COURSE TITLE: Precalculus Algebra

COURSE NUMBER: MAC 1140

COURSE DESCRIPTION (with prerequisites):
Topics for this course include review of algebraic techniques or operations, radicals, exponents, complex numbers, absolute value, linear and quadratic equations and inequalities, exponential and logarithmic functions, simultaneous equations and inequalities, roots of polynomials, matrices, determinants, applications, mathematical proof techniques, mathematical induction, binomial theorem, sequences and series. Prerequisite: Successful completion of the equivalent of one year of High School Algebra I and one year of High School Algebra II and an acceptable score on a mathematics placement test or a “C” grade or higher in MAC 1105 or consent of the department. MAC 1114 may be taken concurrently with MAC 1140. A “C” grade or higher must be earned to advance to a higher level mathematics course or to satisfy part of the education requirements in mathematics. 3 semester hours credit.

NAME(S) OF INSTRUCTORS:
Georgia Ashmore, Rose Cavin, JoAnn Parish, Bonnie Smith, Stan Young
(Instructors vary from semester to semester)

EFFECTIVE ACADEMIC YEAR:
2012-13

REQUIRED TEXTBOOKS AND INSTRUCTIONAL SUPPLIES:
Precalculus, Functions and Graphs, Fourth Edition, Dugopolski, Addison Wesley, Copyright 2009

A graphing calculator is also required for this course. The instructor will be using a TI-83 or a TI-84 for classroom demonstrations.

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](http://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:
Demonstrate Basic Mathematical Skills and Knowledge

M-1 Apply arithmetic, algebraic, or geometric skills to solve mathematical problems.

M-2 Represent basic mathematical information verbally, numerically, graphically, or symbolically.

M-3 Use technology to solve mathematical problems.

M-4 Interpret mathematical models such as formulas, graphs, tables and schematics.

M-5 Use mathematical processes in solving real world applications.
<table>
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<tr>
<th>COURSE-LEVEL STUDENT LEARNING OUTCOMES FOR MAC 1140</th>
<th>DISCIPLINE-SPECIFIC GENERAL EDUCATION COMPETENCIES</th>
<th>ASSESSMENT METHODS FOR COURSE LEVEL STUDENT LEARNING OUTCOMES</th>
<th>ARTIFACTS FOR AA PROGRAM ASSESSMENT</th>
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<tr>
<td>• Use tools such as “end behavior,” translations, reflections, intercepts, synthetic division and asymptotes to graph all types of equations—linear, quadratic, higher order polynomial, exponential, logarithmic, and conic sections.</td>
<td>M-2, M-3, M-4, T-1</td>
<td>UT, CF, EX, H</td>
<td>Solve science-related real world problems involving formulas with exponential expressions.</td>
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<tr>
<td>• Solve systems of linear and nonlinear equations in two or three variables algebraically, graphically, and with matrices as appropriate.</td>
<td>M-1, M-2, M-3, M-4, T-1</td>
<td>UT, CF, EX, H</td>
<td></td>
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<tr>
<td>• Solve all types of equations—linear, quadratic, higher order polynomial, exponential and logarithmic—with and without a calculator.</td>
<td>M-1, M-2, M-3, T-1</td>
<td>UT, CF, EX, H</td>
<td></td>
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<tr>
<td>• Solve second degree and higher inequalities in one variable and systems of inequalities in two variables algebraically and graphically.</td>
<td>M-1, M-2, M-3, T-1</td>
<td>UT, CF, EX, H</td>
<td></td>
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<tr>
<td>• Determine the domain and range of a function presented in various formats and intervals over which a function is increasing or decreasing.</td>
<td>M-2, M-4</td>
<td>UT, CF, EX, H</td>
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<td>• Perform operations with complex numbers.</td>
<td>M-1</td>
<td>UT, CF, EX, H</td>
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<tr>
<td>• Identify arithmetic and geometric sequences.</td>
<td>M-1, M-2, M-3</td>
<td>UT, CF, EX, H</td>
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</tbody>
</table>
terms and sequences using appropriate term and summation formulas and notation.

- Represent and/or solve application problems from various disciplines with functions, equations, formulas and skills developed in the course.

| M-4, T-1 | M-1, M-2, M-3, M-4, M-5, T-1 | H | UT, CF, EX, H |

**Assessment Codes**

<table>
<thead>
<tr>
<th>T = Tests</th>
<th>Pre/Post = Pre- and Post-Tests</th>
<th>OT = Objective Tests</th>
<th>UT = Unit Tests</th>
<th>Q = Quizzes</th>
<th>F = Final Examination</th>
<th>CF = Cumulative Final</th>
<th>EX = Departmental Exam</th>
<th>SE = Nat'l or State Standardized Exam</th>
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<tr>
<td>RPT = Report/Presentation</td>
<td>SP = Skills Performance</td>
<td>SD = Skills Demonstration</td>
<td>W = Writing Assignments</td>
<td>E = Essays</td>
<td>DE = Documented Essays</td>
<td>RP = Research papers</td>
<td>J = Jury</td>
<td>R = Recital</td>
</tr>
</tbody>
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**MEANS OF ACCOMPLISHING STUDENT LEARNING OUTCOMES:**

Teacher Facilitated: The teacher will be leading class discussions on the material contained in the text during each class period.

Student-centered: The students will take notes and practice solving problems during each class period.

Office Hours: The instructor will be available during office hours for individual assistance. The instructor’s schedule can be found posted on their office door and/or via their individual web site.

ACE Lab Tutors: Student tutors are available in the lab to provide individualized help. Hours can be found posted each semester on the lab door and/or via the web site.

**ASSIGNMENT AND/OR COURSE OUTLINE**

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