

Glendale Community College Instructional Division Program Learning Outcomes Assessment Timeline

Please complete a separate timeline form for *each* program within your division

Division name:

Technology and Aviation

Program name (degree, certificate, sequence of courses or series of learning activities leading to intellectual mastery):

Manufacturing Technology

Program Relationship to Glendale Community College's Core Competencies/Institutional Student Learning Outcomes (ISLOs)

How does this program relate to GCC's College's Core Competencies/Institutional Student Learning Outcomes (ISLOs)?:

Core Competencies/ISLOs are commonly defined as the knowledge, skills, abilities, and attitudes that students are expected to develop as a result of their overall experiences with any aspect of the college, including courses, programs, and student services. Each program offered at GCC should link to at least some of these Core Competencies/ISLOs. A list of the Core Competencies/ISLOs can be found here:

<http://www.glendale.edu/Modules/ShowDocument.aspx?documentid=4362>

Include a brief statement outlining how this program aligns with GCC's Core Competencies/ISLOs

An ideal relationship:

- Is clear and brief
- Is connected to GCC's Core Competencies/ISLOs
- If applicable, aligns with professional organization(s) learning outcomes

This program aligns itself with a number of core competencies. The Manufacturing Technology program enhances the students abilities in Communication (1a,1b,1c, 1e) through reading and writing of engineering and manufacturing project descriptions and the evaluation of a manufactured project. Mathematical Competencies (2a, 2b) through the measuring and evaluation of a manufacturing design project. Information Competencies (3a, 3b, 3c, 3d) through researching and evaluating information related to a manufacturing design project. Critical Thinking (5b, 5c, 5e) through the critique of the students own work and the evaluation of case studies. Personal Management (6a, 6b) by the creation of work designed to aid achieving employment and/or college transfer. Application of Knowledge (7a, 7b, 7c, 7d) by learning the various computer software and the workplace skills required to complete a project.

Program Level Outcomes (PLOs) Assessment Timeline

What are the Program Learning Outcomes of this program?: Program Learning Outcomes (PLOs) are commonly defined as the knowledge, skills, and abilities that students have attained as a result of their involvement in a particular set of educational experiences such as within a specific program, degree, certificate or series of learning activities leading to intellectual mastery List your PLOs below and explain the timeline by which the PLOs will be assessed What is the PLO Assessment Planning Timeline for this Program?: To develop an ongoing and systematic planning timeline, it is recommended that you assess PLOs within a 3 year cycle (e.g. assess 1/3 of PLOs in year 1, 1/3 in year 2, and 1/3 in year 3)			Ideal examples of Program Learning Outcomes: • Are observable and measurable • Are program specific • Connect to GCC's Core Competencies/ISLOs • Use action verbs • Generally a program will have between three and six PLOs • If applicable, aligns with professional organization(s) learning outcomes Ideal examples of Program Assessment Timelines: • Are practical, sustainable, and geared to Core Competencies/ISLOs, and college mission • Ensure that each PLO is assessed regularly within a 3 year cycle • Include teams for assessment data collection and analysis and assessment report writing that include faculty members who are instructors of the courses/programs assessed		
List PLOs below. Generally, a program will have between three and six PLOs. Continue to add PLOs until you have developed an assessment timeline for each PLO associated with this program.		In what semester and year will you assess this PLO? What data will you use to assess it (i.e. SLO data from courses within the program, exam or essay data, portfolios of student work, licensing/exit exams, etc) ?		Who will collect and analyze the PLO assessment data and write a report of the findings? (Include report writer's name and, if possible, other participants)	
PLO 1 Students will demonstrate skills in the production of machine parts from working drawings as required in manufacturing.		This PLO will be assessed beginning the Spring 2012 Semester. SLO data from within each course will be used for the assessment.		Aram Ohanis	
PLO 2 Students will develop and discuss machine		This PLO will be assessed beginning the Spring 2012 Semester. SLO data from within		Aram Ohanis	

technology, manufacturing techniques, principles, and manufacture parts.	each course will be used for the assessment.	
PLO 3 Students will demonstrate techniques to accomplish CNC (Computer Numerical Control) parts utilizing computer aided manufacturing (CAM) software.	This PLO will be assessed beginning the Spring 2012 Semester. SLO data from within each course will be used for the assessment.	Aram Ohanis

Course/Program Alignment Matrix

How are courses in the program aligned with the program's learning outcomes?: This section should include a matrix of the PLOs for your program and a list of each course which is a part of the program - For each course indicate if PLO is addressed within it the level at which it is addressed by either leaving it blank (if not addressed in program) or noting I, D, or M Introduce = I PLO is introduced at a basic level D = Develop Students are given opportunities to practice, learn more about, and receive feedback to develop more sophistication M = Mastery Students demonstrate mastery at a level appropriate for graduation	Ideal alignment: - Course/Program matrix indicates that PLOs are embedded in program's coursework - PLOs are introduced, developed, and mastered within the range of courses - Each course addresses one or more of the PLOs; however, rarely does a course address all PLOs
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	PLO 1 Students will demonstrate skills in the production of machine parts from working drawings as required in manufacturing.	PLO 2 Students will develop and discuss machine technology, manufacturing techniques, principles, and manufacture parts.	PLO 3 Students will demonstrate techniques to accomplish CNC (Computer Numerical Control) parts utilizing computer aided manufacturing (CAM) software.
CAM 210 Computer Aided Manufacturing, Basic Milling	D	D	D
CAM 230 Computer Aided Manufacturing, Basic Milling Practice	D	D	D

MACH 101 Machine Technology 1	I	I	
MACH 102 Machine Technology 2	D	D	
MACH 103 Machine Technology 3	D	D	
MACH 104 Machine Technology 4	M	M	
MTL 150 Principles of Metallurgy and Heat Treating	I	D	
Tech Ed 140 Technical Writing	I	D	
Tech Ed 143 Technical Mathematics	I	D	
CAM 211 Intermediate Milling	I	D	D
CAM 231 Intermediate Milling Lab	D	D	D
CO ED 102 Occupational Work Experience	D	D	
ENGR 102 Engineering Print Reading for Industry	I	I	
MACH 112 Machine Practice 3	D	D	

As you fill out this alignment matrix, gaps may occur or become visible. Use the gaps to help you determine which course or program SLOs may need to be revised so that all courses and programs are aligned. Question 2.2 in your program's Program Review report provides a means to explain if you noted any gaps in alignment and, if yes, how your division might revise course or program SLOs to ensure that all course and program learning outcomes are aligned.

Machine and Manufacturing Technology Certificate PLO

This program is designed to provide the fundamentals of the machinist trade. This includes basic, advanced and complicated operations of machine tools, and the use of computers in programming numerical control milling and lathe machines.