

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

The course is usually scheduled

Day: Fall Winter 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