TRIGONOMETRY
2.0 CREDIT HOURS

Semester/year: Spring 2007
Instructor: Paul E. Morgan
Office Location: Shields 206-B
Office Hours: 9:00 – 10:00 am
E-Mail Address: pmorgan@csi.edu
Office Phone: 208-732-6821

COURSE DESCRIPTION
This course includes right triangle and circular function approaches to trigonometry; graphs of trigonometric functions; trigonometric identities; conditional equations; right and non-right triangle applications of trigonometry; inverse trigonometric functions; trigonometry of complex numbers, including DeMoivre’s Theorem; polar coordinates and equations; and parametric equations.

PRE-REQUISITE
Math 143 with a “C” or higher,
or Compass Test (College Algebra: 52 – 99), or ACT (score ≥ 27)

REQUIRED TEXTBOOKS AND SUPPLIES
A graphing calculator, such as the TI-83+ or TI-84+ is recommended.
Graph paper may be found at http://www.mathematicshelpcentral.com/.

COLLEGE OF SOUTHERN IDAHO MISSION STATEMENT
The College of Southern Idaho, a comprehensive community college, provides educational, social and cultural opportunities for a diverse population of South Central Idaho. In this rapidly changing world, CSI encourages our students to lead enriched, productive and responsible lives.

COURSE OBJECTIVES
Students who successfully complete Math 144 will have a strong understanding of the topics listed under Course Description. This class prepares students for subsequent classes listing Trigonometry as a prerequisite.

OUTCOMES ASSESSMENT
1. The students will have achieved the course objectives when they successfully demonstrate their understanding of the course content by completing homework assignments, completing individual or group projects that involve real-world situations, develop solutions to application problems, and communicate solutions to problems. The course content includes:
a. Trigonometric and circular functions
b. Graphs of trigonometric functions
c. Trigonometric identities and equations
d. Inverse trigonometric functions
e. Applications of trigonometric functions, including vectors and complex numbers
f. Polar coordinates
2. Success will be measured by homework presentations, regular exams and a comprehensive final exam.

3. As part of departmental analysis of outcomes in this course and its place in the Mathematics program, student completion of the pre-requisite, success in the current course, success in subsequent courses and student satisfaction will be reviewed by the instructor. A report containing this information will be submitted by department faculty to determine what, if any, changes can be made to improve the course in terms of content, focus, and instruction.

ON-LINE COURSE EVALUATION:
Students are strongly encouraged to complete evaluations at the end of the course. Evaluations are very important to assist the teaching staff to continually improve the course. Evaluations will be available online during the last two weeks of the course at http://evaluation.csi.edu. The last day to complete an evaluation is the last day of the course. During the time the evaluations are open, students can complete the course evaluations at their convenience from any computer with Internet access, including in the open lab in the Library and in the SUB. When students log in they should see the evaluations for the courses in which they are enrolled. Evaluations are anonymous. Your honest feedback is greatly appreciated.

POLICIES AND PROCEDURES
1. EXAM POLICY: If an emergency arises and you cannot attend an exam, you must contact me via voice mail at 732-6821 or e-mail at pmorgan@csi.edu. Regular exams will be given at the Campus Testing Center in the Meyerhoeffer Building, Room 230. The Twin Falls Center is open Wednesday and Thursday: 8:00 AM – 9:30 PM; and Monday, Tuesday, and Friday: 8:00 AM – 4:30 PM. You must have a photo ID and arrive at least one hour before closing times. Chapter exams may include questions from material in chapters that have already been tested. The lowest exam score may be replaced by the score of your Final Exam. The Final Exam will be given in the classroom.

2. CHEATING POLICY: Cheating is unacceptable. Students caught cheating will be assigned 0 points for that exercise or test. A pattern of cheating may be grounds for dismissal from the course.

3. HOMEWORK POLICY: Homework will be assigned during most class sessions and is due at the beginning of the next class session. Each assignment must be on separate pages. I will not accept papers that include two or more assignments on the same page. Approximately 13 assignments will be chosen and collected for grading; late homework will not be accepted. Each page must have your name and the exercise section number on it. Homework should include the work and not just be a list of answers. Credit may not be given if work is not shown.

4. ATTENDANCE POLICY: The instructor will drop a student from the course if the student misses more than four classes. Part of the process of learning is participation in the classroom; thus, to miss the class discussion is to fail one goal of the class.

Paul E Morgan
5. **STUDENT BEHAVIOR STATEMENT:** Please refer to the College Of Southern Idaho Catalog online at [www.csi.edu](http://www.csi.edu), under OTHER POLICIES, on pages 16-17 of the College of Southern Idaho 2006-2007 Catalog.

6. **COMPUTER LITERACY:** Please refer to the College Of Southern Idaho Catalog online at [www.csi.edu](http://www.csi.edu), under Computer Literacy, in the section, “Degree and Certificate Requirements” on page 24 of the College of Southern Idaho 2006-2007 Catalog.

7. **PROGRESS REPORTS:**
   a. If a student’s progress is unsatisfactory as indicated by lack of attendance, poor test scores, incomplete or poor homework, or classroom behavior, the instructor may institute the PASS (Positive Action for Student Success) Program and alert the Advising Center of the difficulties. A letter may be sent to the student with the intent to provide the student with the resources necessary to be successful in the class. This is the “early alert” system.

   b. If a student continues to have difficulties through the course, the instructor may institute the SMART (Students Making A Right Turn) program which aims at contacting students who may need a “wake up” alert in making academic decisions before its too late in the semester. These “wake up” red flags may arise from a broad spectrum of issues: attendance, coursework, classroom behavior, and other factors impeding the student’s success at CSI. The intent of this “late alert” program is to develop positive student/teacher communication in order to map out a course of action for student achievement and success, *before the last day to drop.*

8. **LEARNING ASSISTANCE RESOURCES:** Videotapes and/or DVDs for Math 144 are available and may be checked out from the CSI Library at the main desk. The Twin Falls Campus Math Lab, with faculty and student tutors, is in the Shields Building, Room 207. You may request additional tutoring through the Learning Center Coordinator in the Meyerhoeffer Building, Room 202.

9. **STUDENTS WITH DISABILITIES:** Any student with a documented disability may be eligible for related accommodations. To determine eligibility and secure services, students should contact the coordinator of Disability Services at their first opportunity after registration for a class. Appointments may be made or more information is available at (208) 732-6254 (voice) or (208) 734-9929 (TDD), or e-mail aflannery@csi.edu. Please refer to the College Of Southern Idaho Catalog online at [www.csi.edu](http://www.csi.edu), under STUDENT DISABILITY SERVICES, in the section, “STUDENT SERVICES” on page 18 of the College of Southern Idaho 2006-2007 Catalog.

10. **STUDENT EMAIL:** The official means of communication between CSI and students is via the student email account. Messages may be sent throughout the semester to the student’s CSI email address; students will be expected to check the account regularly.
11. **GRADING**

4 regular exams worth 100 points each  
Homework worth 100 points total  
Comprehensive final exam worth 200 points  

Grades are computed by adding up total points for all exams and homework and dividing the sum by the total possible number of points. This is converted to percent. Your letter grade is determined according to the following table:

<table>
<thead>
<tr>
<th>Percent</th>
<th>Grade</th>
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<tbody>
<tr>
<td>90 - 100</td>
<td>A</td>
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<tr>
<td>80 - 89</td>
<td>B</td>
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<td>70 - 79</td>
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<td>60 - 69</td>
<td>D</td>
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<tr>
<td>0 - 59</td>
<td>F</td>
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### COURSE OUTLINE WITH ASSIGNMENTS AND EXAMS

**THIS SYLLABUS IS TENTATIVE AND IS SUBJECT TO CHANGE**

<table>
<thead>
<tr>
<th>DAY</th>
<th>DATE</th>
<th>CONTENT</th>
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| Monday    | June 4   | Course Introduction, Syllabus  
**Chapter One**, “Graphs, Functions, and Models”, review  
Pre-course evaluation.  |
| Tuesday   | June 5   | **Chapter Two**  
Section 2.1, “The Trigonometric Ratios”, p. 112  
Exercises 2.1, pp. 121-122, Problems 5-85, divisible by 5  |
| Wednesday | June 6   | Section 2.2, “Applications of Right Triangles”, p. 123  
Exercises 2.2, pp. 128-132, Problems 3-42, divisible by 3  |
| Thursday  | June 7   | Section 2.3, “Trigonometric Functions of Any Angle”, p. 132  
Exercises 2.3, pp. 144-146, Problems 7-112, divisible by 7  |
| Monday    | June 11  | Section 2.4, “Radians, Arc Length, and Angular Speed”, p. 147  
Exercises 2.4, pp. 157-161, Problems 5-70, divisible by 5  |
| Tuesday   | June 12  | Section 2.5, “Circular Functions: Graphs and Properties”, p. 161  
Exercises 2.5, pp. 175-177, Problems 3-42, divisible by 3  |
| Wednesday | June 13  | Section 2.5, “Circular Functions: Graphs and Properties”, (continued)  
Exercises 2.5, pp. 175-177, Problems 45-84, divisible by 3  |
| Thursday  | June 14  | Section 2.6, “Graphs of Transformed Sine and Cosine Functions”, p. 178  
Exercises 2.6, pp. 189-192, Problems 7-77, divisible by 7  |
| Monday    | June 18  | Review for Exam 1  |
| **Monday** | June 18  | **Exam 1 – Chapters 1 & 2**  |
| **Tuesday** | June 19  | (Campus Testing Center)  |
| **Tuesday** | June 19  | **Chapter Three**  
Section 3.1, “Identities: Pythagorean and Sum and Difference”, p. 198  
Exercises 3.1, pp. 209-211, Problems 7-98, divisible by 7  |
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<thead>
<tr>
<th>DAY</th>
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<tr>
<td>Wednesday</td>
<td>June 20</td>
<td>Section 3.2, “Identities: Cofunction, Double-Angle, and Half-Angle”, p. 211</td>
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<td>Exercises 3.2, pp. 218-219, Problems 3-48, divisible by 3</td>
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<td>Thursday</td>
<td>June 21</td>
<td>Section 3.3, “Proving Trigonometric Identities”, p. 220</td>
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<td>Exercises 3.3, pp. 224-225, Problems 3-48, divisible by 3</td>
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<td>Monday</td>
<td>June 25</td>
<td>Section 3.4, “Inverses of the Trigonometric Functions”, p. 226</td>
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<td>Exercises 3.4, pp. 235-236, Problems 7-77, divisible by 7</td>
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<td>Tuesday</td>
<td>June 26</td>
<td>Section 3.5, “Solving Trigonometric Equations”, p. 237</td>
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<td>Exercises 3.5, pp. 246-248, Problems 5-65, divisible by 5</td>
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<td>Wednesday</td>
<td>June 27</td>
<td>Review for Exam 2</td>
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<td>Wednesday</td>
<td>June 27</td>
<td>Exam 2 – Chapter 3</td>
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<tr>
<td>Thursday</td>
<td>June 28</td>
<td>(Campus Testing Center)</td>
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<td>Thursday</td>
<td>June 28</td>
<td>Chapter Four</td>
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<td>Section 4.1, “The Law of Sines”, p. 254</td>
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<td>Exercises 4.1, pp. 264-265, Problems 3-39, divisible by 3</td>
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<td>Monday</td>
<td>July 2</td>
<td>Section 4.2, “The Law of Cosines”, p. 266</td>
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<td>Exercises 4.2, pp. 272-275, Problems 3-45, divisible by 3</td>
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<td>Tuesday</td>
<td>July 3</td>
<td>Section 4.3, “Introduction to Complex Numbers”, p. 275</td>
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<td>Exercises 4.3, p. 281, Problems 3-54, divisible by 3</td>
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<td>Wednesday</td>
<td>July 4</td>
<td>Independence Day, No Class</td>
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<tr>
<td>Thursday</td>
<td>July 5</td>
<td>Section 4.4, “Complex Numbers: Trigonometric Form”, p. 282</td>
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<td>Exercises 4.4, pp. 291-293, Problems 7-91, divisible by 7</td>
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<td>Monday</td>
<td>July 9</td>
<td>Section 4.5, “Vectors and Applications”, p. 293</td>
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<td>Exercises 4.5, pp. 299-301, Problems 3-48, divisible by 3</td>
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| Tuesday | July 10 | Section 4.6, “Vector Applications”, p. 301  
Exercises 4.6, pp. 312-315, Problems 3-48, divisible by 3 |
| Wednesday | July 11 | Section 4.6, “Vector Applications”, (continued)  
Exercises 4.6, pp. 312-315, Problems 51-99, divisible by 3 |
| Thursday | July 12 | Review for Exam 3                                                        |
| Thursday through Friday | July 12-13 | Exam 3 – Chapter 4                                                     |
| Friday  | July 13 | (Campus Testing Center)                                                  |
| Monday  | July 16 | Chapter Five  
Review of Conic Sections  
Handout |
| Tuesday | July 17 | Section 5.6, “Polar Coordinates and Graphs”, p. 366  
Exercises 5.6, pp. 373-374, Problems 7-91, divisible by 7 |
| Wednesday | July 18 | Section 5.7, “Polar Equations of Conic”, p. 374  
Exercises 5.7, p. 381, Problems 3-54, divisible by 3 |
| Thursday | July 19 | Section 5.8, “Parametric Equations and Graphs”, p. 382  
Exercises 5.8, pp. 388-389, Problems 3-48, divisible by 3 |
| Monday  | July 23 | Review for Exam 5                                                        |
| Monday through Tuesday | July 23-24 | Exam 4 – Chapter 5                                                     |
| Tuesday | July 24 | (Campus Testing Center)                                                  |
| Tuesday | July 24 | Review for Final Exam                                                    |
| Wednesday | July 25 | FINAL EXAM (I): Shields 203  
Wednesday, June 25th  
11:30 – 12:20 |
| Thursday | July 26 | FINAL EXAM (II): Shields 203  
Thursday, June 26th  
11:30 – 12:20 |