Department of Mechanical & Aerospace Engineering
University of Florida

Mechanical Engineering Academic Learning Compacts

Purpose of Academic Learning Compacts

In addition to the requirements imposed by ABET accreditation, all students in the State of Florida University System must be given an opportunity to achieve the program's self identified Academic Learning Compact. Academic Learning Compacts identify the skills students should acquire if they follow their major's prescribed course of study. These skills, known collectively as Student Learning Outcomes, describe the core learning expectations that UF is required to assess for each baccalaureate degree program.

For detailed Information on the Academic Learning Compact see http://www.registrar.ufl.edu/catalog/ .

The direct link for the BS Mechanical Engineering Academic Learning Compacts is:

http://www.registrar.ufl.edu/catalog/programs/majors/alc/mechanical.html

Examples of Assessment Results for Academic Learning Compacts

Student Learning Outcome #1

Design a mechanical engineering system, component or process to meet desired needs within realistic economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability constraints.

Description of Direct Assessment (Evaluated in EML4304C):

Students designed the most economical pump/piping system to deliver helium gas with both the supply and delivery pressure at 3.2 atm., so that fan pressure rise compensated for the duct pressure drop. At the fan inlet, the flowrate is 0.10 m^3/s. The duct was to be constructed from schedule 40 pipe; students were free to choose the material and connection type. The duct route was constrained such that five 90° bends were required, a total of 150 m of straight pipe were required, and the exit elevation was 85 m higher than the inlet. The outcome was measured using their grade on the design project.

Student Performance Results:

Complete Mastery:	60%
Acceptable Performance:	40%
Below Expectations:	0%

(Note: Complete Mastery corresponds to a grade of A- or higher; Acceptable Performance corresponds to a grade of C- to B+, Below Expectations corresponds to a grade of D+ or lower)

Student Learning Outcome #4

Communicate technical data and design information effectively in writing and in speech to other mechanical engineers

Description of Direct Assessment (Evaluated in EML2322L)

Design reports were evaluated based on technical content, clear, concise presentation and grammatical correctness. The reports had to explicitly state the objectives, present properly detailed drawings of the parts used in the prototype, explain the thought process used to arrive at the final prototype design and present the results. In addition, each group was required to make a 5-7 minute final project presentation highlighting (1) key design features of their prototype, (2) changes which were made from the final detailed design and (3) problems they had to deal with to complete the project in time.

Student Performance Results:

Complete Mastery:	57%
Acceptable Performance:	42%
Below Expectations:	1%