School of: Arts and Sciences  Prepared by: Committee  IAI Code: M1904
Department: Mathematics  Date (prepared for CCC): 5/25/11

Major Curriculum or market served: A Variety of Liberal Arts Majors

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 102</td>
<td>Liberal Arts Mathematics</td>
<td>3.0</td>
<td>3.0</td>
<td>0.0</td>
<td>0.0</td>
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</tr>
</tbody>
</table>

Prerequisite(s):

Writing: Assessment test score of 4 or higher; an English ACT score of 20 or higher; or a grade of "C" or better in RHT 095 or RHT 096 or completion of RHT 101
AND
Reading: Assessment test score of 4 or higher; a Reading ACT score of 20 or higher; or a grade of "C" or better in RHT 085 or RHT 086 or completion of RHT 101
AND

Intermediate Algebra and Geometry demonstrable through a minimum Triton placement score of 6 or ACT Math score of 23 (within the last two years) or MAT 085 or MAT 096 or MAT 103. A grade of "C" or better is required for all prerequisite math courses.

Catalog Course Description: Intended for students in areas of study not requiring calculus or advanced mathematics. Topics will be selected from sets, logic, consumer mathematics, numeral systems, geometry in nature and in daily life, introductory statistics, and introductory probability.

Overall Learning Goals (1 or 2 sentences):

I. Upon successful completion of this course, the student will be able to use mathematical reasoning in the solving of real-life problems. He/she will also develop proficiency in three or four mathematical topics through the use of applied projects.
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 - Any acceptable Standard may be utilized to cite textbook(s)
   B. Supplementary texts/and 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  □ Lecture/Demonstration  □ Discussion  □ Laboratory
   □ Clinical Lab  □ Independent Study  □ Power Point
   □ Internship  □ Problem solving/case situations
   Other:

   Comments: instructional methods utilized (optional):

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

   □ Quizzes  □ Laboratory skills  □ Presentations
   □ Examinations  □ Oral participation  □ Projects
   □ Journal  □ Written assignments  □ Portfolio
   □ Mid-term examination  □ Clinical progress reports
   □ 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

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:
Mat 102 End of Course Survey:

1) Name one “success” you experienced while taking this class.

2) What aspect of math did this course make you want to study further?

3) Provide one real world situation to which what you learned about consumer math, probability or logic in this course may be applied.

4) Name one example of a graphical method used to represent data

5) A>C and B<C so _____

6) Name two measures of central tendency

7) Would you recommend this course to a friend?
   Yes  No  Maybe
VI. **Course Plan:** Indicate the distribution of contact hours by topic. 

**NOTE:** The maximum number of lecture hours per topic should not exceed 6 hours and the maximum number of lab hours per topic should not exceed 8 hours. Do not include the final exam as a topic.

From the Illinois Articulation Initiative:

This course is designed to fulfill general education requirements. It is not designed as a prerequisite for any other college mathematics course. This course focuses on mathematical reasoning and the solving of real-life problems. Three or four topics, chosen from the following list, are to be studied in depth. Mathematical modeling and/or projects is strongly recommended to be included as part of the course. The regular use of calculators and computers is strongly encouraged.

1. Counting techniques and probability
2. Game theory
3. Geometry (additional topics beyond the prerequisite)
4. Graph theory
5. Linear programming
6. Logic/Set theory
7. Mathematical modeling
8. Mathematics of finance
9. Statistics

The following chapters are covered in the current textbook:

Recommended chapters of the current text are Chapter 2, Chapter 3, Chapter 11, and Chapter 13.
<table>
<thead>
<tr>
<th>Topic</th>
<th>Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lecture</td>
</tr>
<tr>
<td>Set theory, concepts</td>
<td>5</td>
</tr>
<tr>
<td>Set theory, Venn diagrams</td>
<td>5</td>
</tr>
<tr>
<td>Logical connectives and truth tables</td>
<td>6</td>
</tr>
<tr>
<td>Equivalent statements, symbolic arguments, syllogistic arguments, Euler diagrams</td>
<td>6</td>
</tr>
<tr>
<td>Percent, simple and compound interest</td>
<td>6</td>
</tr>
<tr>
<td>Mortgages, annuities, sinking funds, retirement investments</td>
<td>6</td>
</tr>
<tr>
<td>Frequency distributions, graphs measures of central tendencies</td>
<td>5</td>
</tr>
<tr>
<td>Measures of dispersion, the normal curve, linear correlation and regression</td>
<td>6</td>
</tr>
<tr>
<td>Total Instructional Hours</td>
<td>45</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
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</table>
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 demonstrable and measurable terms.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Lecture</th>
<th>Laboratory</th>
<th>Clinical/Laboratory</th>
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<tbody>
<tr>
<td>Interpret mathematical models such as formulas, graphs, tables, and schematics from set theory, logic, finance and statistics and draw inferences from them.</td>
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<td>X</td>
<td></td>
</tr>
<tr>
<td>Represent mathematical information symbolically, visually, numerically, and verbally.</td>
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<td>X</td>
<td></td>
</tr>
<tr>
<td>Use arithmetic, algebraic, geometric, and statistical methods to solve real world problems.</td>
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<td>X</td>
<td></td>
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<tr>
<td>Estimate and check answers to mathematical problems in order to determine reasonableness, identify alternatives, and select optimal results.</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Solve problems involving set theory, logic, financial instruments and basic statistics</td>
<td></td>
<td>X</td>
<td></td>
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