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 114
QUANTITATIVE REASONING

COURSE DESCRIPTION
Applying mathematical tools and analysis to practical context, particularly focusing on using proportions and ratios. Basic statistical tools are developed and employed, including graphs, descriptive statistics, the normal curve, the basics of inferential reasoning and investigating correlation. Financial applications are particularly emphasized, as is the use of spreadsheets.

RATIONALE
MATH 114 is designed to help the student use mathematics to accurately apply numerical information. The student will learn critical thinking skills, particularly with sophisticated applications of rudimentary mathematical ideas to numerical contexts of everyday life. This is not just in the financial realm, but also other areas where quantitative data is prevalent (from medical studies to energy usage to academic achievement).

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. RECOMMENDED RESOURCE

*Note: This package includes BOTH the MyMathLab Access Code and a print version of the text. If you desire to have a print version of the text, purchase this package and DO NOT purchase the access code separately.

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

V. MEASURABLE LEARNING OUTCOMES
Upon successful completion of this course, the student will be able to:
A. Utilize graphical displays to make accurate conclusions.
B. Formulate solutions to practical applications using ratios and proportions.
C. Apply fundamental mathematical concepts and formulas to financial questions regarding investments, comparative costs, and related applications.
D. Compute basic statistical quantities for correct analysis of data sets.
E. Construct spreadsheets that employ formulas to derive numerical results.
F. Analyze real-world situations involving mathematical data and make decisions accordingly.

VI. COURSE REQUIREMENTS AND ASSIGNMENTS
A. Textbook readings and lecture presentations/notes
B. Course Requirements Checklist
   After reading the Course Syllabus and Student Expectations, the student will complete the related checklist found in Module/Week 1.
C. Discussion Board Forums (2)
   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 200 words and demonstrate course-related knowledge. In addition to the thread, the student is required to reply to 2 other classmates’ threads. Each reply must be at least 50 words.
D. Homework (8)
   The student will complete a homework assignment each module/week in the MyMathLab that is associated with the course textbook. Assignments will typically consist of a few Excel-based questions and several multiple-choice questions, or questions that require numerical answers. Typically, assignments will cover 2–3 sections from the textbook, but this will vary depending on the length and difficulty of each section included in the assignment.
E. Projects (2)
   These projects will apply course concepts to real-life situations and further explore topics introduced in the text. Projects will also incorporate spreadsheet tasks to further develop the student’s ability to utilize this tool to investigate mathematical questions.
F. Core Competency Quiz
At the end of the course, the student will complete a MyMathLab quiz that consists of questions pulled from previous assignments. These questions will be selected strategically for their value in assessing how effectively Liberty University is meeting the stated core competencies in the area of mathematics.

G. Tests (4)
Each test will cover the Reading & Study material for two modules/weeks: the material assigned during the test module/week and the material from the previous module/week. Tests are not cumulative. Each test will be open-book/open-notes, contain 20 multiple-choice and short answer questions, and have a 2-hour and 45-minute time limit. These tests will be completed in the MyMathLab that is associated with the course textbook.

VII. COURSE GRADING AND POLICIES

A. Points

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course Requirements Checklist</td>
<td>10</td>
</tr>
<tr>
<td>Discussion Board Forums (2 at 40 pts ea)</td>
<td>80</td>
</tr>
<tr>
<td>Homework (8 at 40 pts ea)</td>
<td>320</td>
</tr>
<tr>
<td>Projects (2 at 40 pts ea)</td>
<td>80</td>
</tr>
<tr>
<td>Core Competency Quiz</td>
<td>20</td>
</tr>
<tr>
<td>Tests (4 at 125 pts ea)</td>
<td>500</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. Disability Assistance

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

**MATH 114**


<table>
<thead>
<tr>
<th>Module/Week</th>
<th>Reading &amp; Study</th>
<th>Assignments</th>
<th>Points</th>
</tr>
</thead>
</table>
| 1           | Gaze: Sections 1.1–1.3  
1 presentation | Course Requirements Checklist  
Class Introductions  
DB Forum 1  
Homework 1 | 10  
0  
40  
40 |
| 2           | Gaze: Sections 1.4–2.1  
1 presentation | Homework 2  
Test 1 | 40  
125 |
| 3           | Gaze: Sections 2.3–2.4  
1 presentation | Homework 3  
Project 1 | 40  
40 |
| 4           | Gaze: Sections 2.5–3.1  
1 presentation | Homework 4  
Test 2 | 40  
125 |
| 5           | Gaze: Sections 3.2–3.4  
1 presentation | DB Forum 2  
Homework 5 | 40  
40 |
| 6           | Gaze: Sections 3.5–4.3  
1 presentation | Homework 6  
Test 3 | 40  
125 |
| 7           | Gaze: Sections 4.4–5.2  
1 presentation | Homework 7  
Project 2 | 40  
40 |
| 8           | Gaze: Sections 5.3–6.2  
1 presentation | Homework 8  
Core Competency Quiz  
Test 4 | 40  
20  
125 |

**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**.