COURSE TITLE: Learning Mathematics with Technology
COURSE NUMBER: MAE 3651

COURSE DESCRIPTION (with prerequisites):
This course is designed for pre-service and practicing middle and high school math teachers. It includes the use of innovative computer software and graphing calculators for students to experience learning mathematics with technology at the middle and secondary school levels. The use and integration of dynamic geometry software, computer algebra, electronic spreadsheets, data analysis, and instructional software will be studied from a problem solving perspective. Students will also create programs on a graphing calculator. This course addresses specific Sunshine State Standards, subject matter competencies, and pedagogy pertinent to the discipline and is required for certification. Prerequisite: EME 2040 or consent of the department. A programmable graphing calculator will be required for this course. 1 semester hour credit

NAME(S) OF INSTRUCTORS:
Dr. Rose Cavin

EFFECTIVE ACADEMIC YEAR:
2011-12

REQUIRED TEXTBOOKS AND INSTRUCTIONAL SUPPLIES:
No text is required. Students must have a flash drive (USB storage device) and a graphing calculator.

GRADING POLICY:
The standing of a student in each course is expressed by one of the following letters and corresponding grading system:
A – 90 – 100
B – 80 – 89
C – 70 – 79
D – 60 – 69
F – 59 or less
The Chipola Catalog provides policies and procedures regarding the grading system. A student’s Grade Point Average is derived from the grading system/quality point scale.

ATTENDANCE AND WITHDRAWAL POLICIES:
Chipola College expects regular attendance of all students. Students who are absent from classes for any reason other than official college activities must satisfy the instructor concerned that the absence was due to illness or other clearly unavoidable...
reasons. Otherwise, the student may suffer grade loss at the discretion of the instructor. Chipola policy allows each instructor to specify in the Instructor First Day Handout whether or not an absence is excusable and what affect the absence or tardy may have on the grade.

A student is allowed to repeat a course a maximum of three (3) times. On the third attempt a student (1) must bear the full cost of instruction (unless waived by Student Services), (2) cannot withdraw, and (3) must receive a grade.

MAKE-UP POLICY:
Chipola allows each instructor to specify in the Instructor First Day Handout the makeup policy.

ACADEMIC HONOR CODE POLICY:
Students are expected to uphold the Academic Honor Code. Chipola College’s Honor Code is based on the premise that each student has the responsibility to (1) uphold the highest standards of academic honesty in his/her own work; (2) refuse to tolerate academic dishonesty in the college community; and (3) foster a high sense of honor and social responsibility on the part of students. Further information regarding the Academic Honor Code may be found in the Chipola Catalog, Student Governance section.

STUDENTS WITH DISABILITIES POLICY:
Chipola College is committed to making all programs and facilities accessible to anyone with a disability. Chipola's goal is for students to obtain maximum benefit from their educational experience and to effectively transition into the college environment. Students with disabilities are requested to voluntarily contact the Office of Students with Disabilities to complete the intake process and determine their eligibility for reasonable accommodations.

LIBRARY AND ON-LINE REFERENCE MATERIALS:
The library is a comprehensive learning resource center providing information in print, electronic, and multimedia format to support the educational objectives of the College. On-line catalogs, e-books and electronic databases can be accessed by using the LINCCWeb icon on the Chipola Library website at www.chipola.edu/library. If you have questions about database usage consult the “How to Use the Chipola Databases” on the Library website or call the Library at 850/718-2274 during regular hours. Library hours are posted each semester at the building entrance and on the Library website. See your Instructor First Day Handout for individual instructor recommendations and resources.

TECHNOLOGY RESOURCES:
The Information Technology Center, located in the library, is equipped with computer workstations. Lab hours are posted each semester at the building entrance and on the Library website. The ACE Lab, located in Building L, is available for tutoring and is equipped with computer workstations. Lab hours are posted each semester at the room entrance. The college's learning management system is Desire 2 Learn (D2L).
Classes become available on D2L on the first day of the semester. It is the student’s responsibility to log onto the D2L system the first day of class to establish the first day of attendance and to check announcements. For further information, contact your instructor or the Director of Online Learning.

**ELECTRONIC DEVICE USAGE:**
All electronic devices such as cell phones, beepers, pagers, and related devices are to be silenced prior to entering classrooms and/or laboratories to avoid disruption. Should it become necessary for a student to leave his/her “device” on to send or receive an emergency call and/or text message, the student must inform the instructor prior to class. If the student finds it necessary to send and/or receive an emergency call and/or text message during class/lab time, he/she is instructed to take all books and belongings and step outside the classroom to deal with the situation. To minimize classroom disruption and the distraction to classmates, the student will not be permitted to reenter the classroom during that class period. Any time a test is being administered, all such devices must be turned off and put away. If a device is seen or heard during an exam, a score of zero will be given for that exam. Initial and repeated infractions may result in disciplinary action.

**DISCIPLINE SPECIFIC COMPETENCIES / LEARNING OUTCOMES:**
E – 1 Demonstrate understanding of instructional design and lesson planning by applying concepts from human development and learning theories.
E – 2 Demonstrate ability to maintain a student-centered learning environment that is safe, organized, equitable, flexible, inclusive and collaborative.
E – 3 Demonstrate effective instructional delivery and facilitation by utilizing deep and comprehensive knowledge of mathematics.
E – 4 Demonstrate understanding of assessment by analyzing and applying data from multiple assessments to diagnose learning needs and inform instruction.
E – 5 Demonstrate continuous improvement by designing purposeful goals to strengthen instructional effectiveness and impact student learning.
E – 6 Demonstrates professional responsibility and ethical conduct and fulfills expected obligations to students, the public, and the education profession.
# LINKING COURSE-LEVEL OUTCOMES WITH DISCIPLINE-SPECIFIC COMPETENCIES AND STANDARDS

<table>
<thead>
<tr>
<th>STUDENT LEARNING OUTCOMES FOR MAE 3651</th>
<th>NGSSS/ NCTM Standards</th>
<th>FEAPs (Discipline Outcomes)</th>
<th>FL Competencies and Skills:</th>
<th>Assessment Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>The student will:</td>
<td></td>
<td></td>
<td>Mathematics 6 - 12</td>
<td>Professional Education</td>
</tr>
<tr>
<td>1. Solve mathematics problems using application software.</td>
<td>Specific standards based upon topic</td>
<td>E-1, E-3, E-4</td>
<td>Specific standards based upon topic</td>
<td>12.2</td>
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<td></td>
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<td>LMT1-RU LMT2-RU LMT3 - RU</td>
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<tr>
<td>2. Engage in mathematical investigations using technology.</td>
<td>Specific standards based upon topic</td>
<td>E-3, E-4</td>
<td>Specific standards based upon topic</td>
<td>4.1, 4.2, 10.2, 12.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LMT2 -RU LMT3 - RU</td>
</tr>
<tr>
<td>3. Use a variety of technologies to prepare instructional materials.</td>
<td>E-1, E-3, E-4</td>
<td>11.3</td>
<td>12.1, 12.3, 12.4</td>
<td>LMT1 - RU LMT3 - RU</td>
</tr>
<tr>
<td>4. Include student use of technology in prepared instructional materials.</td>
<td>Specific standards based upon topic</td>
<td>E-1, E-3</td>
<td>14.1, 15.2</td>
<td>4.1, 4.2, 10.2, 12</td>
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<td>LMT1 - RU LMT2 - RU</td>
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<tr>
<td>5. Use technology as a tool in organizing and analyzing student performance.</td>
<td>E-4</td>
<td></td>
<td>12.1</td>
<td>LMT4 - RU</td>
</tr>
</tbody>
</table>

**Assessment Codes**

- T = Tests
- Pre/Post = Pre- and Post-Tests
- OT = Objective Tests
- UT = Unit Tests
- Q = Quizzes
- F = Final Examination
- CF = Cumulative Final
- EX = Departmental Exam
- SE = Nat’l or State Standardized Exam

**Means of Accomplishing Student Learning Outcomes:**

- Class activities: Students will participate in an action-oriented classroom which will feature lectures, class discussions and/or interactions, group projects, activities, and oral presentations.
- Office Hours: The instructor will be available during office hours for individual assistance. The instructor’s schedule can be found posted on the office door and/or via the web site.

**Assignment and/or Course Outline**

See your Instructor First Day Handout for individual instructor assignment schedule.