

**COURSE CHANGE
GENERAL EDUCATION**

Proposal for a Course Change

Department Mathematics and Computer Science **Date** December 19, 2007

Original Submission Resubmission Date of Original Submission _____
Date of Implementation Fall 2008

Retroactive? (If yes, please specify) _____

I. Proposed Course Change Information

	CURRENT	PROPOSED CHANGE
Discipline Prefix	<u>MATH</u>	_____
Course Number	<u>164</u>	_____
Course Title	<u>Precalculus</u>	_____
Credit Hours	<u>3</u>	_____
Prerequisite Course	<u>None.</u>	_____
Speaking Intensive	<u>No.</u>	_____
Writing Intensive	<u>No.</u>	_____
If Cross-Listed:		
Secondary Prefix	_____	_____
Course Number	_____	_____

Course Description: Current description: **Mathematics 164. Precalculus.** A study of functions with an emphasis on exponential, logarithmic, and trigonometric functions in order to prepare the student for calculus. 3 credits. *

Proposed description: **Mathematics 164. Precalculus.** A study of polynomial, rational, exponential, logarithmic, and trigonometric functions and conic sections in order to prepare the student for calculus. 3 credits. *

Delete Course from Catalog Submit to Storage
 Remove Course from Storage, Add to Catalog

General Education Goal(s) for which course is designed: 5

Does the proposed change affect how the course will satisfy the nine (9) required General Education Course Criteria (page 12)? If so, please explain: **No. The change just more thoroughly reflects the material currently taught.**

Please attach a proposed syllabus in SACS format that contains proposed changes.

II. Required for Major, Minor, Concentration (please specify): Liberal Studies: Middle School majors.

III. Rationale for Proposed Changes: State licensure requirements led us to explicitly state all of the material in this course in the description.

IV. Resource Assessment, if change warrants it:

- A. How frequently do you anticipate offering this course? Every semester.
- B. Describe anticipated change in staffing for the course: None.
- C. Estimate the cost of new required equipment due to change: None.
- D. Estimate the cost of and describe additional library resources: None.
- E. Will the change in the course require additional computer use, hardware or software?

If so, please describe and estimate cost: No.

V. Approvals

	Date Rec'd	Signature Date	Approved
1. Department Curriculum Committee Chair	_____	_____	_____
2. Department Chair	_____	_____	_____
The Department Chairs, whose programs may be affected, have been notified:			
Department	<u>Liberal Studies</u>	Date Notified	<u>January 8, 2008</u>
Department	_____	Date Notified	_____
Department	_____	Date Notified	_____
3. College Dean	_____	_____	_____
4. College Curriculum Committee	_____	_____	_____
5. General Education Committee	_____	_____	_____
6. Educational Policy Committee	_____	_____	_____
7. Faculty Senate Chair	_____	_____	_____
8. Date received by Registrar	_____		

Proposals must be submitted early enough to reach EPC by March 1 in order to be included in next year's catalog.

MATHEMATICS 164 PRECALCULUS

Instructor: Dr. Sharon Emerson-Stonnell

E-mail: emersonstonnellss@longwood.edu

Office Hours: MTWRF 1:00 - 2:30 pm

Or by appointment

Office: East Ruffner 333

Telephone: 395-2197

Text: Fundamentals of Precalculus. Mark Dugopolski. Pearson/Addison Wesley Publishing Company.

Recommended Supplies: TI-83 or TI-84 graphing calculator.

Course Description: A study of polynomial, rational, exponential, logarithmic, and trigonometric functions and conic sections in order to prepare the student for calculus. 3 credits.

Course Objectives: Students should be able to

1. Graph and analyze functions.
2. Analyze and interpret polynomial, rational, exponential, logarithmic, and trigonometric functions.
3. Understand the relationship between functions and their inverses.
4. Analyze and interpret functions graphically, numerically, and symbolically.
5. Understand the relationships between the trigonometric functions: sine, cosine, tangent, cotangent, secant, and cosecant.
6. Apply functions to business, social science, and natural science applications.

This course meets the General Education criteria and the required outcomes for General Education Goal 5 as indicated in the matrices available through Blackboard.

Course Requirements:

1. There will be four tests. Each test will be worth 15% of your final grade.
2. Attendance is mandatory. Each student is expected to actively participate in all group work and class discussions.
3. Class assignments will constitute 15% of your final grade.
4. A research project will be due on November 14. The project will constitute 10% of your final grade. Details will be provided on October 10.
5. There will be a comprehensive final exam for this course. The exam will be worth 15% of your final grade.
6. Absences are excused only for illness, college sponsored activities, and recognizable emergencies. You must assume full responsibility for all material covered during your absence. A grade of "0" will be assigned for all work missed due to unexcused absences.
7. Make-up tests will be given only when the reason for missing the test meets the criteria for an excused absence. Make-up tests will always be more difficult than regularly scheduled tests.
8. I expect you to conform to the Longwood College Honor Code as contained in the *Student Handbook*. All assignments and tests must be pledged.
9. Grades are assigned on a typical 10 point scale: 90-100 A; 80-89 B; 70-79 C; 60-69 D; 0-59 F.

Feel free to come by my office at any time during office hours for help. If you are unable to come during office hours call and make an appointment for another time period.

Class Schedule:

Week 1 August 27 - 31

Monday Introduction and 1.4 Linear Equations in Two Variables
Wednesday 1.5 Functions
Thursday 1.5, 1.6 Graphs of Relations and Functions

Week 2 September 3 - 7

Monday Labor Day Holiday
Wednesday 1.6, 1.7 Families of Functions
Friday 1.7, 1.8 Operations with Functions

Week 3 September 10 - 14

Monday 1.8, 1.9 Inverse Functions
Wednesday 1.9 Inverse Functions
Friday 2.1 Quadratic Functions and Inequalities

Week 4 September 17 - 21

Monday Test Chapter 1
Wednesday 2.2 Complex Numbers
Friday 2.3 Zeros of Polynomial Functions

Week 5 September 24- 28

Monday 2.4 Theory of Equations
Wednesday 2.5 Miscellaneous Equations
Friday 2.6 Graphs of Polynomial Functions

Week 6 October 1 - 5

Monday 2.7 Rational Functions and Inequalities
Wednesday 2.7 Rational Functions and Inequalities
Friday 4.1 Exponential Functions and Their Applications

Week 7 October 8 - 12

Monday Test Chapter 2
Wednesday 4.1, 4.2 Logarithmic Functions and Their Applications/ Project Assigned
Friday 4.2 Logarithmic Functions and Their Applications

Week 8 October 15 - 19

Tuesday Fall Break
Wednesday 4.3 Rules of Logarithms
Friday 4.3 More Equations

Week 9 October 22 - 26

Monday 4.3, 4.4 More Equations and Applications
Wednesday 4.4 More Applications
Friday 3.1 Angles and Their Measurements

Week 10 October 29 – November 2

Monday 3.2 Sine and Cosine Functions

Wednesday 3.3 Graphs of Sine and Cosine Functions
Friday 3.4 Other Trigonometric Functions and Their Graphs

Week 11 November 5 - 9

Monday Test Chapter 4 and Sections 3.1-3.3
Wednesday 3.4, 3.5 Inverse Trigonometric Functions
Friday 3.5 Inverse Trigonometric Functions

Week 12 November 12 - 16

Monday 3.6 Right Triangle Trigonometry
Wednesday 3.7 Trigonometric Identities/ Project Due
Friday 3.7 Trigonometric Identities

Week 13 November 19- 23

Monday 3.7 Trigonometric Identities
Wednesday Thanksgiving Break
Friday Thanksgiving Break

Week 14 November 26 - 30

Monday 3.8 Conditional Trigonometric Equations
Wednesday 3.8, 3.9 Laws of Sines and Cosines
Friday 3.9 Laws of Sines and Cosines

Week 15 December 3 - 7

Monday Test Chapter 3
Wednesday 5.2 Ellipses and Circles
Friday Final Exam Review

Final Exam

Section 01 Monday, December 10 8:00 a.m. - 10:30 a.m.
Section 02 Wednesday, December 13 8:00a.m. – 10:30a.m.

Writing: As a general education course, mathematics 164 will require more writing than in some non-general education mathematics courses. You will be required to collect data and analyze it then write up the results. The result will be graded both for mathematical accuracy and for writing style. The project will be due on November 14. More details will be provided later.

Attendance Policy: Students are expected to attend all classes. Work missed because of illness or other excused absences may be made up. Work missed because of unexcused absences receives a grade of 0. If you miss an exam or are late with an assignment you may be asked to provide proof that you had a legitimate reason (such as illness, certain college-sponsored activities or recognized emergencies). When possible, you should notify the instructor in advance of assignments you expect to miss because of legitimate absences.

Honor Code: Students are expected to abide by the Longwood College Honor Code. Assignments should be pledged, but the provisions of the Honor Code are assumed to apply to all work, pledged or not. Students are encouraged to study together and to seek help from the instructor or tutors when needed, but receiving unauthorized help or copying will be graded as a violation of the Honor Code.