### Modification Log

<table>
<thead>
<tr>
<th>Version</th>
<th>Modification date</th>
<th>Author</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>July 5, 2016</td>
<td>Evan Situ</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>August 28, 2016</td>
<td>Evan Situ</td>
<td>Split the instructor document added section 3.1 and 1.4</td>
</tr>
<tr>
<td>1.2</td>
<td>November 21, 2016</td>
<td>Evan Situ</td>
<td>Removed Other Resource</td>
</tr>
<tr>
<td>1.3</td>
<td>December 20, 2016</td>
<td>Michelle Zheng</td>
<td>Updated sections 2-6</td>
</tr>
<tr>
<td>1.4</td>
<td>January 2, 2017</td>
<td>Spencer Smith</td>
<td>Updated timeline, instructor input, reports, submit button</td>
</tr>
<tr>
<td>1.5</td>
<td>January 9, 2017</td>
<td>Spencer Smith</td>
<td>Addition of password change instructions</td>
</tr>
<tr>
<td>1.6</td>
<td>January 19, 2017</td>
<td>Spencer Smith</td>
<td>Removal of request to use the Submit button</td>
</tr>
<tr>
<td>1.7</td>
<td>January 31, 2017</td>
<td>Spencer Smith</td>
<td>Explicit statement that each indicator has to have at least one learning outcome</td>
</tr>
<tr>
<td>1.8</td>
<td>April 19, 2017</td>
<td>Spencer Smith</td>
<td>Explanation of columns in the Rubric Input template</td>
</tr>
<tr>
<td>1.9</td>
<td>April 29, 2019</td>
<td>Andrew Aran</td>
<td>Added instructions to access CEAB Attribute Report and Drill Down Feature</td>
</tr>
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</table>
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1. Introduction

This document describes part of MEASURE (McMaster Engineering Accreditation System for Undergraduate). MEASURE’s purpose is to facilitate the continual improvement of the programs offered by the Faculty of Engineering. MEASURE will also 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 following: rubric input template and course report for each section of each course taught.

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

2. Pre-requisites

1) Access to McMaster’s Vena server https://vena.io/. You will need a user account (your e-mail address) and a password.
2) Contributor role access (necessary for checking out files and inputting data)
3) Microsoft Excel (2013 or later is recommended)
4) Installed Vena Excel add-in http://addin.vena.io/release/vena.application
5) Windows operating system or a Windows virtual machine (virtual machine instructions for Mac user instructions are available at: http://measure.mcmaster.ca/ )

3. Annual Timeline

The table below summarizes the typical tasks performed during the course of an academic year. For each task the following is listed: the time of year when it typically occurs, the section of this report where details are given, the MEASURE template (spreadsheet) that applies, and the task owner. For context, abridged versions of the responsibilities of the Associate Dean’s office and the Departments are included.

<table>
<thead>
<tr>
<th>Date</th>
<th>Task</th>
<th>Section</th>
<th>Template</th>
<th>Task Owner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer</td>
<td>Archive previous year</td>
<td>Admin</td>
<td>See Administrator’s Guide</td>
<td>Assoc Dean</td>
</tr>
<tr>
<td>Time</td>
<td>Activity</td>
<td>Level</td>
<td>Guide</td>
<td>Department</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------------------------------</td>
<td>--------</td>
<td>--------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Summer</td>
<td>Update program maps, curriculum maps and measurement maps</td>
<td>Dept Guide</td>
<td>See Departmental Guide</td>
<td>Department</td>
</tr>
<tr>
<td>Aug/Sep</td>
<td>Instructor reviews continuous improvement plan from the previous year</td>
<td>5</td>
<td>Curriculum Committee Recommendations Report (Previous Year)</td>
<td>Instructor</td>
</tr>
<tr>
<td>Jan</td>
<td>Instructor enters rubric and their continuous improvement plan for Term 1</td>
<td>4</td>
<td>Rubric Input Template, Course Report</td>
<td>Instructor</td>
</tr>
<tr>
<td>Dec/Jan</td>
<td>Instructor reviews continuous improvement plan from the previous year</td>
<td>5</td>
<td>Curriculum Committee Recommendations Report (Previous Year)</td>
<td>Instructor</td>
</tr>
<tr>
<td>Early May</td>
<td>Instructors enter rubric and course report for Term 2</td>
<td>4</td>
<td>Rubric Input Template, Course Report</td>
<td>Instructor</td>
</tr>
<tr>
<td>May</td>
<td>Curriculum committees review course reports, generate continuous improvement plan report, revises curriculum</td>
<td>Dept Guide</td>
<td>See Departmental Guide</td>
<td>Department</td>
</tr>
<tr>
<td>September</td>
<td>Faculty reviews departmental committee reports, writes report</td>
<td>Admin Guide</td>
<td>See Administrator’s Guide</td>
<td>Faculty</td>
</tr>
</tbody>
</table>

Throughout the year instructors can look at the reports generated by MEASURE. These reports will be used for filling out the CEAB questionnaire in accreditation years. The reports include the following: Curriculum Committee Recommendations Report, Attribute Map Report, Attribute Map Summary Report, Indicator Map Report, Measurement Map Report, and the Course Report (for any course). Using MEASURE it is also possible to view the historical data through the Historical Course Measurement Report and the Historical Program Measurement Report. The Course Report, Measurement Map Report and Curriculum Committee Recommendations reports are summarized in Section 5. All other reports are summarized in the Departmental Guide.

4. **Password Change**

   Your password can be changed by clicking on the user icon in the upper right corner of your Vena screen and then selecting “Change Password.”
5. Instructor Input

For each course that is being measured, two spreadsheets need to be updated. First the rubric information is entered in the Rubric Input template and then the continuous improvement plans are entered in the Course Report template. The order is important, since the data from the rubric report is used to generate the plots in the course report. Details of both spreadsheets are provided below. When the data entry for both spreadsheets are 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.

1) Rubric Input
   a) Under contributor view, click on Task “Rubric Input & Course Report (by Instructor) - New” → Select “Check out page options” beside the Rubric Input Template
b) Select the course you are entering data for (you may need to click on SelectPage to show the available options; starting to type the course name will help you find it more quickly). You will also need to enter the year, term and section information. Once this is done, select ‘Check Out Page Options” to check out the file.
c) Open the file with Microsoft Excel by selecting okay when prompted.

d) Enable editing in the Excel spreadsheet

e) Once the spreadsheet has opened, enable the contents of the spreadsheet

f) If an instructor has Rubric information from previous year, the same rubric information will be prepopulated as starting point of current year.

g) To add topics (rows) → select the specific “Indicator/Learning Outcome” → Click “Insert” under “Vena” Tab to insert different topics to the Rubric.
EVERY INDICATOR HAS TO HAVE AT LEAST ONE LEARNING OUTCOME INSERTED.
If an indicator is missing, please contact your department representative to update the “Measure Indicators” spreadsheet.

The columns in the Rubric Input Template should mostly be intuitive. However, if there is confusion, looking at the rubric for another course should help clarify the meaning. A few notes of clarification that may also help are as follows:

i) The “Measurement Date” format is given in the header for that column. The ordering of the month, day and year should follow this example for the current date. Since different installation of Excel may have a different ordering, the date format is potentially different for different users, but it will always match this example; ii) The column “Used (1/0)” is set to 1 if the data in a particular row should be used for the calculation of the
indicator. If you just want to record the information for future reference, but do not intend for it to be averaged into the indicator, you should enter a 0 zero. The default value is 1. If you are unsure, you should use this value; iii) The “Measurement Category” has a drop down box with the possible values Assignment, Lab, Exam, etc.; iv) The numbers in the “Numbers” column should be the number of students that fit into the given category, not the percentage of the class in that category. Class size is not currently entered into the rubric.

j) An instructor also has the option to attach sample files to the system. On the right of the Rubric input template → Enter the file name → click “Comments” under “Vena” tab.

k) On the pop-up windows, click “Attach File” to choose the file you want to attach → click “Add”. Attached files should have identifying data removed,
since the files are visible to all users. At this time, attaching electronic samples of student work is not required.

1) Click “Save Data” under “Vena” Tab and “Check in” the file. (If you decide not to save your data, you still need to check in the file so that the system knows it is free for others to edit. This is done on the web interface shown in step 1.a, by selecting “Check in page options.”)

2) Course Report
   Shows the course outcome and recommendations from curriculum committee, instructors also must enter continuous improvement plan from the course report
   a) Under contributor view, click on Task “Rubric Input & Course Report (by Instructor) - New” → Select “Check out page options” beside Course Report
b) Select the course, year, term and section you are entering data for. You may need to click on Selection to see the fields that need to be completed. Starting to type a courses code will assist in limiting the available options. Select ‘Check Out Page Options’ to check out the file.
c) Open the file with Microsoft Excel by clicking Open when prompted

d) Enable editing in the Excel spreadsheet

![Excel Enable Editing]

e) Once the spreadsheet has opened, enable the contents of the spreadsheet

![Excel Security Warning]

f) Instructors can enter continuous improvement plan in the course report under the section “Summary of Actions to be Taken for Continuous Improvement for Next Academic Year”
To add a file click on “Comments” and attach the file you would like to upload
Please include text in the field such as ‘See attached file’

g) Click “Save Data” under “Vena” Tab and “Check in” the file. As for the rubric input template, please check in the file, even if you have not made any changes.
6. Reports
The data in the MEASURE database is viewed using spreadsheet reports. The purpose of the reports is to transform the information into a form that is suitable for review, including by the CEAB when necessary. Reports can be viewed for any year where the data has been entered.

Reports are viewed from the Contributor tab by selecting Accreditation 2.0 and then selecting Reports. Clicking on Reports under My Tasks will show the screenshot shown below. Most of the report types are described in the Departmental Guide. However, the reports that are of particular interest to instructors are described here. In particular, instructors will want to view the Curriculum Committee Recommendation Report. Instructors may also want to view Course Reports for other courses and the Measurement Map report. The details of these reports are given below.

1) Curriculum Committee Recommendations Report
a) Shows 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 inputs provided in the “Curriculum Committee Recommendations Input Template,” as described in the Departmental Guide.

b) If an attachment is included from the curriculum committee, it can be viewed by selecting the program recommendation area ➔ Click on “Comments” under “Vena” Tab (see below picture)
2) Course Report: To view a course report, select View beside the Task Form “Course Report.xlsm.” You will then be prompted to enter the course, year, term and section.

3) Measurement Map Report
Shows what indicators instructors are to measure.

<table>
<thead>
<tr>
<th>Course</th>
<th>Year</th>
<th>Indicators</th>
<th>MECH_ENG 2003 (Mechanical Engineering)</th>
<th>MECH_ENG 2005 (Mechanical Engineering)</th>
<th>MECH_ENG 2000 (Mechanical Engineering)</th>
<th>MECH_ENG 2004 (Mechanical Engineering)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>10 Knowledge base for engineering</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 Competency in General Science</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 Competency in Engineering Fundamentals</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 Problem Analysis</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 Measurement Map Report</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 Problem Solving</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 Innoceous, aminel, and dexterity</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 Appropriate Health and Safety Considerations</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
<td>PM</td>
</tr>
</tbody>
</table>

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4) 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.

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. Open the CEAB Attribute Report
2. Select a Course/Program, Term, and Section
3. Select a cell intersecting an Attribute and Expectation

   a. For Windows users, select Vena Tab → Drill → Drill Down
b. For macOS users, select Drill Down

d. 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

7. Other Vena Resources

1) To submit an issue, please fill out [http://goo.gl/forms/I3kDnsUl46](http://goo.gl/forms/I3kDnsUl46)
2) For Vena training or user manuals, please refer to [http://docs.vena.io/](http://docs.vena.io/)
3) For other help please contact: Michelle Zheng [mailto:zhengm2@mcmaster.ca](mailto:zhengm2@mcmaster.ca)