MATH 1830-M50

Instructor: S. Houston

Spring 2021

COURSE DESCRIPTION

(3 credit hours.) Calculus of one real variable related to rational, exponential, and logarithmic functions. Topics include the limits of functions, derivatives of algebraic, exponential, and logarithmic functions and their inverses and the definite integral and its economic applications: Consumer Surplus, Producer Surplus; and applications of integrating growth and decay models. Also included are applications of the derivative including maximum and minimum problems in business and economics.

COURSE OBJECTIVES

1. Evaluate limits of functions either graphically, numerically or algebraically.

2. Apply the definition of continuity and describe its relationship to the graph of a function.

3. Evaluate derivatives using the limit definition and the rules for differentiation.

4. Use to derivatives to create graphs of functions.

5. Use derivatives to solve problems from business, economics and life sciences.

6. Apply the rules for anti-differentiation.

7. Apply the rules of integration to solve applied problems.

8. Apply the Fundamental Theorem of Calculus to evaluating definite integrals.

9. Solve applied problems using integration techniques.

PREREQUISITES AND COREQUISITES

At least one of the following criteria must be met to enroll in Math 1830:

- Math 1710 with a minimum grade of C-
- Math 1730 with a minimum grade of C- or
- A score of at least 24 on the ACT MATH Subscore

As this is an online course, the student should be proficient in the basic maneuvering through a webpage and email. All of your material will be accessed through one of two websites:

- eCourseware (which is the primary go-to website for the course) or
- MyMathLab (which is where the assignments will actually be done).
- Both of the websites are very user-friendly, and after a brief time associating yourself with the sites, you will become more comfortable working within them.
- If you have any questions about eCourseware contact the UofM Helpdesk at the site and/or number listed at the bottom of this Syllabus page. They may also be available to help you troubleshoot any hardware problems that may arise.
- If you have any problems with MyMathLab, they can be contacted through your MyMathLab Homepage or at 1-844-292-7015, or you can check the Support Section on Pearson's MyMathLab.

Note: Your instructor may be able to assist you with general problems associated with eCourseware and MyMathLab. However, it should not be expected that the instructor will be able to answer specific questions about a student's personal computer and/or hardware and software.

COURSE TOPICS

We will begin with:

- Evaluating limits in Chapter 1.
- At the end of Chapter 1, we will introduce the rules for computing derivatives. These rules are mandatory knowledge for successfully completing Chapters 2 and 3 as they introduce applications of differentiation.
- In Chapters 4 and 5, we will discuss anti-derivatives and applications of integration. We will see how the concept of evaluating integrals is related to differentiation.

SPECIFIC COURSE REQUIREMENTS

For this course, you will need:

- **The MyMathLab access code. All of your work, including tests, will be completed using MyMathLab.**
- **A graphing calculator such as the TI-83 or TI-84. Part of this course is becoming proficient with available technology. While you will be tested on your knowledge of calculus, you will find it helpful to use the calculator to perform calculations and to check answers.**

TEXTBOOKS, SUPPLEMENTARY MATERIALS, HARDWARE AND SOFTWARE REQUIREMENTS

REQUIRED TEXTBOOKS

- **Textbooks are available from the University Store at 901-678-2011, and online at: http://umemphis.bncollege.com**
- **For this course, there is not a required textbook.**
- **However, you are required to purchase the MyMathLab Stand-alone access code through Pearson. The ISBN is 9780321199911, or it can be purchased with a credit card online when you register for the course (which is the recommended route for purchase).**
- **Once you are registered for MyMathLab, there is an e-version of the Calculus and Its Applications Textbook on your MyMathLab website (not eCourseware).**

SUPPLEMENTARY MATERIALS

The student will need to create an account on MyMathLab after purchasing the MyMathLab access code either separately. The access code can be purchased as a stand-alone item through the UofM bookstore, or it can be purchased on the Pearson site once you are registered for the course.

HARDWARE AND SOFTWARE REQUIREMENTS

- **The minimum requirements can be found at http://www.memphis.edu/uofmonline/technical.php.**
- **Again, the MyMathLab access code is required for this course. You DO NOT need to purchase a physical copy of the textbook as one is provided on MyMathLab for you.**

Instructor Information

Please see the separate page inside the course to find instructor contact information as well as a statement of virtual office hours and other communication information.

Assessment and Grading

TESTING PROCEDURES

Students are expected to take tests without the assistance of notes, text and other people. The final exam will be a proctored exam. Students will need to take this test on a computer with a webcam and a microphone.

GRADING PROCEDURE

Your final grade will be based on:

- Homework (30%)
- Three (four before dropping the one lowest score) Chapter Tests (30%) and
- The Final Exam (40%).

Again, these assignments will be located on MyMathLab.

- The lowest of the four chapter tests will be dropped.
- The homework has unlimited attempts at each question given.
- You will be given two attempts at each test.
- Each chapter test is timed at 85 minutes.
- The final exam is comprehensive and is timed at 120 minutes.

GRADING SCALE

90-100---A
80-89----B
70-79----C
60-69----D

Below 60 is an F.

- **The plus/minus grading scale will NOT be employed in this course.**
- Assessment on all assignments is provided immediately upon completion of each assignment via MyMathLab.
- If a student has a question about MyMathLab's grading of a particular assignment, the student is encouraged to email the instructor privately (not on the message board).
- **The instructor will provide feedback within one to two business days. Responses may take longer on weekends and holidays.**

Assignments and Participation

ASSIGNMENTS

Week 1 Homework (Section 1.1 Homework and Section 1.2 Homework and Section 1.3 Homework) (up to 25 questions per section)

Week 2 Homework (Section 1.4 Homework, Section 1.5 Homework and Section 1.6 Homework)(up to 25 questions per section)

Week 3 Homework (Section 1.7 Homework and Section 1.8 Homework)(up to 25 questions per section) and **Test 1** (20 Questions)

Week 4 Homework (Section 2.1 Homework, Section 2.2 Homework and Section 2.3 Homework)(up to 25 questions per section)

Week 5 Homework (Section 2.4 Homework and Section 2.5 Homework)(up to 25 questions per section)

Week 6 Homework (Section 2.6 Homework and Section 2.7 Homework)(up to 25 questions per section) and **Test 2** (20 Questions)

Week 7 Homework (Section 3.1 Homework and Section 3.2 Homework)(up to 25 questions per section)

Week 8 Homework (Section 3.3 Homework and Section 3.4 Homework)(up to 25 questions per section)

Week 9 Homework (Section 3.5 Homework and Section 3.6 Homework)(up to 25 questions per section) and **Test 3** (20 Questions)

Week 10 Homework (Section 4.1 Homework and Section 4.3 Homework)(up to 25 questions per section)

Week 11 Homework (Section 4.4 Homework and Section 4.5 Homework)(up to 25 questions per section)

Week 12 Homework (Section 5.1 Homework and Section 5.2 Homework(up to 25 questions per section)

Week 13 Homework (Section 5.3 Homework)(up to 25 questions) and **Test 4** (20 Questions)

Week 14 Study for Final Exam

Finals Week **Final Exam** (25 questions)

- There is unlimited time as well as unlimited attempts per question on the homework assignments (before the due date).
- This means students can take as much time as needed on a specific homework question as well as generate a new question in MyMathLab if a response is marked as incorrect as long as the homework assignment is open (typically one week).

- Each chapter test is timed at 85 minutes, and the final exam is also timed at 120 minutes.
- **Remember, there are no extensions given on any assignment.**
- At the end of the semester, all homework assignments will be averaged and count 30%, the three highest chapter tests will be averaged and count 30% and the final exam counts 40% of the final score.

CLASS PARTICIPATION

- Students are expected to check the Discussions and Message Boards daily for any updates.
- Students are expected to ask questions of the instructor (or other students in the Discussions).
- Any comments posted are expected to be math related and respectful of the instructor and other students.

PUNCTUALITY

Course deadlines will be posted on eCourseware and MyMathLab. There will be no extensions for assignments.

Course Ground Rules

- Take a while to explore the course on eCourseware. You are responsible for understanding how to interact with the software. Contact the HelpDesk if you have any concerns.
- Please use email addresses assigned by the University to interact with the instructor and other students.
- Keep updated with any changes by checking eCourseware daily.
- Keep comments constructive and respectful of all course participants.

Guidelines for Communication

EMAIL

- Always include a subject line.
- Remember without facial expressions some comments may be taken the wrong way. Be careful in wording your emails. Use of emoticons might be helpful in some cases.
- Use standard fonts.

- Do not send large attachments without permission.
- Special formatting such as centering, audio messages, tables, html, etc. should be avoided unless necessary to complete an assignment or other communication.
- Respect the privacy of other class members

DISCUSSION GROUPS

- Review the discussion threads thoroughly before entering the discussion. Be a lurker then a discussant.
- Try to maintain threads by using the "Reply" button rather starting a new topic.
- Do not make insulting or inflammatory statements to other members of the discussion group. Be respectful of others' ideas.
- Be patient and read the comments of other group members thoroughly before entering your remarks.
- Be cooperative with group leaders in completing assigned tasks.
- Be positive and constructive in group discussions.
- Respond in a thoughtful and timely manner.

CHAT

- Introduce yourself to the other learners in the chat session.
- Be polite. Choose your words carefully. Do not use derogatory statements.
- Be concise in responding to others in the chat session.
- Be prepared to open the chat session at the scheduled time.
- Be constructive in your comments and suggestion

WEB RESOURCES

- Columbia Guide to Online Style by Janice R. Walker and Todd Taylor Citation Styles Online http://www.bedfordstmartins.com/online/cite6.html
- Online Writing Help: OWL Purdue Online Writing Lab

Plagiarism and Integrity

Plagiarism, cheating, and other forms of academic dishonesty are prohibited. Students guilty of academic misconduct, either directly or indirectly, through participation or assistance, are immediately responsible to the instructor of the class in addition to other possible disciplinary sanctions which may be imposed through the regular institutional disciplinary procedures.

Expectations for academic integrity and student conduct are described in detail on the website of the Office of Student Judicial and Ethical Affairs http://saweb.memphis.edu/judicialaffairs. Please read in particular, the section about "Academic Dishonesty"

Library and Other Resources

Links to library materials (such as electronic journals, databases, interlibrary loans, digital reserves, dictionaries, encyclopedias, maps, and librarian support) and Internet resources needed by learners to complete online assignments and as background reading must be included in all courses. The myMemphis Portal system, eCampus Student tab provides access to University library and tutorial services. Other support services are available through the Educational Resources site at: http://www.memphis.edu/students.htm

Students With Disabilities

Qualified students with disabilities will be provided reasonable and necessary academic accommodations if determined eligible by the appropriate disability services staff at their home institution. Prior to granting disability accommodations in this course, the instructor must receive written verification of a student's eligibility for specific accommodations from the disability services staff at the home institution. It is the student's responsibility to initiate contact with their home institution's disability services staff and to follow the established procedures for having the accommodation notice sent to the instructor.

Syllabus Changes

The instructor reserves the right to make changes as necessary to this syllabus. If changes are necessitated during the term of the course, the instructor will immediately notify students of such changes both by individual email communication and posting both notification and nature of change(s) on the course bulletin board.

Technical Support

Call the Helpdesk: 901-678-8888

Online Helpdesk: https://helpdesk.memphis.edu/

Last Updated: 6/20/15

Important Note:

All tools used within learning management system or that are third-party are accessible and assistive technology ready. Campus services and accessibility tools have been utilized, as appropriate, to confirm such tools are accessible according to WCAG 2.0, and vendors of 3rd party course materials have provided documentation that tools are accessible according to the same standard.

Note: Should you need some assistance navigating Coronavirus, please visit this link provided by the math department.