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) is 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

<table>
<thead>
<tr>
<th>Able to read</th>
<th>Able to compute</th>
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</thead>
<tbody>
<tr>
<td>a limited amount of material</td>
<td>basic, pre-algebraic problems</td>
</tr>
<tr>
<td>an average amount of material</td>
<td>simple algebraic problems</td>
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<tr>
<td>an above average amount of material</td>
<td>higher order mathematical problems</td>
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<table>
<thead>
<tr>
<th>Able to read</th>
<th>Able to write</th>
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<tbody>
<tr>
<td>relatively easy material</td>
<td>short compositions</td>
</tr>
<tr>
<td>moderately difficult material</td>
<td>medium length compositions</td>
</tr>
<tr>
<td>technical or sophisticated material</td>
<td>lengthy compositions</td>
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<table>
<thead>
<tr>
<th>Able to use technology</th>
<th>Other necessary abilities</th>
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</thead>
<tbody>
<tr>
<td>keyboard skills/familiar with computer</td>
<td></td>
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<tr>
<td>computer application</td>
<td></td>
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<tr>
<td>web navigation</td>
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The course is usually scheduled

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

Evening:  
- [ ] Fall
- [ ] Winter
- [ ] Spring

Prepared by ____________________________  Approved by Dept. ____________________________

Approved by Dean ____________________________  Date ____________________________

Approved by Curr. Comm. ____________________________  (Last names, please)

Date ____________________________  Form Revised 12/4/00