UNIVERSITY COLLEGE of the FRASER VALLEY

UPAC FORM #2 (Page 1)

COURSE IMPLEMENTATION DATE:	September 1999
COURSE REVISED IMPLEMENTATION DATE:	September 2006
COURSE TO BE REVIEWED:	November 2009
(Four years after UPAC final approval date)	(MONTH YEAR)

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: Science, Health & Human Services / Physics

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

Computer-Aided Engineering Graphics

COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

This course covers technical sketching, orthographic projection, visualization in three dimensions, and conventions of engineering drawing. Computer-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 intending to transfer to Engineering at UBC or UVIC and emphasizes engineering practices.

PREREQUISITES: Familiarity with Windows-based systems

COREQUISITES:

PRE OR COREQUISITE: PHYS 111

SYNONYMOUS COURSE(S)

(a) Replaces: **Physics 151** *(Course #)*

(b) Cannot take: **Physics 151** *(Course #)* for further credit.

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

TOTAL HOURS PER TERM: **90**

STRUCTURE OF HOURS:

Lectures:	**45**	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:	**Annual, possibly twice/year**	
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): Peter Mulhern

Chairperson: Gillian Mimmack *(Curriculum Committee)*

Department Head: Norm Taylor

Dean: Jackie Snodgrass

UPAC Approval in Principle Date:

UPAC Final Approval Date: December 14, 2005

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).

METHODS:

Classes will consist of lecture and lab components. The lecture will describe an aspect of the course, put it in the context of a career in Engineering, and lay out the specific expectations of the students. The lab will provide an opportunity for hands-on practice of the skills described in the lecture while under supervision of the instructor.

PRIOR LEARNING ASSESSMENT RECOGNITION (PLAR):

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

METHODS OF OBTAINING PLAR:

Departmental Review and/or Course Challenge.

TEXTBOOKS, REFERENCES, MATERIALS:

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

James H. Earle, Engineering Design Graphics, 10th ed.

Gary R. Bertoline, Graphics Communications for Engineers

SUPPLIES / MATERIALS:

Set of drawing equipment

Appropriate paper

3.5" disks

printer card

STUDENT EVALUATION:

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

Labs	25%
Assignments (incl. log)	10%
Quiz #1	20%
Quiz #2 AutoCad	15%
Final exam	30%

COURSE CONTENT:

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

1. Introduction, Design
2. Basic Technical Drawing
3. Instrument Drawing
4. AutoCAD #1: Basic Commands
5. AutoCAD #2: Prototypes and Orthographic Drawings
6. AutoCAD #3: Conventional Practices and Isometric Drawings
7. Descriptive Geometry #1: True Length and True Shape

8. Forces #1: 2D Graphical Analysis
9. Forces #2: 3D Graphical Analysis
10. Sectioning
11. Auxiliary Views
12. Dimensioning
13. Tolerances
14. Geometric Tolerances
15. Standards and Threads
16. Descriptive Geometry #2: Intersections
17. Descriptive Geometry #3: Slopes
18. Topographic Maps
19. Graphical Solutions to Differential Equations
20. Working Drawings
21. Finish Working Drawing Lab