



DEPARTMENT OF SCIENCE
COURSE OUTLINE – CS 3110 3(3-0-3)
INTRODUCTION TO COMPUTER GRAPHICS

INSTRUCTOR: David Gregg

OFFICE: C 427

OFFICE HOURS: M F 13:00 to 14:30

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PREREQUISITE(S)/CO-REQUISITE: CS 1150 or CS 2010

REQUIRED TEXT/RESOURCE MATERIALS:

Interactive Computer Graphics—A Top-Down Approach with Shader-based OpenGL 6th Edition, Addison Wesley. Edward Angel and Dave Shreiner

CALENDAR DESCRIPTION:

Graphical input and output devices; segments; interactive input techniques; user interface design; windowing and clipping; 2D and 3D transformation; 3D modelling and viewing; hidden-line and hidden-surface removal.

CREDIT/CONTACT HOURS: 3(3-0-3) This course is 3 credits. The course consists of 3 lab hours and 3 lecture hours per week.

DELIVERY MODE(S): class-room

OBJECTIVES (OPTIONAL):

By the end of the course successful students will be able to design and implement reasonably complex interactive 3D computer graphics applications, using OpenGL with modelling, viewing, lighting, shading, texturing and rendering techniques.

TRANSFERABILITY:

University of Alberta (CMPUT 2XX); University of Calgary (Sr. CPSC); Athabasca University (COMP 390); University of Lethbridge. (CPSC 3710).

See the GPRC College Calendar and the Alberta Transfer Guide for further information regarding the transferability of this course.

GRADING CRITERIA:

The following Grading Conversion chart will be used to convert final marks to letter grades.

**GRANDE PRAIRIE REGIONAL COLLEGE
GRADING CONVERSION CHART**

Alpha Grade	4-point Equivalent	Percentage Guidelines	Designation
A ⁺	4.0	90 – 100	EXCELLENT
A	4.0	85 – 89	
A ⁻	3.7	80 – 84	FIRST CLASS STANDING
B ⁺	3.3	77 – 79	
B	3.0	73 – 76	GOOD
B ⁻	2.7	70 – 72	
C ⁺	2.3	67 – 69	SATISFACTORY
C	2.0	63 – 66	
C ⁻	1.7	60 – 62	
D ⁺	1.3	55 – 59	MINIMAL PASS
D	1.0	50 – 54	
F	0.0	0 – 49	FAIL
WF	0.0	0	FAIL, withdrawal after the deadline

EVALUATIONS:

Quiz(s)	15%
Assignments	25%
Midterm Exam	25%
Final Exam	35%

STUDENT RESPONSIBILITIES:

Assignments are to be handed in and/or demonstrated in the scheduled lab on the due-date. Late assignments will be penalized by 50%. Late assignments may not be accepted after the end of classes. Some assignments may be weighted differently than others. Students will be eligible for a passing grade, only if they obtain 37.5 out of a possible 75 marks (on exams and quizzes).

STATEMENT ON PLAGIARISM AND CHEATING:

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 www.gprc.ab.ca/about/administration/policies/**

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

COURSE SCHEDULE/TENTATIVE TIMELINE:

Sequence	Topic	Text Chapters
1	Mathematics Review	Appendix B and C
2	Introduction to Computer Graphics	Chapters 1 and 2
3	Geometric Objects and Transforms	Chapter 3; Appendix A and D
4	Viewing	Chapter 4; Appendix A and D
5	Lighting and Shading	Chapter 5; Appendix A and D
6	From Vertices to Fragments	Chapter 6; Appendix A and D
7	Discrete Techniques	Chapter 7; Appendix A and D
8	Modeling and Hierarchy	Chapter 8