JCC OFFICIAL COURSE OUTLINE

Document 5

Course number, title and credits; total time allocation

Course Letter/Number **MAT 251** Credits **4** Title **Calculus III**

Lecture/Discussion **4** hrs/semester Lab _____ hrs/semester Clinical _____ hrs/semester

Catalog Description and Pre- and Co-requisites (Same as taxonomy and catalog)
Solid analytical geometry is integrated throughout this course covering the calculus of vector valued functions, multivariable functions, and vector fields with applications. Graphing calculator required. The mathematics department recommends that the prerequisite not be more than two years old. If the prerequisite is more than two years old, then the recommendation is that the course placement exam be taken or the prerequisite be retaken to ensure the success of the student. Prerequisite: MAT 154

Prerequisite: MAT 154, with 2.0 minimum, within 2 years

Knowledge, Skills and Abilities Students Acquire from this Course (Educational Objectives)

1. *Three dimensional analytic geometry.*
2. *The calculus of vector-valued functions.*
3. *The calculus of multivariable functions.*
4. *Vector analysis.*
5. *Selected topics from linear algebra.*
6. *Current technology relevant to the course material.*

Associate Degree Outcomes Addressed in this Course (These must appear in course syllabus.)

ADO 3 Demonstrate computational skills and mathematical reasoning

Units/topics of Instruction
See course description and educational objectives.

Instructional Techniques and Procedures
Although techniques vary from instructor to instructor, this course usually consists of mostly lecture and group work.

Instructional Use of Computer or Other Technology
A graphing calculator and a computer algebra system (CAS) s used extensively in this course

Instructional Materials and Costs to Students
The instructional material for this course consists of the textbook, CAS, and a graphing calculator.

Skills and abilities students should bring to the course

Able to read	___	a limited amount of material	Able to compute	___	basic, pre-algebraic problems
	x	an average amount of material		___	simple algebraic problems
	___	an above average amount of material		x	higher order mathematical problems
Able to read	___	relatively easy material	Able to write	x	short compositions
	___	moderately difficult material		___	medium length compositions
	x	technical or sophisticated material		___	lengthy compositions
Able to use technology	x	keyboard skills/familiar with computer	Other necessary abilities	___	
	x	computer application		___	
	x	web navigation		___	

The course is usually scheduled

Day:	[x]	Fall	[ ]	Winter	[x]	Spring
Evening:	[ ]	Fall	[ ]	Winter	[ ]	Spring

Prepared by _____ **Date** _____

Approved by Dept. _____ **Date** _____

Approved by Dean _____ **Date** _____

Approved by Curr. Comm. _____ **Date** _____

(Last names, please)

Form Revised 12/4/00