UNIVERSITY COLLEGE of the FRASER VALLEY

PAC FORM #2 (Page 1)

COURSE IMPLEMENTATION DATE: September 1998
COURSE REVISED IMPLEMENTATION DATE: September 1999
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: **MATHEMATICS AND STATISTICS**

MATH 211		**3**
COURSE NAME/NUMBER	FORMER COURSE NUMBER	UCFV CREDITS

CALCULUS III
COURSE DESCRIPTIVE TITLE

CALENDAR DESCRIPTION:

The concepts of first-year calculus are extended to cover more general cases. The generalization enables you to attack a much larger class of problems. In particular, the calculus of one variable is extended to cover the calculus of many variables. Topics include solid and analytic geometry, partial derivatives and applications, multiple integrals.

PREREQUISITES: **MATH 112 with C or better, or MATH 114 with B+ or better; or MATH 116 with C or better.**
COREQUISITES: **None**

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

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

TOTAL HOURS PER TERM: **60**
STRUCTURE OF HOURS:

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

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

MAXIMUM ENROLLMENT: **35**
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): D. McDowell
Chairperson: n/a *(Curriculum Committee)*
Department Head: S. Milner
Dean: W. Welsh
PAC Approval in Principle Date:
PAC Final Approval Date: December 16, 1998

LEARNING OBJECTIVES / GOALS / OUTCOMES / LEARNING OUTCOMES:

The student should master:

- Vectors and 3-dimensional coordinate systems
- Partial derivatives, application
- Multiple integration
- Surface integrals

METHODS:

Traditional lectures with some problem sessions.

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:]

TEXT:
Calculus with Analytic Geometry, Munem & Foulis Worth, 1st Ed., 1978 (part 2 of the separated sets)

REFERENCES:
Any multivariate calculus text
Vector Calculus, Marsden & Trombda Freeman, 2nd Ed.

SUPPLIES / MATERIALS:

STUDENT EVALUATION:

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

4 – 6 assignments	20 – 30%
3 – 4 in-class tests	30 – 40%
1 final exam	30 – 50%

COURSE CONTENT:

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

2 space vectors
- basic operations and properties
- different forms of equations
- standard applications

3 space systems and vectors
- special vector products and identities, geometric applications
- lines/planes in space
- functions/curves in space
- standard 3-space surfaces

Multi-variate calculus

- limits/continuity
- differential calculus
- partials/applications
- chain rules
- geometric/vector applications
- extrema
- integral calculus
- iterated integrals
- double integrals/applications/polar coordinates
- triple integrals/cylindrical and spherical coordinate systems

*Jacobiane and general transformations as time permits.