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M 162.50: Applied Calculus

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Catalog Description:

M 162 Applied Calculus 4 cr. Prereq. Appropriate placement score or one of Math 121, 122, 151. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.

Learning Outcomes:

Upon completion of this course, a student will be able to (a) Apply calculus as a tool for solving applied problems, such as describing change using calculus techniques; (b) Demonstrate the basic techniques of differentiation and meaning of derivative; (c) Demonstrate the basic techniques of integration and meaning of indefinite and definite integral; (d) Apply basic elementary modeling in terms of differential and/or difference equations; (e) Demonstrate some mathematical software as a tool for applying calculus.

General Education Learning Outcomes:

Upon completion of the mathematical literacy requirement, a student will be able to apply effectively mathematical or statistical reasoning to a variety of applied or theoretical problems.

Textbook:

D. Hughes-Hallett et al., Applied Calculus, 6th edition., John Wiley & Sons, Inc., 2018. A graphing calculator with symbolic capability, such as a TI-89, TI-92 or anything CAS will not be allowed on tests. Access to WileyPlus is also required. In an effort to help drive down the costs, your faculty member and The Bookstore has worked with the publisher to bring your course materials at a lower cost through the school's Inclusive Access program. The cost of these materials has been charged to your student account. You still have the right to Opt Out and find these materials at the market rate. If you do so, your access will be cancelled and The Bookstore will issue a refund for the fee assessed to your tuition bill. **Do NOT opt-out unless you think you will end up dropping this class.** This all inclusive program will give you access to WileyPlus which provides an e-book as well as supplemental learning programs. There is a print on demand option as well. If you decide you need a printed copy of the textbook, you can go to The Bookstore and request a copy from the textbook department. If you are not in Missoula, you can arrange, through The Bookstore, for this printed copy to be shipped to you. **To access the textbook: You will use the link on the class moodle page (https://learn.wileyplus.com/courses/103809) this link gives access to WileyPLUS which includes your text and all of the resources.** Please note our **course ID# B97953** A calculator is also required. Demonstrations will be given on a TI-84.

For a video introduction to the WileyPlus system, please see:
https://drive.google.com/file/d/1LWEMHzABHLMZMPDmioL2HYcZEA8DipAc/view?ts=5ae39240

How the Course is Run:

This course is self-paced with all materials due by May 6th. I would recommend that you start learning each section in the following manner. First skim through the section in the textbook. Next, watch Lauren's videos for that section. Then go and work on the homework problems. If you wish to work additional textbook problems for extra practice, please let me know and I will be happy to provide additional exercises!

All homework assignments will be completed on WileyPlus. You are allowed 4 attempts per question so this should allow you ample opportunity to complete the assignments successfully. I will also add that you want to complete the homework assignments in the order that the class moves (see the calendar below), **not** in the order that they appear on WileyPlus.

All exams are on an honor basis. To take an exam, email me when you want to take the exam. I will email you the exam and honors statement at your requested time. You will have exactly 3 hours to complete the exam; calculators are allowed; necessary formulas will be provided. To turn in an exam, scan or take clear pictures of your work and email them back to me. There are 3 exams total and no final. You must complete all necessary homework before taking an exam.

This class is 15 weeks. At the end of this syllabus I have included a suggested calendar for you to complete the class. Within this time frame, you can work through this course at your own pace. The last day of the class is May 6th.

Suggestions/Advice:
1. It is strongly recommended that you check your campus email daily.
2. You should begin each chapter by reading the assigned sections in your textbook and watching the corresponding section videos.
3. Coursework should be done daily. There is no time limit on homework assignments. You can attempt the same question up to 4 times and still receive full credit. Use your notes from the videos as well as your textbook when needed.
4. If any questions arise, PLEASE contact me. Your success in this course will depend upon the amount of time and effort you are willing to spend with the material. You should plan to spend at least 10 hours per week reading your text, reviewing notes, working on homework, completing quizzes, and studying for exams.
5. It is assumed that you are able to use the basic features of your calculator and that you have a working knowledge of all material covered in the prerequisite course. While I understand that some of the material was not mastered by all students in the prerequisite course or that the prerequisite course was taken years ago, it is your responsibility to seek assistance if it is needed. You should start by reading the textbook and its examples. You will find that the material comes back quickly. You are strongly encouraged to ask questions.

Getting Help:
In terms of seeking extra help, you have many options available:

1. There is free tutoring in the Math Learning Center located in the basement of the Math Building on the Mountain Campus.

2. You are always welcome to email me.

3. I will hold office hours by appointment.

Grading:
Your course grade will be based on 3 exams (70% of your grade) and 25 homework assignments (30% of your grade). There is no final exam.

Grade	*Grading Scale by Percentages*
A	85%+
B	84-75%
C	74-60%
D	59-50%
F	Less than 50%
CR	$\geq 50\%$

*** If you are taking this course as a general education requirement, you must take it for a traditional letter grade (not CR/NCR). A grade of "D-"is considered passing and will earn you credit for the course, BUT it will NOT fulfill your general education requirement and you will have to re-take the class***. A grade of **C or better** is needed to fulfill the math literacy requirement.

Add/Drop Policy:
The last day to add/drop or change grading option to Audit by Cyberbear is **2/7.** Changes after this deadline and until **5/6** must be done by Petition to Drop/Add after deadline and approved by me, your advisor and the appropriate Dean. Approval requires genuine extenuating circumstances as listed in the university catalog.
Extenuating circumstances are:
1. Missing a substantial number of classes due to illness, accident or family emergency.
2. A change in work schedule that makes it impossible to attend class or devote adequate time to the course.
3. Registration in the course by error and never attending class.

Reasons that are not satisfactory include:

1. Forgetting to turn in a drop slip.
2. Protecting your grade point average.

Incomplete (I) Grades:
To be eligible for an "I", the following conditions must be met:
1. The student must have been in attendance and passing the course up to 3 weeks before the
   1. semester ends; and
   2. The student is unable to complete the course due to extenuating circumstances, which usually means serious illness or death in the family.

Incompletes are not given under any other circumstances and are always given at the discretion of the instructor. See the 2019-2020 catalog for further information.

Misconduct:
All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. Available for review online at http://www.umt.edu/SA/VPSA/index.cfm/page/1321.

Cheating will not be tolerated! You are expected to personally complete any work that is submitted with your name on it. While I encourage students to discuss homework solutions, you should not discuss particular solutions to questions that will be graded. Instead, find a similar question to discuss or use an example from the textbook or notes. It is never acceptable to copy another person's work or to allow another student to copy your work.

Special Accommodations:
Students with disabilities will receive reasonable accommodations in this online course. To request course modifications, please contact me as soon as possible. I will work with you and Disability Services in the accommodation process. For more information, visit the Disability Services website or call 406.243.2243 (Voice/Text).

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and the Office for Disability Equity (ODE). If you anticipate or experience barriers based on disability, please contact the ODE at: (406) 243-2243, ode@umontana.edu, or visit www.umt.edu/disability for more information. Retroactive accommodation requests will not be honored, so please, do not delay. As your instructor, I will work with you and the ODE to implement an effective accommodation, and you are welcome to contact me privately if you wish.

Important University-Wide Info and Dates:
- Monday, 17 January: Martin Luther King Jr. Day. No school.
- Monday, 21 February: President's Day. No school.
- 21-25 March: Spring Break. No school.

Week	Sections	Quiz and Exam Dates
1/18 – 1/22	1.1, 1.2, 1.3, 1.5	
1/25 – 1/29	1.5, 1.6, 1.8	
2/8 – 2/12	1.8, 1.9, 1.10, 2.1	
2/15 – 2/18	2.1, 2.2, 2.3	
2/22 – 2/26	2.4, Test 1, Ch. 2 FOT	Test 1
2/28 – 3/4	3.1, 3.2, 3.3	

3/7 – 3/11	3.3, 3.4, 3.5	
3/14 - 3/18	SPRING BREAK	
3/21 – 3/26	4.1, 4.2, 4.3	
3/28 – 4/1	4.4, 4.8, Test 2, 6.2	Test 2
4/4 – 4/8	6.2, 6.3, 6.6, 6.7	
4/11 – 4/15	6.7, 5.1, 5.2, 5.3	
4/18 – 4/22	5.4, 5.5, 5.6	
4/25 – 4/29	9.1, 9.2	
5/2 – 5/6	9.4, 9.5, Test 3	Test 3