Proposal Form For Addition And Revision Of Courses

1. Proposing College / School: College of Science and Mathematics
   Department: Department of Mathematics and Statistics

2. Course Prefix and Number: MATH 1153
3. Effective Term: Summer ’14

4. Course Title: Precalculus: Algebra and Trigonometry
   Abbreviated Title (30 characters or less):

5. Requested Action:
   - Renumber a Course
   - Add a Course
   - Revise a Course
   - Current Course Number:
   - Proposed Course Number:
   - Type of Revision:

6. Course Credit:
   - Contact/Group Hours
   - Scheduled Type (e.g.: Lab, Lecture, Practicum, Directed Study)
   - Weekly or Per Term?
   - Credit Hours
   - Anticipated Enrollment
   - Maximum Hours (Repeatability): 3
   - Total Credit Hours:

7. Grading Type:
   - Regular (ABCDF)
   - Satisfactory/Unsatisfactory (S/U)
   - Audit

8. Prerequisites/Corequisites:
   P: MPP score of 056 or MPA2 score of 056 or MATH 1120

9. Restrictions: List specific restriction in space above.
   - College
   - Major
   - Standing
   - Degree

10. Course Description:
    Preparatory course for the calculus sequence. Algebraic functions, Exponential and Logarithmic functions. Analytic and geometric properties of trigonometric functions.

11. May Count Either:
    MATH 1150 or MATH 1153

12. Affected Program(s):
    (e.g.: minor, major, etc.)
    (e.g.: MS in Chemistry, Performance Option, Minor in Art)
    (required or optional?)

13. Overlapping or Duplication of Other Units' Offerings:
    (If course is included in any other degree program, is used as an elective frequently by other unit(s), or is in an area similar to that covered by another college/school, attach correspondence with relevant unit)
    - Applicable
    - Not Applicable
14. Justification:
This is a core level course used under many majors. Offering it online would allow for flexibility and easier accessibility to the students who need it as a prerequisite for Calculus I.

(Include a concise, yet adequate rationale for the addition/revision of the course, citing accreditation, assessments (faculty, graduate, and/or external) where applicable)

15. Resources:
No new resources required.

Resources already available:

AU student code of discipline: https://sites.auburn.edu/admin/universitypolicies/Policies/CodeofStudentDiscipline.pdf
Online netiquette: http://www.studygs.net/netiquette.htm

AU online Bookstore: http://www.aubookstore.com/pretextbooks.asp

AU digital library: http://diglib.auburn.edu/

AU library: http://www.lib.auburn.edu/

policies: https://sites.auburn.edu/admin/universitypolicies/default.aspx

Accessibility Link: https://fp.auburn.edu/disability/index.asp

Writing Center: https://fp.auburn.edu/writing/writingcenter.aspx

Canvas for Auburn: https://auburn.instructure.com/

Enhanced WebAssign: http://www.webassign.net/

(Indicate whether existing resources such as library materials, classroom/laboratory space, and faculty appointments are adequate to support the proposed addition/revision; if additional resources are required, indicate how such needs will be met, referencing the appropriate level of authorization -- i.e.: Dean -- where necessary; if no additional resources or shifting of resources will be necessary, respond "Not Applicable")

16. Student Learning Outcomes:
1. The student will show an understanding of functions including graphs, combining, inverses, and domains.
2. The student will be able to work with complex numbers in standard and polar form.
3. The student will use both exponential functions and logarithmic functions to model applications.
4. The student will be able to evaluate trigonometric functions and their inverses using right triangles and the unit circle.
5. The student will solve various triangles and associated applications.
6. The student will be able to prove trigonometric identities and use these to solve trigonometric equations.
7. The student will be able to convert to, and plot in polar coordinates.
8. The student will use vectors to solve applications.

(State in measurable terms (reflective of course level) what students should be able to do when they have completed this course)

17. Course Content Outline:
All assignments are due at the end of the week on Fridays.

Week 1
Introduction and Review
Sections 2.1-2.3: Functions and Graphs
Section 2.4: Average Rate of Change

Week 2
Section 2.5: Translations and Transformations
Section 2.6: Combining Functions
Section 2.7: Inverse Functions and One-to-One
Sections 3.5: Complex Numbers in Standard Form

Week 3
Sections 4.1-4.6: Exponential and Logarithmic Functions

Week 4
Section 6.1: Angles and Applications
Sections 6.2-6.3: Trigonometry using Special Triangles
Sections 5.1-5.2: Trigonometry using the Unit Circle

Week 5
Sections 5.3-5.4: Graphs of Trigonometric Functions
Sections 5.5, 6.4: Inverse Trigonometric Functions

Week 6
Sections 6.5-6.6: Laws of Sine and Cosine

Week 7
Sections 7.1-7.3: Proving Trigonometric Identities

Week 8
Sections 7.4-7.5: Trigonometric Equations

Week 9
Sections 8.1-8.3: Polar Coordinates and Polar Form

Week 10
Sections 9.1-9.2: Vectors

(Provide a comprehensive, week-by-week breakdown of course content, including assignment due dates)

18. Assignments / Projects:
The course will be set up in 3 components: modules, conference participation, and final exam.

Modules will be accessed through Enhanced WebAssign which is available with the text purchase. Each module will consist of practice homework, media assignments, and an exit examination. Modules are due at the end of the week. Module exams will be conducted online in a virtual testing environment (timed exam, browser lock-down, IP address lock).

Conference participation will be awarded for attending one of three online conferences per week. Conferences will be held through Canvas using Big Blue Button. These will be question and answer sessions in a small groups.

The final will be a paper-based comprehensive exam proctored on campus. It will be a multiple choice exam consisting of approximately 32 questions.

All communication will be conducted through Canvas with WebAssign communication as secondary. Students can contact the instructor through either. Grades will be posted in Canvas with a copy in WebAssign. By Summer 2014 / Fall 2014, WebAssign should be synced with Canvas.

(List all quizzes, projects, reports, activities and other components of the course grade -- including a brief description of each assignment that clarifies its contribution to the course’s learning objectives)
19. Rubric and Grading Scale:

Grades will be awarded based on the following.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modules (10 units)</td>
<td>50%</td>
</tr>
<tr>
<td>Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Final exam</td>
<td>40%</td>
</tr>
<tr>
<td><strong>Total Awarded</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%
F = 0-59%

[List all components of the course grade -- including attendance and/or participation if relevant -- with point totals for each; indicate point totals and ranges or percentages for grading scale; for S/U grading, detail performance expectations for a passing grade]

20. Justification for Graduate Credit:

(Include a brief statement explaining how the course meets graduate educational standards (i.e.: rigorous standards for evaluation, development of critical thinking and analytical skills, etc.))

(Included below are standard statements regarding course policies. If necessary, a statement may be altered to reflect the academic policies of individual faculty members and/or the academic unit or department, provided that there is no conflict with the Student Policy eHandbook, Faculty Handbook, or any existing university policy.)

POLICY STATEMENTS

Attendance: Although attendance is not required, students are expected to attend all classes, and will be held responsible for any content covered in the event of an absence.

Excused Absences: Students are granted excused absences from class for the following reasons: illness of the student or serious illness of a member of the student's immediate family, the death of a member of the student's immediate family, trips for student organizations sponsored by an academic unit, trips for university classes, trips for participation in intercollegiate athletic events, subpoena for a court appearance, and religious holidays. Students who wish to have an excused absence from class for any other reason must contact the instructor in advance of the absence to request permission. The instructor will weigh the merits of the request, and render a decision. When feasible, the student must notify the instructor prior to the occurrence of any excused absences, but in no case shall such notification occur more than one week after the absence. Appropriate documentation for all excused absences is required. Please consult the Student Policy eHandbook for more information on excused absences.

Make-Up Policy: Arrangement to make up a missed major examination (e.g.: hour exams, mid-term exams) due to properly authorized excused absences must be initiated by the student within one week of the end of the period of the excused absence(s). Except in unusual circumstances, such as the continued absence of the student or the advent of university holidays, a make-up exam will take place within two weeks of the date that the student initiates arrangements for it. Except in extraordinary circumstances, no make-up exams will be arranged during the last three days before the final exam period begins.

Academic Honesty Policy: All portions of the Auburn University student academic honesty code (Title XII) found in the Student Policy eHandbook will apply to university courses. All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee.

Disability Accommodations: Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternate time can be arranged. To set up this meeting, please contact me by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).
Approvals

Department Chair / Head

Date

College / School Curriculum Committee

Date

College / School Dean

Date

Dean of the Graduate School  (for Graduate Courses)

Date

Assoc. Provost for Undergraduate Studies  (for Undergraduate Courses)

Date

Contact Person: Regina Greiwe Jackson  Telephone: 4-4354
E-Mail Address: greiwrn@auburn.edu  Fax: 4-6555