
Prerequisites: MATH 241 or equivalent

Class Information: MTWTF: 9:00 am to 12:00 pm, Rm. 2111, Kim Engr. Building

Course Instructor: Guangming Zhang, zhang@umd.edu

Office Hours: MTWTF: 7:20 am to 8:50 am, Room 2111, Kim Engr. Building


Course Objectives: The main objectives are to provide students with a conceptual understanding of the principles of CAD systems, the implementation of these principles, and its connections to FEA systems. The generic aspect of CAD software systems will be discussed. A large portion of the students’ time will be spent in the computer labs learning the details of design and analysis related to the product realization process. Three software systems will be used. They are Creo Parametric 3.0, SolidWorks 2015, Autodesk Inventor 2016 and NX10.0.

Topics Covered
1. Introduction to CAD systems
2. Engineering Graphics
3. Dimensioning Engineering Drawings
4. Feature-based Component Modeling
5. Assembly of Components
6. Detailing with Tolerances
7. Applications in FEA

Grading Policy
- Attendance: 15%
- Homework Assignments: 35%
- Two In-class Exams: 30%
- Team Project: 10%
- Final Exam: 10%

Class Participation: Active participation, especially, class attendance, is essential to a successful learning process. The students are expected to attend the entirety of 13 classes during the three weeks. Attendance will be taken for each class, and will be accounted as 13% of the grade.

Textbook and Solution to HW
To understand the concepts of engineering designs and the concepts of a CAD system, reading the material presented in the textbook is important. 70% of homework problems are taken from the textbook. As a result, the students should bring your textbooks with you when coming to
class. The other 30% of homework problems are not included in the textbook. Lecture notes to assist the students in completing them will be distributed.

**Homework Assignment**

There will be six (6) homework assignments. Hard copies of the homework assignments will be distributed to each of the students. Students are required to hand in the completed homework assignments on due dates. Hard copies of the engineering drawings prepared by the software system are required. No email submission. There is no late homework unless permission is granted from the instructor.

**Important Dates**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/04/16</td>
<td>First day of class (Monday)</td>
</tr>
<tr>
<td>01/05/16</td>
<td>Last day to adjust schedule</td>
</tr>
<tr>
<td>01/18/16</td>
<td>No class-University closed for Martin Luther King Holiday</td>
</tr>
<tr>
<td>01/22/16</td>
<td>Last day of class (Friday)</td>
</tr>
</tbody>
</table>

**Policy for Snow Days:**

Should the campus close due to snow, an official campus announcement will be made through the usual radio and television channels. How to make up a snow day? The instructor will discuss this issue with the participating students on the second day of class. The instructor will suggest that a period of 15 minutes is added to the beginning of each regular class for the first two weeks. In this way, 2 and half hours will be in reserve through accumulation so that a snow day can be dealt with. In case of having 2 or more than 2 snow days, Saturday (01/09) and Saturday (01/16) will be used to make up those snow day(s).

**Academic Integrity**

The University is an academic community. Its fundamental purpose is the pursuit of knowledge. Like all other communities, the University can function properly only if its members adhere to clearly established goals and values. Essential to the fundamental purpose of the University is the commitment to the principles of truth and academic honesty. Accordingly, the Code of Academic Integrity is designed to ensure that the principle of academic honesty is upheld. While all members of the University share this responsibility, the Code of Academic Integrity is designed so that special responsibility for upholding the principle of academic honesty lies with the students. Read the detailed information on Academic Integrity on the University Home Page.