Florida Institute of Technology

ADDING A NEW COURSE TO THE CURRICULUM

This course is available for student registration only after the approval process has been completed.

SUBJECT MTH COURSE NO.* 1 0 1 1 CREDIT HOURS 3 TERM TO BE ADDED TO THE CURRICULUM Fall 2014

*Justify level if 1000-level and no co- or prerequisites.

CLASS HOURS 8 hours LECTURE HOURS 8 hours LAB HOURS 4 hours CONTACT HOURS (CEU ONLY) 0

DEPARTMENT Mathematical Sciences

SCHEDULE TYPE Lecture/Lab (C)

☐ COLLEGE OF AERONAUTICS - 23
☐ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS - 25
☐ NATHAN M. BISK COLLEGE OF BUSINESS - 24
☐ COLLEGE OF SCIENCE - 26
☐ COLLEGE OF ENGINEERING - 1
☐ EXTENDED STUDIES / NATHAN M. BISK COLLEGE OF BUSINESS - 90

COMPANY TITLE Restricted to 25 characters, including spaces Precalculus A

Dual Prefix, Bi-Level, Full-Load? ☐ Yes ☐ No

CATALOG TITLE Precalculus A

CATALOG DESCRIPTION OF COURSE Restricted to 350 characters, including spaces

Includes a review of operations on real numbers, algebraic expressions, linear equations, inequalities, exponents, polynomials, factoring, rational functions, roots, radicals, quadratics, graphing and difference functions. (Requirement: Passing score on TMTH mathematics placement exam).

This description has been approved by the catalog office

Date

In addition, please attach a course syllabus and/or more detailed description.

RESTRICTIONS ☐ Prerequisite 0-16 TMTH PL exam ☐ Corequisite Course Number ☐ and ☐ or

☐ Prerequisite Course Number ☐ Corequisite Course Number ☐ and ☐ or

☐ Prerequisite Course Number ☐ Corequisite Course Number ☐ and ☐ or

GRADATES TO BE ISSUED

☐ A, B, C, D, F
☐ A, B, C, D, F, CEU/Audit
☐ CEU
☐ S, U
☐ P, F
☐ Other

ADDITIONAL RESTRICTION

(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT Alpha Prefix (e.g., CSI) COURSE NO. (e.g., 1301) TERM TO INACTIVATE

☐ Yes ☐ No Will this course be used to measure program-level student learning outcomes? Yes, review and signature required.**

☐ Yes ☐ No Will this course be used to satisfy the scholarly inquiry requirement? Yes, attach "Q" materials for review.

APPROVALS: On completion of description and course number verification, affix appropriate signatures as indicated, and submit completed form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval.

Originator

Date

Chair, Graduate Council

Date

Department Head/Program Chair

Date

Chair, Undergraduate Curriculum Committee

Date

**Associate Vice President for Institutional Effectiveness

REGISTRAR'S USE ONLY

SCGRSE SCACETL SCAPREQ SCABASE

SCABRES Operator Init. Date

REGR-IVR-1013
Florida Institute of Technology

ADDING A NEW COURSE TO THE CURRICULUM

This course is available for student registration only after the approval process has been completed.

SUBJECT M T H COURSE NO.* 1 0 1 2 CREDIT HOURS 3 TERM TO BE ADDED TO THE FILE Fall 2014

*Justify level if 1000-level+ and no co- or prerequisites.

CLASS HOURS 6/week LECTURE HOURS 1/week LAB HOURS 4/week CONTACT HOURS (CEU ONLY) 

DEPARTMENT Mathematical Sciences SCHEDULE TYPE Lecture/Lab (C)

☐ COLLEGE OF AERONAUTICS - 23 ☐ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS - 25
☐ NATHAN M. BISK COLLEGE OF BUSINESS - 24 ☐ COLLEGE OF SCIENCE - 26
☐ COLLEGE OF ENGINEERING - 1 ☐ EXTENDED STUDIES / NATHAN M. BISK COLLEGE OF BUSINESS - 90

COMPUTER TITLE Restricted to 25 characters, including spaces Precalculus B Dual- Prefix, Bl-Level, Full-Load? ☐ Yes ☐ No

CATALOG TITLE Precalculus B

CATALOG DESCRIPTION OF COURSE Restricted to 350 characters, including spaces

Includes exponential and logarithmic functions including properties and graphs, and trigonometric functions including properties and graphs, and inverses and identities.

This description has been approved by the catalog office.

Catalog Director

Date

In addition, please attach a course syllabus and/or more detailed description.

RESTRICTIONS ☐ Prerequisite MTH 1011 ☐ Corequisite Course Number ☐ and ☐ or Course Number

☐ Prerequisite MTH 1701 ☐ Corequisite Course Number ☐ and ☐ or Course Number

☐ Prerequisite Course Number ☐ Corequisite Course Number ☐ and ☐ or Course Number

ADDITIONAL RESTRICTION (e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT Alpha Prefix (e.g., CSE) COURSE NO. (e.g., 1101) TERM TO INACTIVATE

☐ Yes ☐ No Will this course be used to measure program-level student learning outcomes? If yes, review and signature required.**

☐ Yes ☐ No Will this course be used to satisfy the scholarly inquiry requirement? If yes, attach "Q" materials for review.

APPROVALS: On completion of description and course number verification, affix appropriate signatures as indicated, and submit completed form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval.

Originator 2/20/2014

Chair, Graduate Council 2/20/2014

Date Date

Department Head/President Chair 2/21/2014

Date Date

Dear or Associate Dean

Chair, Undergraduate Curriculum Committee 2/21/2014

Date Date

**Associate Vice President for Institutional Effectiveness

CATALOG DIRECTOR

These changes/additions have been made to the University Catalog and entered into the BANNER term named above.

Catalog Director

Date

REGISTRAR'S USE ONLY

SCARGSE SCADETL SCAPREQ SCABASE

SCARES Operator Init. Date

DISTRIBUTION

Original – Registrar
Copy – Academic Unit

Florida Institute of Technology • Office of the Registrar
150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7827

ROR-1023013
Florida Institute of Technology

CHANGING RESTRICTIONS
OR CREDITS IN A COURSE

The addition or removal of any restriction or change in credit hours in a course requires that this form, accompanied by any supporting documentation, be completed and approved as indicated below.

COLLEGE: College of Science
DEPARTMENT: Mathematical Sciences

REQUEST IS FOR CHANGE IN COURSE:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>MTH</th>
<th>1001</th>
<th>Calculus 1</th>
<th>Number</th>
<th>Course Title</th>
</tr>
</thead>
</table>

TO BE INCLUDED IN 2014-15 CATALOG AND EFFECTIVE IN THE BANNER SYSTEM FOR FALL 2014 TERM
Effective term must be a future term for which registration has not begun. Catalog years will be the next printed edition. Earlier terms will not be processed.

IS REQUEST FOR A CHANGE IN CREDITS FOR COURSE LISTED ABOVE? □ Yes ☒ No
If yes, current credits __________ requested credits __________

IS REQUEST TO CHANGE RESTRICTIONS FOR COURSE LISTED ABOVE? ☒ Yes □ No
If yes, please check all that apply:

☐ Add ☐ Remove ☒ Prerequisite ☐ Corequisite

Prefix | MTH | 1012 | Number |
|--------|-----|------|--------|

☐ Add ☐ Remove ☐ Prerequisite ☐ Corequisite

Prefix | Number |
|--------|--------|

☐ Add ☐ Remove ☐ Other Restrictions*
If yes, please list below:
*Other restrictions may include changing the grades applied to the course (P/F, S/U, A/E, C/E), majors or class levels restricted from registration, or other restrictions

MTH 1000 or MTH 1012

APPROVALS: Once appropriate department approvals are completed, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for signatures below and forward to Catalog Director.

1) [Signature] 11/30/14 Date
   [Name]
   Originator

2) [Signature] 11/30/14 Date
   [Name]
   Department Head/Program Chair

3) [Signature] 2/14/14 Date
   [Name]
   Dean or Associate Dean

CATALOG DIRECTOR'S USE ONLY

SCACRSSE: ___________________ SCADATEL: ___________________
SCAPREQ: ___________________
SCADASE: ___________________ SCARBRES: ___________________
Operator Initials: ___________________ Date: ___________________

DISTRIBUTION
Original – Registrar
Copy – Academic Unit

Florida Institute of Technology • Office of the Registrar
150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7527
PRECALCULUS A, PRELIMINARY

Instructor: TBD. Email: TBD
Lab Hours: Crawford 111, TBD
Teaching Assistants: TBD
Technical Support: Available at hawkeslearning.com and 1(800)426-9538

COURSE POLICIES

Meeting times: Each section will meet in a lecture on Mondays, time TBD in location TBD.

Attendance to the lecture sections and at least 3 additional lab hours per week under instructor supervision is mandatory. Completing the lab hours is the student's responsibility; the student should make note that when the lab is full, work cannot be done in the courseware and hence hours cannot be credited.

Academic Honesty: Any form of academic dishonesty will result in an failing grade for the course. For the complete text of Florida Tech's policy on academic dishonesty, cheating, and plagiarism, please see

http://www.fit.edu/current/plagiarism.pdf

In the event of an excused absence, a test or quiz may be made-up given acceptable written evidence.

If you know ahead of time that you will miss graded work, contact the instructor before the date and we can make arrangements for you to take the exam or quiz early.

Notes, outside materials, and electronic devices are typically not permitted on class tests and quizzes.

COURSE MATERIALS

Students are required to bring a notebook to lecture sections and to lab. The required materials are


The courseware is available for purchase and download from www.hawkeslearning.com, and includes the text materials; a physical book or ebook are also available there.
Grading Policy

Homework must be submitted through the Hawkes courseware system. It is highly encouraged to complete the practice mode before attempting homework and other assessments.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>10%</td>
</tr>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Tests</td>
<td>55%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

Grading Scale: A: 90 - 100; B: 80 - 89; C: 70 - 79; D: 60 - 69; F: below 60

Days for Assignment Submission:

Homework (Certify): Due Thursday by midnight
Tests & Quizzes: Due Friday, in lab during regular hours.

ADA Notice

This instructor provides accommodations for students with physical, cognitive, systemic learning, and psychiatric disabilities in accordance with the Americans with Disabilities Act. Students need to contact the instructor at the beginning of the semester to discuss any such accommodations that they may require for this course.

Syllabus

Topic Outline.
- Review of operations on real numbers and algebraic expressions
- Linear equations
- Inequalities
- Exponents
- Polynomials & Factoring
- Rational functions
- Roots & radicals
- Quadratics
- Graphing
- Difference functions

Tentative Assignment Schedule. • IMA: 1.3a: Introduction to Absolute Values • IMA: 1.3c: Order of Operations • IMA: 1.4a: Simplifying Expressions • IMA: 1.4c: Solving Absolute Value Equations • IMA: 1.5b: Solving Formulas • IMA: 1.7b: Solving Absolute Value Inequalities • PC: 2.1: The Cartesian Coordinate System • PC: 2.2: Linear Equations
in Two Variables • IMA: 2.1b: Graphing Linear Equations by Plotting Points • IMA: 2.2: Graphing Linear Equations in Slope-Intercept Form • IMA: 2.3a: Finding the Equation of a Line • PC: 2.6: Introduction to Circles • PC: 3.1: Relations and Functions • PC: 3.3: Other Common Functions • PC: 3.4: Variation and Multi-Variable Functions • PC: 3.6: Combining Functions • IMA: 2.5: Graphing Linear Inequalities • IMA: 3.1a: Solving Systems of Linear Equations by Graphing • IMA: 3.1b: Solving Systems of Linear Equations by Substitution • IMA: 3.1c: Solving Systems of Linear Equations by Adding • IMA: 4.1b: Simplifying Integer Exponents II • PC: 4.1: Introduction to Polynomial Equations and Graphs • IMA: 4.2b: Adding and Subtracting Polynomials • IMA: 4.3a: Multiplying Polynomials • PC: 4.2 Polynomial Division and the Division Algorithm • PC: 3.2a: Linear and Quadratic Functions • IMA: 4.6b: Factoring Trinomials by the ac-Method • IMA: 4.7a: Special Factorizations - Squares • IMA: 4.7b: Special Factorizations - Cubes • IMA: 4.8: Solving Equations by Factoring • IMA: 7.2: Quadratic Equations: The Quadratic Formula • IMA: 5.1b: Multiplication and Division with Rational Expressions • IMA: 5.2: Addition and Subtraction with Rational Expressions • PC: 4.5: Rational Functions and Rational Inequalities • IMA: 6.1b: Simplifying Radicals • IMA: 6.2: Rational Exponents • IMA: 6.3a: Addition and Subtraction with Radicals • IMA: 6.3b: Multiplication with Radicals • IMA: 6.3c: Rationalizing Denominators • IMA: 6.4: Solving Radical Equations • IMA: 7.4: Equations in Quadratic Form

The instructor is responsible for communicating any schedule changes via in-class announcements and also ANGEL e-mails. Students are responsible for attending class and checking e-mail so that they are aware of any changes.
PRECALCULUS B, PRELIMINARY

Instructor: TBD. Email: TBD
Lab Hours: Crawford 111, TBD
Teaching Assistants: TBD
Technical Support: Available at hawkeslearning.com and 1(800)426-9538

COURSE POLICIES

Meeting times: Each section will meet in a lecture on Mondays, time TBD in location TBD.

Attendance to the lecture sections and at least 3 additional lab hours per week under instructor supervision is mandatory. Completing the lab hours is the student’s responsibility; the student should make note that when the lab is full, work cannot be done in the courseware and hence hours cannot be credited.

Academic Honesty: Any form of academic dishonesty will result in an failing grade for the course. For the complete text of Florida Tech’s policy on academic dishonesty, cheating, and plagiarism, please see
http://www.fit.edu/current/plagiarism.pdf
In the event of an excused absence, a test or quiz may be made-up given acceptable written evidence.
If you know ahead of time that you will miss graded work, contact the instructor before the date and we can make arrangements for you to take the exam or quiz early.
Notes, outside materials, and electronic devices are typically not permitted on class tests and quizzes.

COURSE MATERIALS

Students are required to bring a notebook to lecture sections and to lab. The required material is


The courseware is available for purchase and download from www.hawkeslearning.com, and includes the text materials; a physical book or ebook are also available there. Your access from Precalculus A will continue to allow you access to course materials.
Grading Policy

Homework must be submitted through the Hawkes courseware system. It is highly encouraged to complete the practice mode before attempting homework and other assessments.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage of Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>10%</td>
</tr>
<tr>
<td>Homework</td>
<td>15%</td>
</tr>
<tr>
<td>Tests</td>
<td>55%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>20%</td>
</tr>
</tbody>
</table>

Grading Scale: A: 90 100; B: 80 89; C: 70 79; D: 60 69; F: below 60

Days for Assignment Submission:

Homework (Certify): Due Thursday by midnight

Tests & Quizzes: Due Friday, in lab during regular hours.

ADA Notice

This instructor provides accommodations for students with physical, cognitive, systemic learning, and psychiatric disabilities in accordance with the Americans with Disabilities Act. Students need to contact the instructor at the beginning of the semester to discuss any such accommodations that they may require for this course.

Syllabus

Topic Outline.

- Exponential functions, properties and graphs
- Logarithmic functions, properties and graphs
- Trigonometric functions, properties and graphs
- Trigonometric functions, inverses, identities.

Tentative Assignment Schedule. • 3.7: Inverse Functions • 5.1: Exponential Functions and their Graphs • 5.3: Logarithmic Functions and their Graphs • 5.4: Properties and Applications of Logarithms • 5.5: Exponential and Logarithmic Equations • 6.1: Radians and Degree Measure of Angles • 6.2: Trigonometric Functions of Acute Angles • 6.3: Trigonometric Functions of Any Angle • 6.4: Graphs of Trigonometric Functions • 6.5: Inverse Trigonometric Functions • 7.1: Fundamental Identities and Their Uses • 7.2: Sum and Difference Identities • 7.3: Product - Sum Identities • 7.4: Trigonometric Equations
The instructor is responsible for communicating any schedule changes via in-class announcements and also ANGEL e-mails. Students are responsible for attending class and checking e-mail so that they are aware of any changes.