COLLEGE OF THE MARSHALL ISLANDS  
COURSE OUTLINE COVER SHEET

CIP No. 27.0102  
MATH 121  
Alpha Number

Course Title  
College Trigonometry

Course Description  
Designed for students interested in pursuing other courses in mathematics, sciences, or engineering. Develops proficiency in trigonometry and its underlying concepts. Relies on technology and critical thinking in solving and analyzing real world problems.

Course prepared by:  
Mathematics Department  
September 2003

<table>
<thead>
<tr>
<th>Lecture</th>
<th>Hours per Week</th>
<th>Number of Weeks</th>
<th>Total Hours</th>
<th>Credits</th>
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<td></td>
<td>4</td>
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| Laboratory |               |                 |             |         |
| Clinical   |               |                 |             |         |
| Seminar    |               |                 |             |         |
| Field      |               |                 |             |         |

Total Credit Hours 4

Purpose of Course:  
Degree Requirement  
Degree Elective X  
General Education  
Certification  
Developmental  
Community Education  
Other

Prerequisite(s)  
MATH 111 and Permission of the Instructor

Signature, Curriculum Committee Chairperson  
8/6/15

Signature, Dean of Academic Affairs  
8/6/15

Signature, Vice President of Academic and Student Affairs  
8/6/15

Last Date reviewed or revised: April 2015
I. **College Trigonometry**  
**Course Title** MATH 121  
**Alpha Number**

II. **Course Objectives**

A. **General Learning Outcomes**

The student will:

1. Use algebraic principles (LA 3, 4)
2. Utilize principles of angle measure, arc length, and triangle trigonometry (LA 1, 4)
3. Generate and interpret the graphs of selected trigonometric functions (LA 1, 3)
4. Verify and utilize trigonometric identities (LA 3, 4)
5. Use technology in solving real world problems (LA 5)

B. **Student Learning Outcomes**

Upon completion of this course, the student will be able to:

1. Evaluate selected functions by determining their domains, ranges, and zeros, and if an inverse function exists, determine this inverse function both algebraically and graphically
2. Solve real world problems involving angles of elevation and declination, vector applications, and physics of motion
3. Identify the domain, range, asymptotes, and vertical and horizontal phase shifts of selected trigonometric functions
4. Derive and prove trigonometric identities, and apply trigonometric identities to solve trigonometric equations
5. Utilize and apply technology to solve real world problems

III. **Course Content**

This course provides the student practical applications and approaches to real world situations using trigonometry.

1. College algebra review
2. Angles in degrees and radians, arc length, unit circle
3. Right triangle trigonometry
4. Graphs of trigonometric functions
5. Inverse trigonometric functions
6. Trigonometric identities
7. Solving trigonometric equations
8. Law of sines and cosines
9. Vector applications
10. Applications and models