1.1 Course Outline: Mec E 265
Fall Term: September – December 2011

1.1.1 Calendar Description
MEC E 265 Engineering Graphics and CAD
★3.5 (fi 6) (either term, 2-0-3). Engineering drawing and sketching, conventional drafting, computer-aided drawing in 2D and 3D, solid modeling, and computer aided design.

1.1.2 Instructor
Dr. Kajsa Duke  Office: MecE 5-1K  E-mail: kajsa.duke@ualberta.ca
Office Hours:  Tuesday, Wednesday, Thursday 2-4 pm in Lab 3-3 or my office

1.1.3 Lectures:
Monday, Wednesday 10:00pm - 10:50pm Location: ETLE 1-013

1.1.4 Labs / Seminars / Tutorials:
Meet in room Mec E 3-1 at the start of each lab session. There will be an open presentation followed by the lab.

Tuesday (D1)  2:00 to 4:50 Mec E 3-1 / 3-3
Wednesday (D2)  2:00 to 4:50 Mec E 3-1 / 3-3
Thursday (D3)  2:00 to 4:50 Mec E 3-1 / 3-3

1.1.5 Teaching Assistants:
Mehdi Rezaeisaray  E-mail: mrezaeis@ualberta.ca
Scott McKinney  E-mail: smckinne@ualberta.ca
Brendan Ferguson  E-mail: brendanf@ualberta.ca

1.1.6 Texts and Additional Material:
The following is a list of suggested, but not required reading material. Copies of these are located in the Cameron Library. Copies may be available in the city at libraries and bookstores. Others may have to be ordered through the University of Alberta Bookstore.

Strongly Recommended:
- **Introduction to 3-D Spatial Visualization**, Beverly Gimmestad Baartmans and Sheryl A. Sorby, Prentice Hall, 1996.
- plus numerous other books on engineering drafting and graphics, located in the Cameron Library at (T 353) and (QA 90).
- **Manual of Engineering Drawing**, Simmons and Maguire (Electronic) from UofA Library website
  - Online version available at: http://www.knovel.com/web/portal/browse/display?_EXT_KNOVEL_DISPLAY_bookid=2422&VerticalID=0
- Knovel Website (www.knovel.com)

1.1.7 Website:

General site: www.engineering.ualberta.ca/mece/course_links.cfm
All material (lecture notes, assignments and other) will be listed on eClass → please check frequently

1.1.8 Evaluation Scheme:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment and lab exercises</td>
<td>25%</td>
</tr>
<tr>
<td>Sketch books</td>
<td>5%</td>
</tr>
<tr>
<td>Group Drawing Project</td>
<td>25%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>45%</td>
</tr>
<tr>
<td>Total:</td>
<td>100%</td>
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</tbody>
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NOTE: Need to pass the exam to pass the course

1.1.9 Dates to Remember

- Classes Begin: Wednesday September 7th 2011
- Labs Begin: Tuesday September 13th 2011
- Thanksgiving: Monday October 10th 2011 (No classes)
- MecE 260 Mini project Due: Monday October 17th 2011
- MecE 260 Progress Report Due: Monday October 31st 2011
- Fall break: Thursday November 10th 2011 (No labs)
- MecE 265 3D model & approval: November 14-17, 2011
- MecE 265 Sketch book Due: November 29th - December 1st 2011
- MecE 265 Drawing Project Due: Friday December 2nd 2011
- MecE 260 Report Due: Monday December 5th 2011
- Last Lecture & Last day of classes: Wednesday December 7th 2011
- Final Exam: TBA (Monday Dec 19th 2011)

Note MecE 260 dates given for comparison reasons only.

1.1.10 Labs / Seminars / Tutorials:

Students have enrolled into one of the three sections of labs. These will be a 3hr, hands-on use of a solid modeling package (SolidWorks) with tuition. Students will carry out tutorials that will lead to assignment exercise. Completion of tutorials and other components will be accessed by TA’s.

1.1.11 Assignments:

There will be an assignment each week. These will be contained in usually two parts. A plan of how the model/drawing will be constructed and the actual solid model and drawing. The plan will be assessed before the end of the lab. Assignments will be due one week after being set, at 12 midnight on the night before the next lab.
Some of the assignments will be designated “in lab” assignments which will be due at the end of the day of the lab. The time after which labs will be marked as ‘late’ will be given in class. Every effort will be made to notify the class in advance which of these labs will be carried out this way.

1.1.12 Course material requirements

- The sketch book: hard cover (9" x 7.25") (suggested), suggest with grid paper for making notes and plans.
  - Plans will be marked off (signed) by TA’s during lab.
  - Other sketching encouraged, minimum five additional sketches.
- Mechanical pencil
- Drawing circle template
- Ruler and measuring device
- NOTE: No Eraser!

1.1.13 Notices

- Recording of lectures or seminars, ether audio or visual, is permitted only with the prior written consent of the professor.
- While information is attempted to be correct at the start of term, it is the student’s responsibility to up to data with announcement made in class and any changes to the course.

1.1.14 Course Software

A variety of software will be used in the course. However, the main software for solid modeling will be SolidWorks. The software can be used in following ways:

- In computer labs 3-3 (36 seats), 3-26 (36 seats), 4-19 (20 seats)
- On your own PC with a student edition (1Yr limited license) which has all capability that you will need for the course
- On your own PC with a full software version. This requires access to the internet to connect to the license server and a VPN connection.
- Material discussing how to install SolidWorks onto your own PC will be posted on the Mec E 265 eClass web site.
- When collecting a software disk for install please know which operating system you have (WinXP, Mac, Win7 etc) and whether it is 32bit or 64bit
- Disks will be available in the lab sessions and at the beginning of lectures. They can be booked out for a single install
- Note: SW can run on a Mac using an emulator or dual boot (WinXP or Win7)

1.1.15 Learning Objectives

- Communication using graphics
- Visualization of objects in 3D
  - Perspective and orthogonal views
- Understand the basics of solid modeling for design
  - For construction
  - For design
  - For analysis (future courses)
- Interpretation/reading of drawings
- 2D construction drawings
- Schematics
- Free-body diagrams

- Documentation using graphical methods
  - Multi-view Drawings
  - Section Views
  - Auxiliary Views
  - Dimensioning and Tolerancing

1.1.16 Notes:
- Policy about course outlines can be found in §23.4(2) of the University Calendar.

- All assignments and exams will be recorded as a percentage grade and then the total will be converted to a letter grade. Note due to the large portion of weighting on lab and team projects each individual must pass final exam to pass the course.

- No access to past final exams will be given, however exams are based on lecture, lab and assignment material.

- Faculty of Engineering approved Non-Programmable calculator only

- Student code of conduct shall be forced to its full extent. The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behavior (see www.ualberta.ca/secretariat/appeals.htm) and avoid any behavior which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.