MECH289 Design Graphics Course Outline

1. GENERAL INFORMATION

Term Lecture days Lecture time Lecture place	Fall 2006 Monday, Wednesd 8:35-9:25 a.m. MC 11	lay, Friday	
Tutorial days Tutorial time Tutorial place	Tuesday & Thursday 10:05 a.m11:25a.m. FDA1, MC10, MD356		
Credits Pre- or Co-requisites	3.00 U1 standing. U0 students must not register in this course.		
Instructors	Jorge Angeles Office Office hours Telephone Email	452 McConnell Engineering Building Wednesday 9:30-10:30, Thursday 9:30-10:30 514-398-6313 (secretariat) angeles@cim.mcgill.ca	
	Module 1: Joanna Nash		
	Email	joannanash@yahoo.ca	
	Module 2: Jorge	Email joannanash@yahoo.ca 2: Jorge Angeles See contact information above	
		See contact information above	
	Module 3: Alexei	Morozov	
	Office Telephone Email <i>Chris P</i>	356 Macdonald Engineering Building 514-398-4156 alexvit@cim.mcgill.ca Prahacs	
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1.2 Academic integrity

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (*www.mcgill.ca/integrity* for more information). Recommended Reading: Lipson, C., 2004, Doing Honest Work in College, The University of Chicago Press, Chicago and London.

1.3 Disability

If you have any disability please contact the instructor to arrange a time to discuss your situation. It will help if you contact the Officer for Students with Disabilities at 398-6009 before you do this.

2. LEARNING OUTCOMES

The main objective of the course is to provide students with the ability to communicate graphically during the design process from preliminary concepts to final working drawings. By the end of the course, the student should be able to:

- Module 1 (Free-hand Sketching): Sketch free-hand pictorials in various projection views.
- Module 2 (Geometry Construction): Understand, construct and manipulate geometric objects and their relations.
- Module 3 (Graphics Communication): Use modern CAD tools and standards for the representation of engineering objects.

3. INSTRUCTIONAL MEANS

3.1 Lectures

Days: Monday, Wednesday, Friday (for M1: Wednesday and Friday only) *Time:* 8:35-9:25 a.m. *Location:* McConnell Engineering, room 11.

3.2 Tutorials

Days: Tuesday & Thursday (For Module 1, there is only one tutorial, on Thursdays 7, 14 and 21, in MC117) *Time:* 10:05-11:25 p.m.

For Modules 2 & 3, the tutorials will be in:

- FDA1 (25 seats).
- MC10 (21 seats)
- MD356 (29 seats)

4. COURSE RESOURCES (MATERIALS AND TA SUPPORT)

4.1 Required Text

• Bertoline, G.R. and Wiebe, E.N., 2006, MECH289: Design Graphics. Custom Publication for McGill University, McGraw-Hill, Toronto. This is the first time this book is published. No used copies are available.

4.2 Suggested Reference

• Farin, G. and Hansford, D., 2005, <u>Practical Linear Algebra: A Geometry Toolbox</u>, A.K. Peters, Ltd., Wellesley, MA

4.2 Lecture Notes

• MECH289 Lecture Notes: Available from WebCT Vista and from EUS. The 2005 edition of the LN is now **obsolete**.

4.3 Online Tutorials

- Available on WebCT Vista for:
 - o AutoCAD
 - o SolidWorks
 - o PRO/Engineer

4.4 TA support

Teaching assistants support students learning and practicing. In addition, TAs provide guidance on the Term Project.

4.5 WebCT VISTA.

Course materials and online tutorials are uploaded on the website of the course for M2 and M3. The WebCT Vista site will open in the first week of lectures.

5. COURSE WORK

5.1 Term Project

A project that combines all acquired skills and knowledge is assigned on the first lecture. Due on the last lecture, December 1st, 2006.

Milestones	Time Limit	Deliverable	Mark
1	October 6 th	Preliminary sketches of Design Project	5%
2	November 3 rd	Preliminary CAD drawings	10%
3	December 1 st	Term Project (narrative report, 2D & 3D free- hand sketches and CAD models)	25%

The final report of the Design Project will be submitted in a poster that will include:

- A two-page narrative report
- 2D and 3D Free-hand sketches
- 2D and 3D engineering drawings (CAD models)

The poster must comply with to the following guidelines:

- Size: 32" x 40" or 81.28cm x 101.6cm
- Layout:
 - o 20% space for free-hand sketches;
 - o 50% space for engineering drawings;
 - o 25% space for the report;
 - 5% space for the label, indicating name, student ID number and section.

Drawings & Sketches	Report
	Report

5.2 Assignments

Assignments are due, in class, the first day of lectures of the following week. Late assignments will not be accepted.

Module 1

• Assignments: handed out by the instructor.

Module 2

Assignments: One per week on the material of the chapter covered that week. Assignements are due, in class, the first day of lectures of the following week. Late assignments will not be accepted.

• *Quiz:Based on Chs. 1-4 of LN.* Scheduled for Tuesday October 31, from 10:05 to 11:25 in the tutorial rooms.

Open book and faculty standard calculators are allowed. See the link below for more details. http://www.mcgill.ca/engineering/student//policies/exam/calculators

Module 3

Assignments: One per week handed out by the instructor. Assignments are due, in class, the first day of lectures of the following week. Late assignments will not be accepted.

6. EVALUATION

The Term Project and the assignments will be assessed on the basis of the technical content (50%) and the quality of the presentation (50%).

7. EVALUATION SCHEME

M1	Assignments	20%
M2	Quiz	20%
	Assignments	10%
M3	Assignments	10%
M1, M2, M3	Term Project	40%
	Total	100%