DEPARTMENT OF SCIENCE

COURSE OUTLINE –WINTER/SPRING 2018

EG2650 (A3): ENGINEERING GRAPHICS – 3.5 (2-1-3) UT 15 Hours for 90 Weeks

INSTRUCTOR:	Tanvir Sadiq, Ph.D., P.Eng., FEC	**PHONE:**	780-539-2865
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OFFICE HOURS:	TBA or By Appointment		

CALENDAR DESCRIPTION: Sketching, drafting and interpretation of pictorials and multi views of three-dimensional objects, visual design, introduction to scales, sectioning, and dimensioning are included in the course content. Computer aided drawing and design are a requirement in this course. *(Important Note: Chemical, Electrical, Computer Engineering and Engineering Physics at UA will not accept this course. Other Engineering Departments will accept this course as a technical option.)*

PREREQUISITE(S)/COREQUISITE:
Restricted to students in Engineering.

REQUIRED TEXT/RESOURCE MATERIALS:
Textbook will be announced in the class. Additional notes and handouts may be provided.

DELIVERY MODE(S):
Course content will be delivered via Lectures, Technic Drawing Labs and Seminars.

COURSE OBJECTIVES:

Sketching

- Develop 3D visualization abilities and improve freehand sketching skills through sketching exercises based on actual objects and/or 3D CAD models.

Engineering Drawings

- Learn to read and draw standard engineering drawings and understand the theory of projections which is the basis of 2D engineering drawings.
- Multiview drawings, sectional and auxiliary views, dimensioning & tolerancing, and working drawings using freehand sketches and CAD software.
- Please note that as we progress in the class, emphasis will be on drawing using CAD software. Since students work at different pace, instead of lectures, individual instructions may become norm during the latter part of the course.

Computer-Aided Design

- Develop basic skills in computer solid modeling.

LEARNING OUTCOMES:

Upon successfully completion of this course a student is expected to have the following competencies:

1. Draw simple technical sketches
2. Develop multiple-views of 3-D objects based on orthographic projection
3. Develop section views and auxiliary views of 3-D objects
4. Model typical mechanical components such as gears, threads, fasteners and springs
5. Develop working drawings using appropriate CAD software (AutoCAD etc.).

TRANSFERABILITY:

University of Alberta, University of Lethbridge, Athabasca University, Augustana Faculty - University of Alberta, Concordia University College, Canadian University College, King's University College. Other (transfers in combination with other courses or to other institutions)

***Warning:** Although we strive to make the transferability information in this document up-to-date and accurate, **the student has the final responsibility for ensuring the transferability of this course to Alberta Colleges and Universities**. Please consult the Alberta Transfer Guide for more information. You may check to ensure the transferability of this course at Alberta Transfer Guide main page http://www.transferalberta.ca or, if you do not want to navigate through few links, at http://alis.alberta.ca/ps/tsp/ta/tbi/onlinesearch.html?SearchMode=S&step=2

** Grade of D or D+ may not be acceptable for transfer to other post-secondary institutions. **Students are cautioned that it is their responsibility to contact the receiving institutions to ensure transferability**

EVALUATIONS:

Participation / Assignments / Sketches	10%
Technical Drawing Labs and Quizzes	35%
Midterm	20%
Final and/or Project	35%

GRADING CRITERIA:

The following is a guideline only Please note that most universities will not accept your course for transfer credit **IF** your grade is **less than C-**.

Alpha Grade	4-point Equivalent	Percentage Guidelines		Alpha Grade	4-point Equivalent	Percentage Guidelines
A+	4.0	90-100		C+	2.3	67-69
A	4.0	85-89		C	2.0	63-66
A-	3.7	80-84		C-	1.7	60-62
B+	3.3	77-79		D+	1.3	55-59
B	3.0	73-76		D	1.0	50-54
B-	2.7	70-72		F	0.0	00-49

COURSE SCHEDULE/TENTATIVE TIMELINE:
All course material must be completed in a timely manner. Approximate course timeline will be posted on Moodle.

STUDENT RESPONSIBILITIES:

Students are responsible for all course material, and readings. Students are expected to complete their sketching/drawing/CAD labs and in-class assignments within allotted time. All course material must be completed in a timely manner. Approximate course timeline will be posted on Moodle.
Students must bring the following material to each class/lab/seminar:

- 0.5 mm mechanical F or HB lead pencil, ruler and a good eraser
- Workbook
- Data storage media (e.g. Thumb Drive/USB Flash Drive)

CAD Drawing Assignments
All drawings must be printed and handed in to the instructor at the end of the lab. AutoCAD drawing files must be named as instructed and emailed/uploaded. *Printouts will be marked only if the corresponding drawing files are also provided.* **However, only one or two drawing files chosen at random will be checked for accuracy.** Files with incorrect names and in the wrong folders/directories will be deemed not submitted and receive a zero mark.

CAD Project*
CAD projects are group projects. Each group will submit a project proposal before midterm exam week. Further instructions will be provided by the instructor at a later date. Projects may be accompanied by a presentation by students. Presentation will be graded as part of the project. Project and presentation marking template will be provided when the project is assigned.
Note: You will not learn 3D solid models in AutoCAD until near the end of the course However, you should gather all the relevant information such as dimensions, etc. and sketch out your final drawing as soon as possible so you can quickly jump into the project drawing in the last two weeks of the course. Your report must include sketches, research, design criteria and other information leading to the final design.
** Project may be replaced by a comprehensive exam.*

STATEMENT ON PLAGIARISM AND CHEATING:

Cheating and plagiarism will not be tolerated and there will be penalties. For a more precise definition of plagiarism and its consequences, refer to the Student Conduct section of the College Admission Guide at http://www.gprc.ab.ca/programs/calendar/ or the College Policy on Student Misconduct: Plagiarism and Cheating at http://www.gprc.ab.ca/about/administration/policies/

**Note: all Academic and Administrative policies are available on the same page.