EML 2023 – Computer Aided Graphics and Design
Syllabus
Spring 2012

1. Catalog Description: Credit hours: 3; Sketching, descriptive geometry, computer graphics, computer aided design, and design projects.

2. Pre-requisites and Co-requisites: None

3. Course Fee: $91.67

4. Course Objectives: The primary objective of the course is to educate students on the main concepts of computer aided design: solid modeling, assembly design, engineering drawing conventions, dimensioning and tolerance specification (to include Geometric Dimensioning and Tolerancing), and descriptive geometry.

5. Contribution of course to meeting the professional component: The course provides experience to work professionally in mechanical systems areas including the design and realization of such systems through a final project which provides the students an opportunity to develop the design of a mechanical device starting from the conceptual design all the way to detailed drawings with all dimensions and tolerances specified. The course content can be characterized as: 10% mathematics and 90% engineering design.

6. Relationship of course to program outcomes: The course addresses the following ABET program outcomes.

   - (g) Communicate effectively: (high coverage) The course teaches graphical communication language that engineers practice. The outcome is assessed through assignments and projects requiring engineering drawings to be generated.
   - (i) Recognize the need for, and engage in life long learning: (medium coverage) The course emphasizes the need for life long learning by encouraging students to learn many aspects of CAD software and its user interface on their own since such engineering tools keep evolving. This program outcome is assessed through the final project.
   - (j) Use the techniques, skills, and modern engineering tools necessary for engineering practice: (high coverage) The course teaches students free hand drawing skills, graphical techniques as well as use of modern CAD software. These skills are assessed through assignments, exams, and the final project.

7. Instructor information

   Dr. Carl Crane
   Office: MAE-B, Rm 326
   Phone: (352) 392-9461
   Cell: (352) 219-6433
Email: ufeml2023@gmail.com

Office Hours:
W, 3rd period, 9:35-10:25

8. Teaching Assistants

Moses Anubi, anubi@ufl.edu

Jonathon Jeske, jeske@ufl.edu

MAE-B, Rm 300

9. Meeting Times and Location

- M, W, F
  - 9th period, 4:05 - 4:55 pm, room 100 New Engineering Building (NEB)

10. Textbooks and Software:

- Required
  - Neumann, A., "Geometric Dimensioning and Tolerancing Workbook," will be available at Target Copy Center, 1412 W University Ave.
  - Solidworks Software; download instructions will be provided in class

- Recommended

11. Course Outline:

- Communication. Sketching.
- Modeling
  - Part modeling.
  - Generation of drawings.
  - Assembly modeling.
- Rapid Prototyping
- Threads and Fasteners
- Clearance Fits
- Design Process
12. Attendance and Expectations: Attendance is required. Unannounced class-room activities or quizzes may occur. Students are responsible for knowledge of all scheduling and policy announcements made in class.

13. All homework will be turned in electronically via the class Sakai web site. Assignments that are submitted after the due date and time, but before the assignment closure date and time (usually, but not always, 2 days after the due date) will be deducted 30%. All work submitted in this course must be your own and produced exclusively for this course.

14. Requests for regrading of assignments or quizzes must be made within two weeks after the date that the grade has been posted.

15. Grading: Homework problems, quizzes, and the design project are given point values when assigned. The final grade is determined based on the percentage of total points awarded as follows:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
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<tbody>
<tr>
<td>&gt; 93 %</td>
<td>A</td>
</tr>
<tr>
<td>90 - 92.9%</td>
<td>A-</td>
</tr>
<tr>
<td>87 - 89.9%</td>
<td>B+</td>
</tr>
<tr>
<td>84 - 86.9%</td>
<td>B</td>
</tr>
<tr>
<td>80 - 83.9%</td>
<td>B-</td>
</tr>
<tr>
<td>77 - 79.9%</td>
<td>C+</td>
</tr>
<tr>
<td>74 - 76.9%</td>
<td>C</td>
</tr>
<tr>
<td>70 - 73.9%</td>
<td>C-</td>
</tr>
<tr>
<td>below 70%</td>
<td>TBD</td>
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</tbody>
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16. Make-up Exam Policy: Make up exams will be given for students with medical or other valid reasons for missing the exam.

17. Honesty Policy — All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others. All work is to be done individually. Any copied assignments will result in an E grade for the course.

18. Accommodation for Students with Disabilities — Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the
student with documentation that he/she must provide to the course instructor when requesting accommodation.

19. UF Counseling Services — Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- University Counseling Center, 301 Peabody Hall, Personal and Career Counseling. 
- SHCC mental Health, Student Health Care Center, Personal and Counseling.
- Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, sexual assault counseling.
- Career Resource Center, Reitz Union, career development assistance and counseling.

20. Software Use — All faculty, staff and student of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.