School of Arts and Sciences  Prepared by: Mathematics Department  IAI Code: M1906

Department Mathematics  Date (prepared for CCC): 5/28/11

Major Curriculum or market served Commerce and Business Students

Annual Review Date: Fall 2011

Course Data:

<table>
<thead>
<tr>
<th>Prefix No.</th>
<th>Course Title</th>
<th>Credit</th>
<th>Lecture</th>
<th>Lab</th>
<th>Clinical Lab</th>
<th>*Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAT 124</td>
<td>Finite Mathematics</td>
<td>3.0</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
<td>None</td>
</tr>
</tbody>
</table>

**Prerequisite(s):** MAT 110 or MAT 111 (minimum grade of “C”) or qualifying score on placement test or ACT Math score of 26 (within the last two years).

**Catalog Course Description:** Set theory, matrices, linear programming, probability and Markov processes are covered. Problems are selected from the fields of social science and business.

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I. **Overall Learning Goals (1 or 2 sentences):**

Upon successful completion of this course, the student will be able to:
Solve problems using set theory, matrices, linear programming and Markov processes. Be able to apply the skills from the course to solve problems from the fields of social science and business.
II. **Resources Utilized:**

A. Required textbook(s)/workbook(s) example: (list author, year of publication, title of work, location: (i.e. New York, NY), and publisher):


B. Supplementary texts/materials:

C. Other resources utilized: MyMathLab

(HINT: Double-click on the □ and mark ‘checked’ or ‘not checked’)

III. **Instructional Strategies:** Check and comment as needed on the instructional methods utilized to attain the course objectives:

   - Lecture
   - Discussion
   - Lecture/Demonstration
   - Laboratory
   - Clinical Lab
   - Independent Study
   - Internship
   - Power Point
   - Other:
   - Problem solving/case situations
   - Computer Terminal, Overhead Transparencies, Graphing Calculator

Comments: instructional methods utilized (optional):

IV. **Formative Evaluation:** Check the evaluation methods utilized to monitor progress toward attainment of course objectives:

   - Quizzes
   - Examinations
   - Laboratory skills
   - Oral participation
   - Presentations
   - Projects
   - Written assignments
   - Clinical progress reports
   - Portfolio
   - Coop experience Progress report
   - Other:

V. **Summative Evaluation:** Check the evaluation method utilized to determine whether final course objectives have been attained:

   - Final (written) examination
   - Course projects
   - Final (oral) examination
   - Term papers
   - Final clinical/laboratory exam
   - Portfolio
   - Final skills test
   - Final coop experience evaluation
   - Other:

VI. **Assessment:** Check the assessment method(s) utilized to determine if the learning goals and objectives have been attained:

   - Pre/post test/paper
   - License/certification exam results
   - One-minute paper
   - Journal assignment
   - Portfolio assessments
   - Common writing assessment
   - Student survey
   - Employer survey
   - Other:
Course survey for Mat 124, 131, 133, 134, 135 and 341

1. How would you rate your level of preparation coming into this class?
   a. Well prepared (I was very proficient in all the math skills required in this course)
   b. Prepared (I may have had a few weak areas, but I overcame them easily enough)
   c. Not very well prepared (I had more weaknesses than strengths in my math skills)

2. Which math skill was your greatest weakness coming into this class?
   a. High School Math background was weak.
   b. Basic – Intermediate level algebra (this can include functions, factoring, exponents, fractions, etc.)
   c. Trigonometry
c. Calculus I concepts
e. Calculus II concepts
f. No weakness coming into the class
g. Other (please list)

3. How did you address your weaknesses during this class? Mark all that apply.
   a. Reviewed previous course work/materials
   b. Got tutoring assistance
c. Saw the teacher for help
d. Used review materials on MyMathLab
e. Did not seek additional assistance
f. Other (please list)

4. How confident are you that you have mastered the skills/concepts of this class?
   a. Very confident
   b. Confident
   c. Not very confident
d. Not confident at all

5. How well prepared do you feel the next math course you have to take?
   a. Very well prepared
   b. Prepared (you may have some weak areas, but can easily overcome them going forward)
   c. Not well prepared (more weaknesses than strengths at this point)
   d. Not prepared at all for the next course
e. Not applicable – this was my last math class.
6. Are you a math major?  YES  NO

If yes, what kinds of things could the Triton Mathematics Department do to assist you? Circle as many as apply:

Provide a faculty mentor

Inform me about summer internships and other activities

Provide volunteer tutoring opportunities

Start a math club, I would join

Provide opportunities to enter math competitions
VII. **Course Plan:** Indicate the distribution of contact hours by topic.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Contact Hours</th>
<th>Clinical</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lecture</td>
<td>Laboratory</td>
</tr>
<tr>
<td>Linear Functions</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Systems of Linear Equations</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Matrix Operations</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Linear Programming – Graphical Method</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Linear Programming – Simplex Method</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>The Dual LPP</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Non-standard LPP</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Set Theory – Venn Diagrams</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Introduction to Probability</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Counting Principles</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Binomial Probability</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Introduction to Statistics</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Normal Distribution</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Normal Approximation of Binomial</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Markov Chains</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Optional topics</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>45</strong></td>
<td></td>
</tr>
</tbody>
</table>

Other:
### VIII. Learning Objectives:

For courses approved by ICCB, it is presumed students will spend a minimum of 2 hours outside study for each 1 hour of lecture in class; and a minimum of 1 hour of outside study for each 2 hours of lab or clinical in class, in order to meet the following objectives. Attach additional pages as needed. (Learning objectives must be stated in measurable terms)

<table>
<thead>
<tr>
<th>Objective</th>
<th>Lecture</th>
<th>Laboratory</th>
<th>Clinical/Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand and work with linear models and systems of equations.</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>Perform matrix operations.</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solve linear programming problems.</td>
<td>X</td>
<td></td>
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<tr>
<td>Perform fundamental counting through the use of permutations and combinations.</td>
<td>X</td>
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<tr>
<td>Understand basic statistical data from normal and other probability distributions.</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>Analyze simple Markov chains.</td>
<td>X</td>
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Final Examination