| COURSE TITLE | MCS 1224 Math Analysis 2  
| BLACKBOARD SITE | Spring 2012 – [http://my.ltu.edu](http://my.ltu.edu) and select CRN 3992 |
| INSTRUCTOR | Bashkim Zendeli  
| | Lawrence Technological University  
| | Contact Information  
| | bzendeli@ltu.edu  
| | 248.204.3519  
| | Office: S-123B  
| | 248.204.3519 |
| SCHEDULE | Jan 2012 – May 2012  
| LEVEL/ HOURS | Undergraduate Degree / 4 credit hours  
| PREREQUISITE | Admission / prerequisite requirements |
| REQUIRED TEXT | Calculus for Business, Economics, Life Sciences, and Social Sciences, 12Ed  
| | ISBN# 978-0321-709-011  
| | Raymond A. Barnett, Merritt College  
| | Michael R. Ziegler, Marquette University  
| | Karl E. Byleen, Marquette University |
| ADDITIONAL RESOURCES | LTU Online student resources: [http://www.ltu.edu/ltuonline/](http://www.ltu.edu/ltuonline/) |
| TECHNICAL SUPPORT | Technical support for using Blackboard is provided by the Helpdesk. Visit [www.ltu.edu/ehelp](http://www.ltu.edu/ehelp) or 248.204.2330 or helpdesk@ltu.edu. Send the Help Desk a form detailing any issues by clicking here [http://tinyurl.com/3yqrvne](http://tinyurl.com/3yqrvne). |
COURSE SCHEDULE FOR TRADITIONAL SEMESTER COURSES

This fully online course begins with a partial week online course orientation period to familiarize yourself with the online learning environment and to meet online or via the phone with your instructor. Each subsequent week starts on a Monday and ends on a Sunday.

Table of Contents
- Chapter 1: Linear Equations and graphs
  - Sec.1.1-1.3
- Chapter 2: Functions and graphs
  - Sec.2.1-2.6
- Chapter 3: Limits and Derivatives
  - 3.1-3.7
- Chapter 4: Additional Derivative Topics
  - 4.1-4.7
- Chapter 5: Graphing and Optimization
  - 5.1-5.6
- Chapter 6: Integration
  - 6.1-6.5
- Chapter 7: Additional Integration topics
  - 7.1-7.2
- Chapter 9: Trigonometric Functions
  - 9.1-9.3
- Chapter # (Handout): Differential Equations
  - 1-3

<table>
<thead>
<tr>
<th>Dates</th>
<th>Modules</th>
<th>Topics / Readings</th>
<th>Assignments Due</th>
</tr>
</thead>
</table>
| Prior to Semester Start and Jan 5, 2012 | Module 0 | Overview of textbook  
Online Learning Orientation  
Course Orientation  
Chapter 1 Review Sec. 1.1-1.3 | Course orientation  
Individual pre-assessment |
| Week of Jan 16-22 | Module 1 | Chapter 2 – Sec.2.1-2.3 | HW 2.1-2.3  
Due: Jan 22, 2012 |
| Week of Jan 23-29 | Module 2 | Chapter 2 – Sec.2.4-2.6 | HW 2.4-2.6  
Test Chapter# 2 (2.1-2.6)  
Due: Jan 29, 2011 |
| Week of Jan 30 Feb 12 | Module 3 | Chapter 3 - Sec.3.1-3.3 | HW 3.1-3.3  
Due: Feb 12, 2012 |
| Week of Feb 13-Feb 19 | Module 4 | Chapter 3-Sec.3.4-3.7 | HW 3.4-3.7  
Test Chapter#3 (3.1-3.7)  
Due: Feb 19, 2012 |
| Week of Feb 20-Feb 26 | Module 5 | Chapter 4-Sec.4.1-4.3 | HW 4.1-4.4  
Due: Feb 26, 2012 |
| Week of Feb 27-March 11 | Module 6 | Chapter 4- Sec.4.5-4.7 | HW 4.5-4.7  
Test Chapter#4 (4.1-4.7)  
Due: March 11, 2012 |
<table>
<thead>
<tr>
<th>Dates</th>
<th>Modules</th>
<th>Topics / Readings</th>
<th>Assignments Due</th>
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<tbody>
<tr>
<td>Week of March 12-25</td>
<td>Module 7</td>
<td>Chapter 5 – Sec.5.1-5.3</td>
<td>HW 5.1-5.3 Due: March 25, 2012</td>
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<tr>
<td>Week of Mar 26-April 8</td>
<td>Module 8</td>
<td>Chapters 5 –Sec.5.4-5.6</td>
<td>HW 5.4-5.6 Test Chapter#5 (5.1-5.6) Due: April 8 , 2012</td>
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<tr>
<td>Week of April 9-April15</td>
<td>Module 9</td>
<td>Chapter 6-Sec.6.1-6.5</td>
<td>HW 6.1-6.5 Test Chapter#6 (6.1-6.6) Due: April 15, 2012</td>
</tr>
<tr>
<td>Week of April 16April30</td>
<td>Module 10</td>
<td>Chapter 7- Sec.7.1-7.2 Chapter 9- Sec.9.1-9.3</td>
<td>HW 7.1-7.2 and 9.1-9.3 Test Ch(7.1-7.2, 9.1-9.3) Due: April 30, 2012</td>
</tr>
<tr>
<td>FINAL EXAM WEEK</td>
<td>M1-10</td>
<td>Chapters 1-7,9</td>
<td>FINAL EXAM Due: May 06, 2012</td>
</tr>
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</table>

**STUDENT EVALUATION**

Letter grades are awarded based on the total number of points achieved. Points are deducted for late assignments.

**EXAMPLES:**

<table>
<thead>
<tr>
<th>Assignments</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Exam</td>
<td>200</td>
</tr>
<tr>
<td>Exams</td>
<td>600</td>
</tr>
<tr>
<td>Participation</td>
<td>100</td>
</tr>
<tr>
<td>Homework</td>
<td>100</td>
</tr>
<tr>
<td>Total Points</td>
<td>1000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Class Points</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>96 and above</td>
<td>A</td>
</tr>
<tr>
<td>90 – 95</td>
<td>A-</td>
</tr>
<tr>
<td>87 – 89</td>
<td>B+</td>
</tr>
<tr>
<td>83 – 86</td>
<td>B</td>
</tr>
<tr>
<td>80 – 82</td>
<td>B-</td>
</tr>
<tr>
<td>77 – 79</td>
<td>C+</td>
</tr>
<tr>
<td>73 – 76</td>
<td>C</td>
</tr>
<tr>
<td>70 – 72</td>
<td>C-</td>
</tr>
<tr>
<td>60 – 69</td>
<td>D (Undergrad Only)</td>
</tr>
<tr>
<td>59 and below</td>
<td>F</td>
</tr>
</tbody>
</table>

*Note: Grades lower than a “B” fall below the LTU graduate standard*
EDUCATIONAL GOALS

1. To develop in students a deeper and broader understanding of key concepts in mathematics
2. To develop in students the problem-solving skills in applied mathematics.

STUDENT LEARNING OBJECTIVES / OUTCOMES
This course introduces the concept of limits and continuity, rates of change, slopes, and derivatives. Further applications of optimization and derivatives and implicit differentiation and related rates. Exponential and logarithm functions through applications to economics through relative rates and elasticity of demand. Integration and its applications and integration by parts are introduced. Derivatives of trigonometric functions. Separation of variables and applications of differential equations: Three Models of Growth is introduced.

PREREQUISITE SKILLS
Equations and inequalities, functions and graphs, lines, parabolas, systems of equations, exponential and logarithmic functions, mathematics of finance, matrix algebra, linear programming, and trigonometry.

INSTRUCTIONAL METHODS AND COURSE ORGANIZATION
Your course is a highly interactive course in which you will spend your time in front of a computer with pencil and paper. You will have power point presentations for each chapter from the textbook and practice problems and take practice quizzes on the computer at a pace, which is comfortable and successful for you. This is an online course and the online meetings will be done in an asynchronous fashion, which means at times that are convenient to each individual student. You will not be required to “log-on “to Blackboard at any pre-set times. It is up to each individual student to select the times and days of the week in which to participate .In this course you will have an opportunity to demonstrate the ability to be self-motivated, do their best work, be active and responsible learners and develop strong mathematics skills necessary for the next math course.

Blackboard Learning Environment – Blackboard at my.ltu.edu contains the syllabus, all assignments, reading materials, streaming videos, narrated PowerPoint mini-lectures, podcasts, written lecture notes, chapter quizzes, links to Web resources, and discussion forums. You will submit all assignments via Blackboard, and are expected to participate regularly in discussion topics. Please take time to familiarize yourself with the organization of the Blackboard site. You will want to check the site frequently for announcements reminding you of new resources and upcoming assignments.
Student/Instructor Conversations – Students keep in touch with the instructor via e-mail messages, telephone conference calls, and IM conversations.
Self-Assessments – Pre- and post- self-assessment tools will help students measure their entering skills and progress during the course.
Required Reading – Textbook chapters should be read according to the schedule outlined in the syllabus. Chapters will be discussed online.

Publisher Web Site – A publisher web site at http://www.nnn.com/nnn includes instructional materials, PowerPoint slides, case studies, application exercises, and practice quizzes. You should make use of as many of these resources as you need to be successful.

Assignments – List and briefly describe assignments here.

CLASS POLICIES AND EXPECTATIONS

I plan to offer you a valuable learning experience, and expect us to work together to achieve this goal.

Here are some general expectations regarding this course:

Each student has a LTU email account. If you wish to use a different email address for this course, please change your email address in Blackboard under “Blackboard Tools”, then “Personal Information” and send an email to me so I can store your address in my email directory.

Readings, discussion forum participation, and written assignments must be completed according to the class schedule. It is important to contact the instructor as needed to discuss personal needs regarding course requirements and assignments.

It is essential that all students actively contribute to the course objectives through their experiences and working knowledge.

All assignments must be submitted on schedule, via Blackboard, and using Microsoft Office compatible software. If you need to submit an assignment via email, contact the instructor in advance.

Assignments must be completed to an adequate standard to obtain a passing grade. Requirements for each assignment are detailed in this syllabus.

Be prepared to log into Blackboard at least once each day. Please focus your online correspondence within the appropriate Blackboard discussion forums so that your colleagues can learn from you.

At midterm and at the end of the course, you will be invited to participate in a University evaluation of this course. Your feedback is important to the University, to LTU Online, and to me as an instructor, and I encourage you to participate in the evaluation process.

It is important for you as students to know what to expect from me as your instructor:

- I will be available to you via e-mail and phone, and will promptly reply to your messages.
- I will be available to you for face-to-face appointments as requested.
- I will maintain the Blackboard web site with current materials, and will resolve any content-related problems promptly as they are reported to me.
- I will send out a weekly e-mail update to all class members to guide upcoming work and remind you of assignment due dates.
- I will return all assignments to you promptly, and will include individualized comments and suggestions with each assignment.
- I will hold our personal written or verbal communications in confidence. I will not post any of your assignments for viewing by the class without requesting your approval in advance.
- I will treat all members of the class fairly, and will do my best to accommodate individual learning styles and special needs.
- If any of these points need clarification, or when special circumstances arise that require my assistance, please contact me so that we can discuss the matter personally.

PRACTICAL GUIDELINES FOR CLASS LOAD EXPECTATIONS
A three-credit course generally requires at least nine hours per week of time commitment. Here are some practical guidelines to help schedule your time commitments for this online course:

- A 14-week semester (the summer semester is compressed into 10 weeks) would require at least 126 hours of time commitment to successfully complete all readings, activities, assignments, and texts as described in this syllabus.
- You should reserve at least 6 hours per week to read the required textbook chapters and resources, participate in online discussions, review presentation materials, and work through online quizzes. This effort will total at least 84 hours over the course of the semester.
- You should organize your remaining time to roughly correspond with the point value of each major assignment. This means that you should plan to spend at least:
  - 8-9 hours preparing your case study review;
  - 24-40 hours working with your group on the three parts of your semester-long project;
  - 8-9 hours working on the various components of your reflective consolidation (final exam).

These guidelines may not reflect the actual amount of outside time that you – as a unique individual with your own learning style – will need to complete the course requirements. The number of hours each week will vary based on assignment due dates, so please plan ahead to insure that you schedule your academic, work, and personal time effectively. The following graphic can be used to guide you in planning your weekly course work to remain on schedule:

**Online Learning Schedule**

<table>
<thead>
<tr>
<th>MON</th>
<th>TUES</th>
<th>WED</th>
<th>THU</th>
<th>FRI</th>
<th>SAT</th>
<th>SUN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read Textbook Chapter</td>
<td>Take Online Chapter Quiz</td>
<td>Participate in Weekly Blackboard Discussions</td>
<td>Individual and Group Project Work - Coordinate With Colleagues</td>
<td>Instructor Communication - As Needed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ASSIGNMENT DETAILS**

Course assignments and evaluation criteria are detailed below. Please review these requirements carefully. See the section Academic Resources / Assessment Guidelines for information about assessment of written and oral presentations.

Details for all assignments are shown below. Please note that you should not submit any assignments to the Blackboard “Digital Drop Box.” All assignments in Word or PDF are submitted using the Blackboard “Assignments” or “SafeAssign” function. Some assignments are also posted to the Blackboard Discussion Forum for student comments.

**Assignment Late Policy**

You must complete all online assignments by the due dates. Late assignment will be deducted 10 points for each day.

**Online Participation**
Each student is expected to actively participate in online activities. Class participation is evaluated to a maximum of 10 points based on:

Up to 10 points – Actively participating in Blackboard discussion forums, responding to questions posted by the instructor, and interacting positively with other students.

SYLLABUS ADDENDA

Please see the LTU Online “Current Students” web site http://www.ltu.edu/ltuonline/ for comprehensive information about Lawrence Tech’s academic services, library services, student services, and academic integrity standards. The content of this web site is explicitly included as syllabus requirements.

The LTU Online “Current Students” web site also includes grading rubrics used by your instructor to evaluate written assignments, discussion forum participation, and group assignments. Please note that the SafeAssign anti-plagiarism product will be used for written assignments submitted for this course. Please see the instructions included on the LTU Online web site regarding the use of the SafeAssign product.