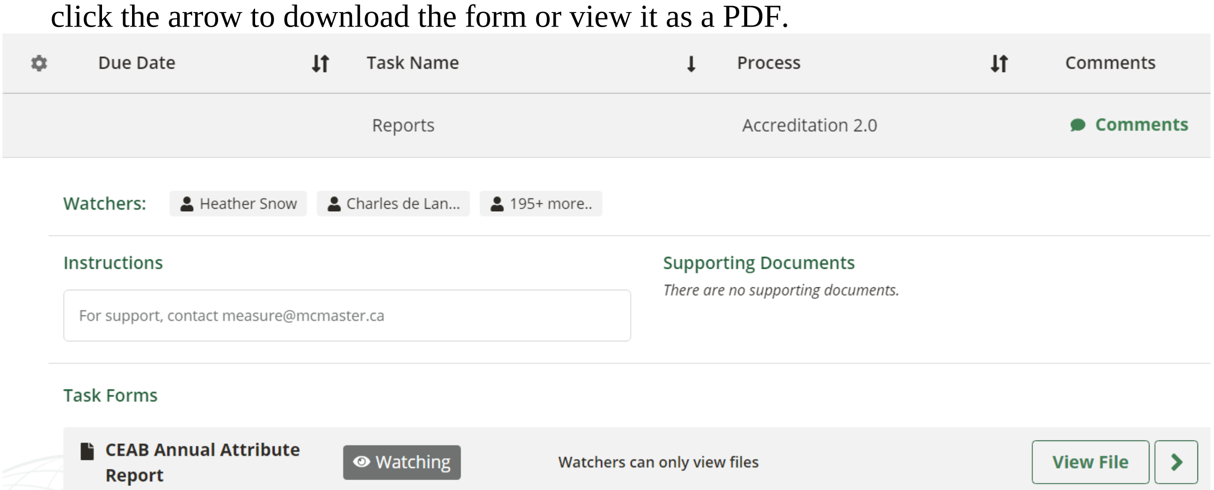


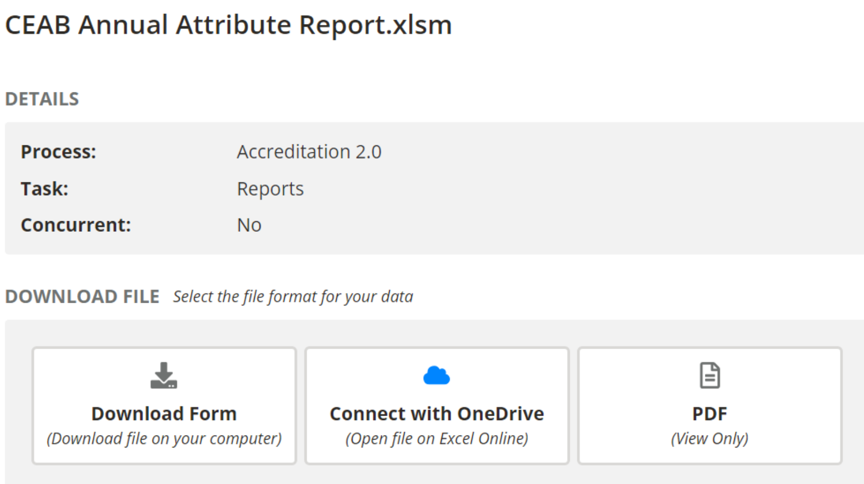
2. On the left side, click **Reports** (the centre section will reload to only display Reports)

3. Click **Reports**

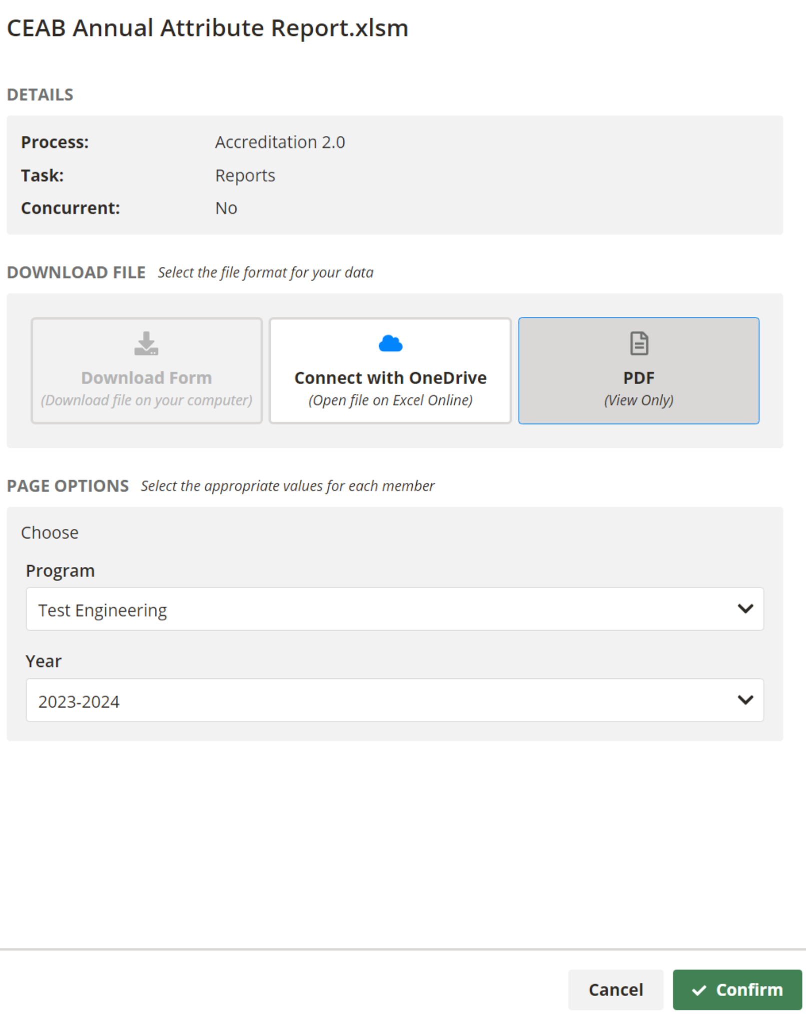


4. Click **View File** to download and save the report as a Microsoft Excel spreadsheet, or click the arrow to download the form or view it as a PDF.





Note: If selecting to view as PDF, select the program and year, and then click **Confirm**.



CEAB Annual Attribute Report

This multi-page report provides a detailed snapshot of how the program is progressing for the current year. It includes an overall program summary and a separate report for each Graduate Attribute at the course level.

The report is built off a calculated average with a set order of operations, rather than directly based on the average of total students per outcome. At each level, the total is aggregated. For example, at the Section level, all sections are aggregated together, and from there, all terms are aggregated together to get a Yearly Average for all Sections per Course.

The order of operations for the calculation is:

1. LID's (Learning Outcome)
2. Indicator
3. Attribute
4. Section
5. Year
6. Program

Viewing the Annual Attribute Report

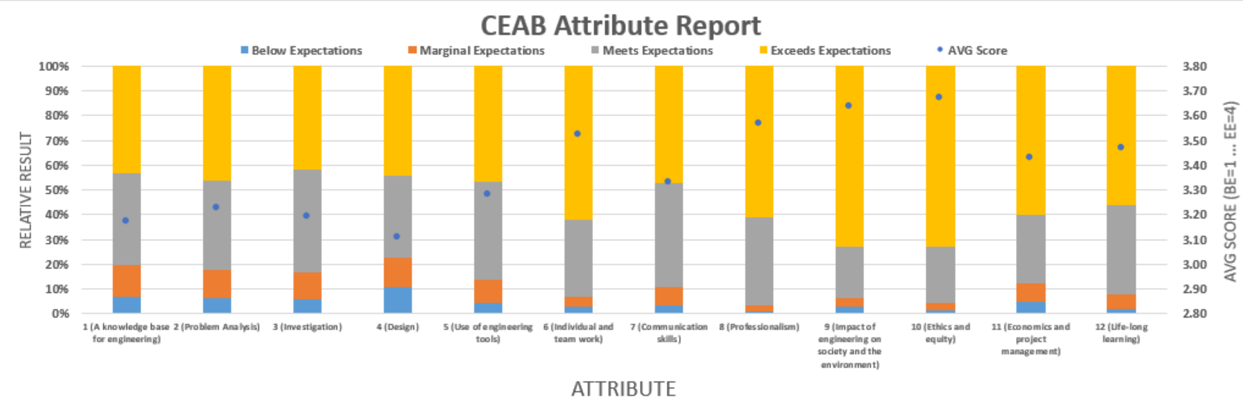
1. Select **View File** next to **CEAB Annual Attribute Report.xlsm**

2. **Save** and **open** the Excel file.
    a. If prompted, **Enable Content** and **Enable Macros**

3. Select the **Program** and press **OK.**

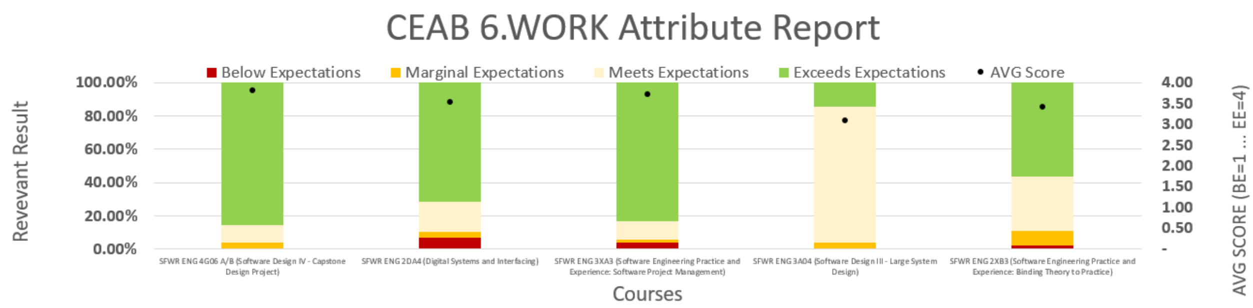
McMaster University CEAB Attribute Report

Program: Software Engineering (B.Eng.)
Term: 2020-2021
Section: All



Attributes	Expectations					Trigger Items	
	Below Expectation	arginal Expectatio	Meets Expectation	xceeds Expectatio	AVG Score	BE	BE+MA
1 (A knowledge base for engineering)	6.87%	12.68%	36.98%	43.47%	3.17	6.87%	19.55%
2 (Problem Analysis)	6.36%	11.23%	36.01%	46.40%	3.22	6.36%	17.59%
3 (Investigation)	5.64%	11.09%	41.48%	41.79%	3.19	5.64%	16.73%
4 (Design)	10.77%	11.66%	33.41%	44.15%	3.11	10.77%	22.43%
5 (Use of engineering tools)	4.41%	9.50%	39.50%	46.59%	3.28	4.41%	13.91%
6 (Individual and team work)	2.82%	4.12%	31.01%	62.05%	3.52	2.82%	6.94%
7 (Communication skills)	3.23%	7.79%	41.59%	47.38%	3.33	3.23%	11.02%
8 (Professionalism)	0.85%	2.31%	35.92%	60.92%	3.57	0.85%	3.17%
9 (Impact of engineering on society and t	2.92%	3.45%	20.91%	72.72%	3.63	2.92%	6.37%
10 (Ethics and equity)	1.31%	2.92%	23.08%	72.70%	3.67	1.31%	4.22%
11 (Economics and project management)	4.70%	7.61%	27.65%	60.04%	3.43	4.70%	12.30%
12 (Life-long learning)	1.79%	5.89%	36.15%	56.17%	3.47	1.79%	7.68%

Program Summary | 1. KNWLDG | 2. ANSYS | 3. INVEST | 4. DESIGN | 5. TOOLS | 6. WORK | 7. COMMS | 8. PROFSM | 9. IMPACT | 10. E



Course	Expectations				
	Below Expectations	Marginal Expectations	Meets Expectations	Exceeds Expectations	AVG Score
SFWR ENG 4G06 A/B (Software Design IV - Capstone Design Project)	0.58%	3.21%	10.98%	85.23%	3.81
SFWR ENG 2DA4 (Digital Systems and Interfacing)	7.14%	3.57%	17.86%	71.43%	3.54
SFWR ENG 3XA3 (Software Engineering Practice and Experience: Software I	4.20%	1.40%	11.20%	83.21%	3.73
SFWR ENG 3A04 (Software Design III - Large System Design)	0.00%	3.76%	81.95%	14.29%	3.11
SFWR ENG 2XB3 (Software Engineering Practice and Experience: Binding Th	2.17%	8.66%	33.07%	56.10%	3.43

Program Summary | 1. KNWLDG | 2. ANSYS | 3. INVEST | 4. DESIGN | 5. TOOLS | 6. WORK | 7. COMMS | 8. PROFSM | 9. IMPACT | 10. ETHICS | 11. ECON | 12. LEARN

CEAB YoY (Year over Year) Attribute Report

This report provides a look into the Average Score per Attribute, at a Program level, comparing it year over year. The Choose option that pops up allows you to choose the ending year that you'd like to view.

Prior to 2020-2021, the previous average scores were calculated based on the archived data of the # of students in each attribute/outcome. Starting in 2020-2021, the calculation is calculated on the new average process, as detailed in the CEAB Attribute Report section above.

The data for the current year, or most recent year is not automatically calculated. This YoY report uses archived data as it's source. As a result, the archiving process must be executed to see the current year data. Note that this means the entire process must be completed, and the data from step 7a of the Vena Template Automation Average ETL must be executed. This is imperative to the process.

Please refer to the One Time Fix – ETL section of the CEAB Attribute Report.

Viewing the YoY Attribute Report

1. Select **View File** next to **CEAB YoY Attribute Report.xlsm**

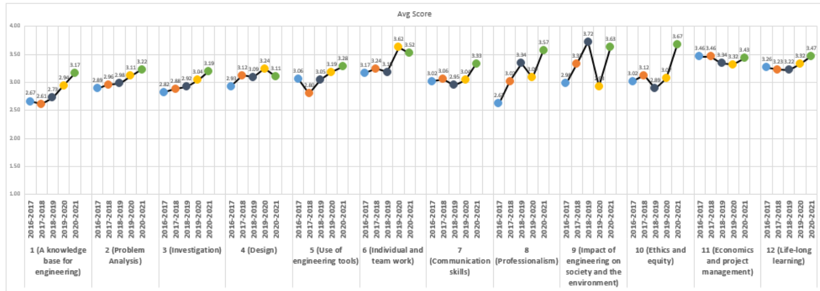
2. **Save** and **open** the Excel file.
   a. If prompted, **Enable Content** and **Enable Macros**

3. Select the **Program**, latest **Year**, and press **OK.**

YoY CEAB Attribute Report

Program/Course: Software Engineering (B.Eng.)
Term: 2020-2021

Attributes	AVG Score 2016-2017	AVG Score 2017-2018	AVG Score 2018-2019	AVG Score 2019-2020	AVG Score 2020-2021
1 (A knowledge base for engine	2.67	2.61	2.73	2.94	3.17
2 (Problem Analysis)	2.89	2.96	2.98	3.11	3.22
3 (Investigation)	2.82	2.88	2.92	3.04	3.19
4 (Design)	2.93	3.12	3.09	3.24	3.11
5 (Use of engineering tools)	3.06	2.80	3.05	3.19	3.28
6 (Individual and team work)	3.17	3.24	3.18	3.62	3.52
7 (Communication skills)	3.02	3.06	2.95	3.04	3.33
8 (Professionalism)	2.62	3.02	3.34	3.09	3.57
9 (Impact of engineering on so	2.98	3.33	3.72	2.93	3.63
10 (Ethics and equity)	3.02	3.12	2.89	3.07	3.67
11 (Economics and project man	3.46	3.46	3.34	3.32	3.43
12 (Life-long learning)	3.26	3.23	3.22	3.32	3.47



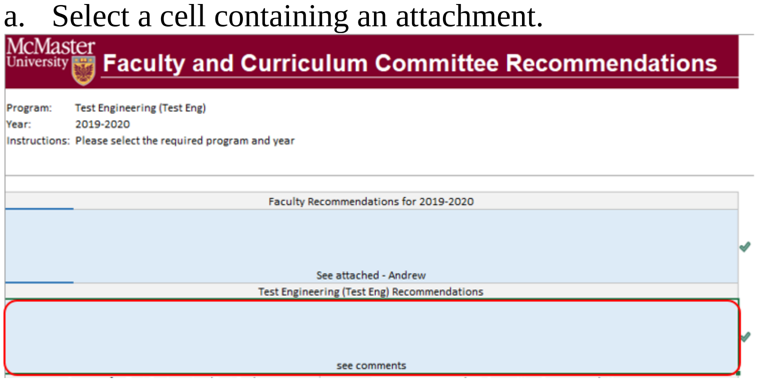
Faculty and Curriculum Committee Recommendation Report

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 File** 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.

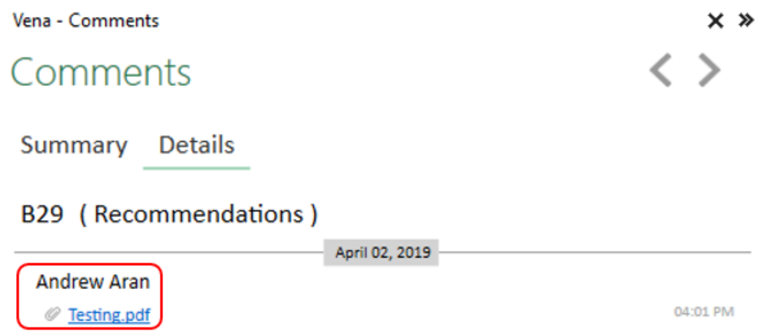
To view an attached file:

a. Select a cell containing an attachment.



b. Click on **Comments** under **Vena** Tab

c. On the right-hand side, select the attached file

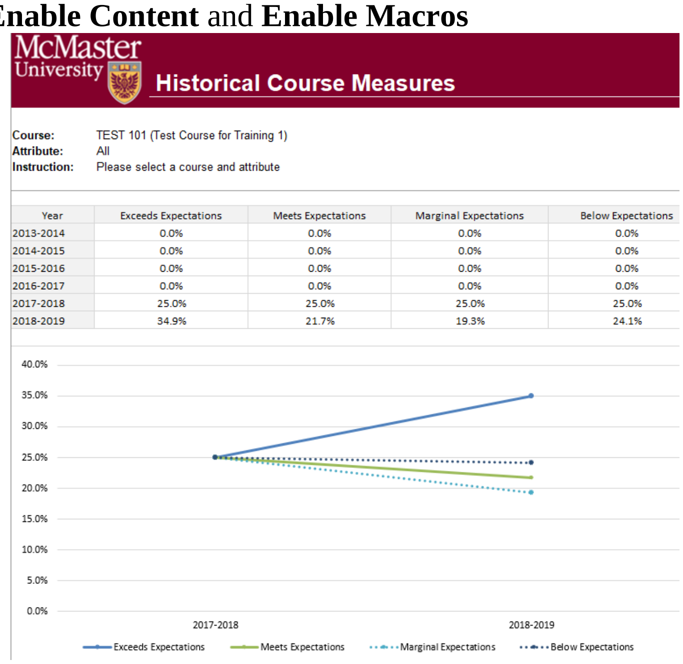


4. For macOS users, click View All under Vena Comments
5. On the right-hand side, select the attached file.

Historical Course Measurement Report

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

1. Press **View File** 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

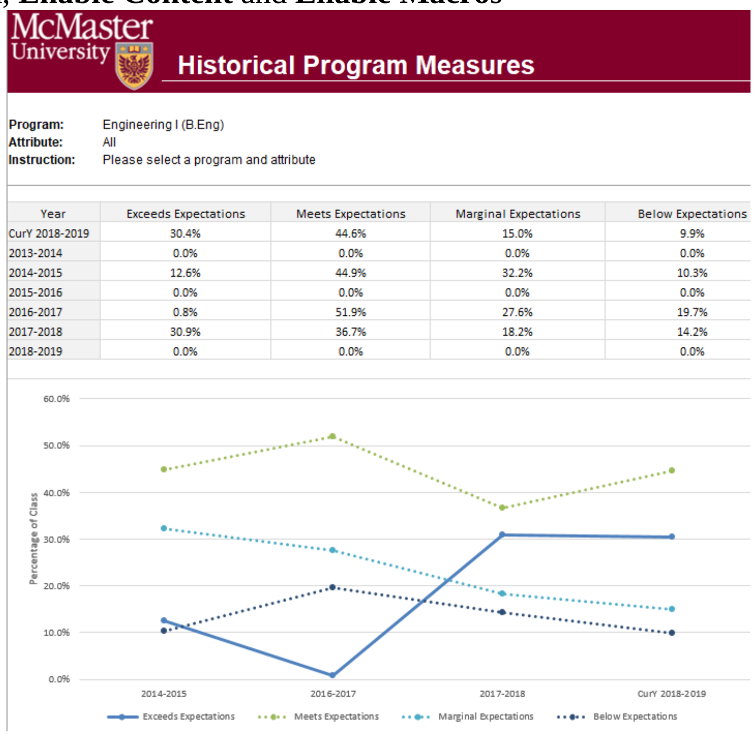
Course: TEST 101 (Test Course for Training 1)
Attribute: All
Instruction: Please select a course and attribute

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 File** 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 File** 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	SFWR ENG 2AA4 (Software Design I - Introduction to Software Development)	SFWR ENG 2C03 (Data Structures and Algorithms)	SFWR ENG 2DA4 (Digital Systems and Interfacing)	SFWR ENG 2DM3 (Discrete Mathematics with Applications I)	SFWR ENG 2FA3 (Discrete Mathematics and Applications II)	SFWR ENG 2GA3 (Computer Architecture)	SFWR ENG 2S03 (Principles of Programming)	SFWR ENG 2XA3 (Software Engineering Practice and Experience: Software	SFWR ENG 2XB3 (Software Engineering Practice and Experience: Binding Theory to	COMP SCI 4TB3 (Syntax-Based Tools and Compilers)	SFWR ENG 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 Tasks → Reports → Course Reports → **View File**

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.**

Vena - Cascade

Select a dimension to cascade: Program

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

Test Engineering	
TEST 101	Test Course for Training 1
TEST 102	Test Course for Training 2
TEST 103	Test Course for Training 3
TEST 104	Test Course for Training 4
TEST 105	Test Course for Training 5
TEST 106	Test Course for Training 6
TEST 107	Test Course for Training 7
TEST 108	Test Course for Training 8
TEST 109	Test Course for Training 9
TEST 110	Test Course for Training 10

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

   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.

Name
Course Report. - Program TEST 101 (Test Course for Training 1) -
Course Report. - Program TEST 102 (Test Course for Training 2) -
Course Report. - Program TEST 103 (Test Course for Training 3) -
Course Report. - Program TEST 104 (Test Course for Training 4) -
Course Report. - Program TEST 105 (Test Course for Training 5) -
Course Report. - Program TEST 106 (Test Course for Training 6) -
Course Report. - Program TEST 107 (Test Course for Training 7) -
Course Report. - Program TEST 108 (Test Course for Training 8) -
Course Report. - Program TEST 109 (Test Course for Training 9) -
Course Report. - Program TEST 110 (Test Course for Training 10) -

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 Annual Attribute Report	This report includes an overall program summary and a separate report for each Graduate Attribute at the course level
CEAB YoY (Year over Year) Attribute Report	This report provides a look into the Average Score per Attribute, at a Program level, comparing it year over year
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