

Student Learning Outcomes for CDI 60A

SolidWorks (Beginning)

Team Members:

Team Leader:

[Louis Gary Lamit](#) (8627) in CDI

Additional team members/notes about team:

Additional Notes:

Other members:

1. [Max Gilleland](#) (x5578) CDI
 2. [Paul Klingman](#) (x8696) CDI
 3. [Kenneth Louie](#) (x) CDI
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Outcomes:

Outcome 1 Phase I: Statement

Functioning as a designer using SolidWorks, the student will create an engineering document package which complies with industry-defined standards and shall include the following: * components modeled using CAD design tools * assemblies generated from multiple components * engineering drawings for components and assemblies

Outcome 1 Phase II: Assessment Strategy Used:

Assessment Quarter: Summer 2010

Assessors: Louis Gary Lamit Paul Klingman, Ken Louie

Assessment Tools: ••

Sections being assessed: 01, 60, Z

Outcome 1 Phase III: Reflect & Enhance

Number of people involved in Phase III: 36

Changes:

Methods:

Assessment Tools:*2 Mid-Term Exams*5 Take-Home Quizzes*1 Student Design & Documentation Portfolio*34 small, targeted projects which were assigned throughout the quarter

Methods:Catalyst Course Management System was used to issue, receive, & grade assignments throughout the quarter. To be frank, the major enhancement for the upcoming courses, will be to fill out or elaborate the functions inherent in Catalyst, in order to more fully automate the SLOAC cycle as it relates to CDI. That being the case, I used the CDI drop-box directory & folder system, the system we have developed and maintained for a number of years. Within the old CDI CAD file management structure, I issued the following:

- *Reading assignments covering 5 chapters of the current text are the foundation of the course content.
- *34 projects of various size & complexity are assigned throughout the quarter
- *5 Take-Home Quizzes are used to measure the students command of factual information with respect to the textbook chapters covered in class.
- *2 Timed, Proctored, on-site Mid-Term examinations are used to measure the students ability to create a complete design package, including all parts, assemblies, & drawings specified in the Exam Assignment Memo.
- *Final Student Documentation Portfolio (Adobe Acrobat pdf format) is used to collate and document all course work except that done in the Mid-Term Exams.

Findings and Conclusions:

Over 40% of the students in this section completed all of the work, with about 60% excellence (completion of 90+% of all assigned course work). The general trend in the class was that the typical students would excel at the work (s)he attempted. Work assigned early in the quarter is usually done well, leaving work assigned later in the quarter incomplete in many cases. In general, the student who takes the instructors advice to budget 8 hours/week of study devoted to this particular course does very well, while the student who shorts the time spent on the course work doesn't do as well. This relationship is rather classical in its form: All other things being equal, the student who works hard will get a better grade than the student who does not. Regarding the rather high (25%) dropout rate: The average first-time student in CDI does not understand the nuance & complexity of the software being studied & used in the course. This is a main point we must make as faculty. Upon their own personal epiphany of this CAD fact of life, they drop the class if it's not too late. Also, a number of students have used our entry-level CAD classes as a survey of an industry or career they are investigating. If, during the quarter, they decide that CAD is not for them, they drop the class if it's not too late. On the whole, however, those students who decide they like the work they do in this class, the success rate is quite favorable. 36 students completed the class and received a grade. Activity Report:

- *22 students received a grade of 90+% (61% of class)
- *9 students received a grade of 80-90% (25% of class)
- *3 students received a grade of 70-80% (8% of class)
- *2 students are under -Incomplete status (6% of class)

Enhancement (Planned Actions)**Part I:**

Add recorded lectures for each chapter, covering subtle changes or other details not directly or clearly discussed in the text. Recorded lectures will also have the quality of updating the student and the course content with respect to software upgrades which occur during the school year. In Catalyst, break out the assignments individually, as opposed to combining all assignments for a chapter into a single zipped file. This will better facilitate grading & feedback to the student, making communication of the type that we as engineers engage in a more efficient & timely process.

Part II:

N/A

SLO Created: 05/03/2010 Last Modified: 06/04/2011