Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should not be used to purchase course materials.
COURSE SYLLABUS

MATH 112
TECHNICAL MATHEMATICS

COURSE DESCRIPTION
Technical Mathematics presents a review of arithmetic, elements of algebra, geometry, trigonometry, and vectors. Direct applications are made to technical study areas. Only fulfills General Education requirements for AAS degrees.

RATIONALE
This course is an overview of the mathematical skills and applications used in various technical and trade fields. The purpose is to provide the student the knowledge needed to calculate proficiently in the technical and trades environment.

I. PREREQUISITE
For information regarding prerequisites for this course, please refer to the Academic Course Catalog.

II. REQUIRED RESOURCE PURCHASE
Click on the following link to view the required resource(s) for the term in which you are registered: http://bookstore.mbsdirect.net/liberty.htm

III. ADDITIONAL MATERIALS FOR LEARNING
A. Computer with basic audio/video output equipment
B. Internet access (broadband recommended)
C. Microsoft Office

IV. MEASURABLE LEARNING OUTCOMES
Upon successful completion of this course, the student will be able to:
A. Perform the basic arithmetic operations and be able to solve word problems.
B. Use mathematics to solve problems in electricity, HVAC, welding, plumbing, and carpentry.
C. Apply concepts of algebra and their use in formulas related to occupational areas of study.
D. Recognize the techniques of measurement in the English and metric systems.
E. Apply geometric terms with particular emphasis on being able to find areas of polygons, circles, and volumes of solids.
F. Solve problems involving right triangles using trigonometry.

V. \textbf{COURSE REQUIREMENTS AND ASSIGNMENTS}

A. Textbook readings and lecture presentations

B. Course Requirements Checklist

After reading the Course Syllabus and \textbf{Student Expectations}, the student will complete the related checklist found in Module/Week 1.

C. Discussion Board Forums (2)

There will be 2 Discussion Board Forums in this course. Discussion boards are collaborative learning experiences. Therefore, the student is required to provide a thread in response to the provided prompt for each forum. Each thread must: be at least 250 words, incorporate a minimum of 1 Scripture reference, and use good examples. In addition to the thread, the student is required to reply to 2 other classmates’ threads. Each reply must be at least 150 words and must incorporate a minimum of 1 Scripture reference.

D. Homework (6)

Using the MyMathLab software, the student will complete 6 homework assignments in this course. The assigned homework exercises are available through MyMathLab. A score of at least 80% must be attained on the homework assignments in order to engage in the subsequent quizzes and tests. These exercises will be completed using \textbf{MyMathLab}.

E. Quizzes (5)

Using the MyMathLab software, the student will complete 5 quizzes in this course. Each quiz will be open-book/open-notes and will contain multiple-choice and short answer questions ranging from fact recall to the application of course material. Each quiz may be taken up to 2 times. Before the second attempt, the student must complete the review assignment and receive a score of at least 85%. *Both attempts must be completed by the deadline of the corresponding module/week. The quizzes will be completed using \textbf{MyMathLab}.

F. Reviews (3)

Using the MyMathLab software, the student will complete a review prior to each Test and the Final Exam. For each test/exam, the student must first take a 2-part test/exam review and earn a score of at least 80% on the second part. The first part of the review, which is set up similar to a quiz, determines which areas you may need to strengthen; the second customized part requires you to work on those areas. The test/exam will remain inaccessible until this minimum score is reached. The reviews will be completed using \textbf{MyMathLab}.

G. Tests (2)

Using the MyMathLab software, the student will take 2 tests throughout the course. Tests are based on the reading, presentations, and homework assignments. The Tests will be completed using \textbf{MyMathLab}.
H. Final Exam

The student will complete a comprehensive Final Exam in MyMathLab. Before the Final Exam, you are required to complete the Final Exam Review and receive a score of at least 80% on the second part of the review. The Final Exam will be completed using MyMathLab.

VI. COURSE GRADING AND POLICIES

A. Points

<table>
<thead>
<tr>
<th>Item</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Requirements Checklist</td>
<td>10</td>
</tr>
<tr>
<td>Discussion Board Forums</td>
<td>30</td>
</tr>
<tr>
<td>Homework (6 at 30 pts ea)</td>
<td>180</td>
</tr>
<tr>
<td>Quizzes (5 at 40 pts ea)</td>
<td>200</td>
</tr>
<tr>
<td>Reviews (3 at 30 pts ea)</td>
<td>90</td>
</tr>
<tr>
<td>Test 1 (Modules 1–3)</td>
<td>150</td>
</tr>
<tr>
<td>Test 2 (Modules 4–5)</td>
<td>150</td>
</tr>
<tr>
<td>Final Exam (Modules 1–8)</td>
<td>200</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1010</strong></td>
</tr>
</tbody>
</table>

B. Scale

A = 900–1010  B = 800–899  C = 700–799  D = 600–699  F = 0–599

C. Late Assignment Policy

If the student is unable to complete an assignment on time, then he or she must contact the instructor immediately by email.

Assignments that are submitted after the due date without prior approval from the instructor will receive the following deductions:

1) Late assignments submitted within one week of the due date will receive a 10% deduction. Assignments submitted beyond the one week grace period will receive a zero.

2) Assignments submitted after the final date of the course will not be accepted.

3) Late Discussion Board threads or replies will not be accepted.

Special circumstances (e.g. death in the family, personal health issues) will be reviewed by the instructor on a case-by-case basis.

D. Disability Assistance

Students with a documented disability may contact Liberty University Online’s Office of Disability Academic Support (ODAS) at LUOODAS@liberty.edu to make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.
# Course Schedule

**MATH 112**


<table>
<thead>
<tr>
<th>Module/Week</th>
<th>Reading &amp; Study</th>
<th>Assignments</th>
<th>Points</th>
</tr>
</thead>
</table>
| 1           | Carman & Saunders: chs. 1–3 1 presentation | Course Requirements Checklist  
Class Introductions  
Homework 1  
Quiz 1 | 10  
0  
30  
40 |
| 2           | Carman & Saunders: chs. 4–5 1 presentation | DB Forum 1  
Homework 2  
Quiz 2 | 15  
30  
40 |
| 3           | Carman & Saunders: chs. 1–5 summaries 1 presentation | Test 1 Review  
Test 1 | 30  
150 |
| 4           | Carman & Saunders: ch. 6, 7 (1–4) 1 presentation | Homework 3  
Quiz 3 | 30  
40 |
| 5           | Carman & Saunders: ch. 7 (5–8) 1 presentation | Homework 4  
Test 2 Review  
Test 2 | 30  
30  
150 |
| 6           | Carman & Saunders: chs. 8–9 1 presentation 1 website | DB Forum 2  
Homework 5  
Quiz 4 | 15  
30  
40 |
| 7           | Carman & Saunders: ch. 10 1 presentation | Homework 6  
Quiz 5 | 30  
40 |
| 8           | Carman & Saunders: chs. 1–10 summaries 1 presentation | Final Exam Review  
Final Exam | 30  
200 |

**Total** 1010

DB = Discussion Board
NOTE: Each course module/week (except Module/Week 1) begins on Tuesday morning at 12:00 a.m. (ET) and ends on Monday night at 11:59 p.m. (ET). The final module/week ends at 11:59 p.m. (ET) on Friday.