

- Assessment of the results of the CMfgT certification exam with a score of 60% or higher in the areas for the students taking the exam. The results are based on the number of correct responses from students divide by the total number of questions asked in that area.
- Several courses will use the results of examination questions.
- Several courses will use results from project reports.
- Several courses will use results from projects.
- One course will use student surveys and instructor evaluations of student involvement.

### Assessment Results

An example of the assessment results include the following:

Table 1. Student learning outcome results

<b>Student Learning Outcome</b>	<b>Sample and Sample Size</b>	<b>Measure</b>	<b>Percent of Students Achieving</b>
<i>a. An ability to apply knowledge of mathematics and science to manufacturing systems</i>	143/204	CMfgT certification exam with correct answers in this area divided by the number of questions in this area	70%
<i>b. An ability to apply manufacturing concepts in a capstone manufacturing project application</i>	14/15	<i>Final project report results with 70% or higher</i>	93%
<i>c. An ability to integrate contemporary computer applications and process automation, including the use of sensors, actuators, and controllers to automate machines and processes.</i>	16/16	<i>Final project report results with 70% or higher</i>	100%
<i>d. An ability to understand the societal, environmental, and economic aspects of manufacturing systems.</i>	25/30	Exam question results with 70% or higher <i>Written report section on societal, economic, and environmental aspects of plastic part.</i>	83%
<i>e. An ability to successfully function as team members in a manufacturing laboratory setting</i>	25/30	<i>Final project report results with 70% or higher</i>	83%
<i>f. An ability to communicate technical</i>	28/30	<i>Safety manual presentation results with 70% or higher</i>	93%

<i>matters effectively in oral form.</i>			
<i>g. An ability to communicate technical matters effectively in written form</i>	25/30	<i>Safety manual report results with 70% or higher</i>	83%
<i>h. An ability to communicate technical matters effectively in graphical form.</i>	27/30	<i>Final CAD project results with 70% or higher</i>	90%
<i>i. An ability to demonstrate project management, quality assurance methods, and supply chain management</i>	41/45	<i>Exam question results with 60% or higher</i>	91%
<i>j. An understanding of the fundamental behavior of materials and the testing techniques used to determine material properties.</i>	22/23	<i>Results sections and Conclusion sections from the hardness and tensile test reports as a means of assessment. The total possible points is 100. A score of 66% or higher is a pass.</i>	96%
<i>k. An understanding of contemporary manufacturing processes, particularly for parts consisting of manufacturing materials.</i>	25/30	<i>Results of final project grade on hoist winch</i>	83%