MATH.1320-011 Calculus II

Summer I 2020

Instructor:

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Course materials:

UNIVERSITY CALCULUS, Fourth Custom Edition for University of Massachusetts Lowell, Pearson Learning Solutions. The text and MyMathLab (MML) are packaged together at the university bookstore. MML containing the online text can also be purchased separately. Also recommended but not required is the accompanying student solution manual. This manual is available in the bookstore. For access to MML, use the link www.mymathlab.com. Students already owning the Third Custom Edition can use that text. The text is available online in MML. Another option is to contact the publisher directly at https://www.pearson.com.

Prerequisites for the Course:

A successful completion of material typically covered in a science and engineering type of Calculus I course such as MATH.1310 at UMass Lowell is a required prerequisite for this Calculus II course.

Evaluation:

MML online homework assignments will account for 25% of the grade. To get a question correct, MML allows several attempts per question and numerous attempts to request a similar question were enabled. Exams 1 and 2 will each be two hours in length and will each account for 25% of the grade. The remaining 25% of the grade will be a proctored exam 3 that will be given on the last day of class and will cover the last third of course material and selected topics from exams 1 and 2 material. The final exam 3 will be 2 hours in length.

All virtual mathematics classes at UMass Lowell will use Respondus Monitor as the proctoring application for the final exam. Students must have access to both a computer and a functional webcam. Technical requirements for students include a computer running Windows (ver. 7, 8 or 10) or Apple Mac (OS X 10.10 or higher) or an Apple iPad (IOS 10.0 or higher); a web camera (internal or external) & microphone (internal or external) and a broadband internet connection. Students are asked to plan for this in advance. If you do not have access to this technology, please notify your instructor at least two weeks prior to the final exam, so an alternative proctor method can be determined.

Any missed exam or MML assignment will result in a zero grade unless a validated excuse (letter from a Doctor or Dean of Students on appropriate letterhead) is provided. Assignments related to MML assignments will be discussed at the beginning of the class following the assignment. Experience has shown that continuous

attention to class explanations and homework result in successful completion of this course. Traditional numerical averages will be used as a guideline in grade determination.

The guideline for grade assignment is:

Average	[93,100]	[90,93)	[87,90)	[83,87)	[80,83)	[77,80)	[73,77)	[70,73)	[67,70)	[60,67)	[0,60)
Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F

Technology:

The TI-84 will be used throughout the course. In all cases, technology will be used to enhance the learning process and all are responsible for analytic methods in the solution of assigned problems. The TI can be used for all exams.

All exams are required to be submitted as a single pdf file assignment in Blackboard. That will require that you scan in your work and create the single pdf file for submission. In the event you do not have a scanner, the free app CamScanner is available as a download for mobile devices. Use it to take pictures of your work, and then create the single pdf file. Penalties or lack of acceptance of submitted exams will result if a single pdf file is not submitted.

Blackboard chat, discussion board and email:

There will be 24 classes during the Summer I term. During each session, we will meet for approximately 60 minutes, take a short break, and then meet for the remainder of the period. The class time will be from 8-10:15AM in a regularly scheduled Blackboard chat or preannounced Zoom session. The course this summer will be in virtual mode with all classes done remotely. As needed we will also incorporate Zoom sessions for problem review and questions. Attendance at all chats and Zoom sessions is highly recommended. Attendance will be taken and that will influence borderline grading decisions.

To access Blackboard chat, once in Blackboard click on Blackboard Collaborate (either on the left or in the middle top), then click on Course Room on the left, and then click on Join Course Room on the right. All chats are recorded and to access a recorded session, click on the three horizontal lines in the upper left when in Blackboard chat.

A weekly discussion board is set up so that all course participants can share questions and responses to items of concern. I will also participate in the discussion board. Likewise, Blackboard email is available. Merely access mail on the left and communicate with me in Blackboard. That will be the preferred method of communication.

Student Disability Services:

Students requiring academic accommodations should contact disability services at https://www.uml.edu/student-services/Disability/. Assuming eligibility, at least one week prior to any announced exam, arrangements must be made with the instructor for extended time. Extended time will refer to time allotted on the day of the scheduled exam. In the case of the final exam, arrangements must be made at least two weeks prior to the end of scheduled classes.

Academic Integrity Policy:

Procedures about academic integrity are described in the university catalog at http://www.uml.edu/Catalog/Undergraduate/Policies/Academic-Policies/Academic-Integrity.aspx. As necessary, sanctions may be imposed on any student who has committed an act of academic dishonesty. In such cases, the student will be informed within 14 days after the incident has been recognized and the provost's office will be notified within 10 days after student notification.

Sections to be covered:

Chapter 5 Integration

5.1 Estimating with Finite Sums (pages 283-285)

5.2 Sigma Notation and Limits of Finite Sums

5.3 The Definite Integral

5.4 The Fundamental Theorem of Calculus

5.5 Indefinite Integrals and the Substitution Method

5.6 Substitution and Area between Curves

Chapter 6 Applications of Definite Integrals

6.1 Volumes by Slicing and Rotation about an Axis

6.2 Volumes by Cylindrical Shells

6.3 Arc Length

6.4 Areas of Surfaces of Revolution

6.5, 6.6 Brief discussion of applications dealing with Work and Centers of Mass

Chapter 7 Integrals and Transcendental Functions

7.1 The Logarithm Defined as an Integral

Chapter 8 Techniques of integration

8.1 Integration by parts

8.2 Trigonometric Integrals

8.3 Trigonometric Substitutions

8.4 Integration of Rational Functions by Partial Fractions

8.5 Integral Tables and Computer Algebra Systems

8.6 Numerical Integration

8.7 Improper Integrals

Chapter 9 Infinite Sequences and Series

9.1 Sequences (pages 478-482), Theorems 3, 4 and 5 (pages 483-485)

9.2 Infinite Series

9.3 The Integral Test (in the context of only p-series)

9.4 Comparison Tests

9.5 Absolute Convergence; The Ratio and Root Tests (only the ratio test)

9.6 Alternating Series and Conditional Convergence

9.7 Power Series

9.8 Taylor and Maclaurin Series

9.9 Convergence of Taylor Series

9.10 The Binomial Series

Chapter 10 Polar Coordinates

10.3 Polar Coordinates

10.4 Graphing in Polar Coordinates

10.5 Areas and Lengths in Polar Coordinates

Daily coverage of material:

Date	Sections
5/18	5.1, 5.2
5/19	5.3, 5.4
5/20	5.5, 5.6, MML #1 due for sections 5.1-5.5
5/21	6.1, 6.2
5/22	6.3, 6.4
5/26	Applications from 6.5, 6.6
5/27	7.1, review, MML #2 due for sections 5.6-6.4
5/28	Exam 1 on 5.1-6.4
6/1	8.1, 8.2
6/2	8.3, 8.4
6/3	8.5, 8.6, MML #3 due for sections 6.5-8.2
6/4	8.7, 9.1
6/8	9.2, 9.3, MML #4 due for sections 8.3-8.5
6/9	9.4, 9.5
6/10	review, MML #5 due for sections 8.6-9.2
6/11	Exam 2 on 6.5-9.3
6/15	9.6, 9.7
6/16	9.7, 9.8 MML #6 due for sections 9.3-9.5
6/17	9.8, 9.9
6/18	9.9, 9.10
6/22	10.3, 10.4, MML #7 due for sections 9.6-9.9
6/23	10.4, 10.5
6/24	10.5, review
6/25	MML #8 due for sections 9.10-10.5, Exam 3