UNIVERSITY COLLEGE of the FRASER VALLEY

PAC FORM #2 (Page 1)

COURSE IMPLEMENTATION DATE: September 1999
COURSE REVISED IMPLEMENTATION DATE:
COURSE TO BE REVIEWED: September 2003
(Four years after implementation date) (MONTH YEAR format)

OFFICIAL COURSE OUTLINE INFORMATION

Students are advised to keep course outlines in personal files for future use.
Shaded headings are subject to change at the discretion of the department and the material will vary - see course syllabus available from instructor

FACULTY/DEPARTMENT: **PHYSICS**

ENGR 151		**4**
COURSE NAME/NUMBER	FORMER COURSE NUMBER	UCFV CREDITS

COMPUTER-AIDED ENGINEERING GRAPHICS
COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

This course will cover technical sketching, orthographic projection, visualization in three dimensions and conventions of engineering drawing. Microcomputer-based graphics (CADD) will be introduced. The principles of descriptive geometry will be applied to the solution of space problems. This course is designed for students intended to transfer to Engineering at UBC and UVic.

PREREQUISITES: **Math 110 or Mathematics 12; either COMP 150 as a co- or prerequisite, or Computing Science 11 or 12 as a prerequisite.**
COREQUISITES:

SYNONYMOUS COURSE(S)
(a) Replaces: **PHYS 151** *(Course #)*
(b) Cannot take: **PHYS 151** *(Course #)* for further credit.

SERVICE COURSE TO: *(Department/Program)* *(Department/Program)*

TOTAL HOURS PER TERM: **105**
STRUCTURE OF HOURS:

Lectures:	**60**	Hrs
Seminar:		Hrs
Laboratory:	**45**	Hrs
Field Experience:		Hrs
Student Directed Learning:		Hrs
Other (Specify):		Hrs

TRAINING DAY-BASED INSTRUCTION
LENGTH OF COURSE:
HOURS PER DAY:

MAXIMUM ENROLLMENT: **24**
EXPECTED FREQUENCY OF COURSE OFFERINGS:

WILL TRANSFER CREDIT BE REQUESTED? (lower-level courses only)	☒ Yes	☐ No
WILL TRANSFER CREDIT BE REQUESTED? (upper-level requested by department)	☐ Yes	☐ No
TRANSFER CREDIT EXISTS IN BCCAT TRANSFER GUIDE:	☐ Yes	☐ No

AUTHORIZATION SIGNATURES:

Course Designer(s): N. Taylor
Chairperson: N. Weinberg *(Curriculum Committee)*
Department Head: G. McGuire
Dean: K. Wayne Welsh
PAC Approval in Principle Date:
PAC Final Approval Date: December 16, 1998

LEARNING OBJECTIVES / GOALS / OUTCOMES / LEARNING OUTCOMES:

Engineering drawings are essential means of communication between designers and manufacturers of a structure or a product. Neatness, clarity of expression, and accuracy are of paramount importance. A body of standard techniques and styles has been developed to ensure this ease of communication. Upon successful completion of this course, the student will have attained a satisfactory level of competence in these basic techniques, using standard drawing methods and using Computer-Aided Drafting (CADD).

Upon successful completion of this course, the student should be able to:

1. Produce orthographic projections from perspective and isometric sketches and real objects.
2. Produce isometric sketches from orthographic projections
3. Produce a section
4. Correctly dimension and tolerance drawings
5. Perform vector analysis using scale drawings
6. Solve problems in three dimensional engineering geometry
7. Perform elementary CADD drawings using AutoCad
8. Achieve a high standard of neatness, clarity and accuracy in all work

METHODS:

This course will follow a normal science lecture/lab format.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

Credit can be awarded for this course through PLAR (Please check :) ☐ Yes ☐ No

METHODS OF OBTAINING PLAR:

TEXTBOOKS, REFERENCES, MATERIALS:

[Textbook selection varies by instructor. An example of texts for this course might be:]

SUPPLIES / MATERIALS:

Set of drawing equipment.

STUDENT EVALUATION:

[An example of student evaluation for this course might be:]

Weekly assignments (may include term project)	20%
Term tests	35%
AutoCad test	5%
Comprehensive final exam	40%

COURSE CONTENT:

[Course content varies by instructor. An example of course content might be:]

1. Orthographic sketching
2. Isometric sketching
3. Instrument orthographic drawing
4. Orthographic conventions
5. Sections
6. Auxiliary views
7. Dimensioning
8. Tolerances
9. Introduction to AutoCAD
10. Engineering descriptive geometry

11. Graphical vector analysis
12. Materials and manufacturing