MTH 132: Applied Calculus II
Fall 2017

University of Rhode Island

Instructor: Dr. Michael Barrus
Office Location: 101C Lippitt Hall
Email: barrus@uri.edu
Telephone: (401) 874-4430
Office Hours: Tues, Wed, Thurs, 2:00–2:55 pm or by appointment
Class Days/Time: MWF 9:00 – 9:50 am
Classroom: 122 Pastore Hall
Prerequisites: MTH 131 or 141 or permission of chairperson. Not for major credit in mathematics. Not open to students with credit or concurrent enrollment in MTH 142.

Course Description
Continuation of MTH 131. Topics related to trigonometric functions, integration by parts and partial fractions, partial derivatives, infinite series. Applications to problems such as optimization, probability theory, simple differential equations. – 2016-2017 URI Undergraduate & Graduate Catalog

Course Goals
MTH 132 is the second semester of the calculus sequence for students not needing MTH 141 and 142 (which are designed for students in the physical sciences, engineering, and math). After taking MTH 131-132, students will be familiar with and able to apply the theory and techniques of calculus in numerical, graphical, and algebraic contexts. Primarily through their textbook, they will have been exposed to examples that illustrate how calculus is involved in real-life settings.

Student Learning Outcomes
In harmony with the course goals above, throughout the semester I will provide you with a list of learning outcomes (i.e., content-specific skills and abilities you should develop through our coursework) in Sakai. These learning outcomes should assist you in evaluating your learning and preparing for assessments, and I will continually review and perhaps update them as the course progresses.
Required Materials

- *Applied Calculus* (5th edition) by Hughes-Hallett et al. Access to a digital copy is available with your purchase of access to WileyPLUS (see below); for this reason purchasing a hard copy is optional, but all students should have access to the text by the second class period. New copies of the textbook purchased from the university bookstore come with an access code for WileyPLUS included.

- A subscription to WileyPLUS (www.wileyplus.com). This is the source for all homework assignments for the course (which are to be completed online) and has other useful features. If you have used WileyPLUS in the past, you may be able to use your previous subscription; try this first before resubscribing.

  **Note:** Even if you do not have a previous subscription and are unable to pay for a new one right away, WileyPLUS does have the option to begin a course right away and pay for access after an initial grace period. For this reason, delays in signing up for the course are not allowed; please begin on the homework right away.

- A graphing calculator. While the course will not focus on teaching you how to use a graphing calculator, you will be allowed to use one on homework and most exams, and some homework problems may expect you to use one.

Instructional Protocol

*To get what you should from this course, you are expected to read the textbook for comprehension.* The text gives a detailed account of the material, including important points that we will not have time to discuss in detail during our class period. The text also contains many additional examples of worked out problems, which will supplement those presented in class.

Reading a mathematics textbook is often not easy; don’t be discouraged if this is true for you, and trust that it will become easier as you get more practice. **Do ask about sentences and phrases that don’t make sense.** Often many challenges in understanding are compounded because students have not yet developed the vocabulary necessary for understanding others’ words and for communicating clearly themselves (as they need to on exams and when asking for help). Putting in the effort to develop that vocabulary will pay off immediately and richly throughout the semester and your future career.

It will be up to you to determine when you read the textbook, but I suggest setting aside regular time to do it. Reading the appropriate section(s) of the book before the material is presented in class allows you to more quickly grasp the explanations and examples presented there. Reading, or rereading, the section(s) after class while adding your own notes or writing down questions to ask is a great way to cement your learning and prepare for future material.

Class time will be spent in various ways, all with the intent of helping you learn current material and address some of the difficulties typically encountered.
when seeing these concepts for the first time. Please plan to be present at every class period, and notify me when you have legitimate reasons for missing class.

Students are responsible for being familiar with and adhering to the published "Community Standards of Behavior: University Policies and Regulations" which can be accessed in the University Student Handbook. As with most university courses, all class participants are expected to behave in a respectful and safe manner at all times throughout the semester. Please do your best not to inhibit the learning experience of anyone else, and please feel free to bring any issues you have with others’ behavior to the attention of the instructor. Issues that may arise will be dealt with in as respectful and confidential a manner as possible.

**Grading Policy**

Grades will be determined through a weighted average with categories and weights as follows:

- 15% Homework assignments (in WileyPLUS)
- 15% Quizzes and classwork
- 45% Midterm exams (3, equally weighted)
- 25% Final exam

Each grade category’s components and policies will be described in sections that follow. No extra credit is anticipated for this course.

Letter grades for the course will be determined by considering your overall weighted percentage according to the following scale:

<table>
<thead>
<tr>
<th>A course percentage of at least</th>
<th>guarantees a letter grade of at least</th>
</tr>
</thead>
<tbody>
<tr>
<td>93</td>
<td>A</td>
</tr>
<tr>
<td>90</td>
<td>A-</td>
</tr>
<tr>
<td>87</td>
<td>B+</td>
</tr>
<tr>
<td>83</td>
<td>B</td>
</tr>
<tr>
<td>80</td>
<td>B-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A course percentage of at least</th>
<th>guarantees a letter grade of at least</th>
</tr>
</thead>
<tbody>
<tr>
<td>77</td>
<td>C+</td>
</tr>
<tr>
<td>73</td>
<td>C</td>
</tr>
<tr>
<td>70</td>
<td>C-</td>
</tr>
<tr>
<td>67</td>
<td>D+</td>
</tr>
<tr>
<td>60</td>
<td>D</td>
</tr>
</tbody>
</table>

A course percentage of less than 60% merits a grade of F.

**Homework assignments**

Homework will be assigned for each day’s material, for a total of roughly 35 assignments. Assignments will be administered through WileyPLUS (www.wileyplus.com), an online homework platform provided by our textbook’s
publisher. The system will record your answers, give you immediate feedback, and keep track of your homework grades.

A word of caution: as with any computer-based system, WileyPLUS will require you to enter your answers in the correct way, which will require you to read each problem’s instructions carefully and follow them exactly. If you think you have the correct answer but cannot get WileyPLUS to accept it, you may contact me for suggestions, but often the small details (a correct number of decimal places, using the correct lowercase/uppercase letters, etc.) are the cause of the problem; paying closer attention to the problem’s instructions will often resolve these issues.

Another caution: you are expected to deal with any Wiley-PLUS specific issues you encounter in as quick a manner as possible. These include but are not limited to (1) payment for access to the system and (2) technical issues that prevent you from accessing or completing assignments. It will be your responsibility to both (a) contact WileyPLUS’s technical support personnel, and (b) inform me of the problem as soon as possible. Delays in doing either of these items will have a harmful effect on your scores on assignments.

**Late homework**
You are expected to submit your homework by the due date. Falling behind on due dates is never a good idea, and late homework is highly discouraged. However, late homework assignments may be accepted for up to 90% of their original value if turned in within two weeks of their original due dates, after which the maximum that can be earned is 50%. By University policy, homework may not be accepted after December 11 at the end of our last class meeting.

**Quizzes and classwork**
Quizzes will be given at the end of most class days. These will usually consist of simple questions designed to gauge your learning and engagement with the material being discussed. Occasionally other class activities to support learning will be collected for credit during class. All classwork and quizzes must be turned in before leaving class. Except in the case of university-excused absences or medically documented long-term illness, missed quizzes and classwork may not be made up; however, at the end of the semester, the lowest 7 classwork/quiz item scores will be dropped (note that if both an activity and a quiz are collected on a day that you miss, this will count as two separate missing scores).

**Midterm exams**
There will be three midterm exams, given in class on the following dates:
(1) Friday, October 6;
(2) Monday, November 6;
(3) Wednesday, December 6.
Each exam will be held in our classroom during our usual 50-minute class period. Each will be worth 15% of your course grade. While the primary focus of each midterm will be on the material covered since the previous exam, you are expected to retain important information from material tested on previous exams. No notes, texts, or electronic devices other than your graphing calculator will be allowed on any exam without prior written permission from the instructor. **Additionally, no graphing calculators will be permitted for use during the first midterm exam.**

In order to allow everyone a fair experience, and in light of experience gained during previous semesters, during exams you will be held to fairly rigid standards of conduct that will be provided during the semester; severe penalties may be assessed for violations of the standards of conduct. In particular, it will be the policy that **missed exams will receive a score of 0 and cannot be made up unless appropriate justification is given, which in almost every case involves prior arrangements having been made with the instructor. In the case of a truly unexpected emergency, you must contact the instructor within 24 hours of the beginning of the missed exam.**

The best way to prepare for each exam will be to frequently test yourself on assigned homework exercises and the associated concepts and theorems. More specific information will be given for each exam as it approaches.

**Grading changes**

The instructor will make every effort to ensure that grades are fair and do not overlook any correct work submitted on quizzes and exams. Students are encouraged to review their graded work afterwards and ask questions about any point deductions they do not understand. No points may be re-awarded for a grading error after 2 weeks from the time a quiz or exam is handed back in class.

**Final exam**

The final exam will be comprehensive. Unless otherwise suggested by the instructor and agreed upon unanimously by the class, the exam will be offered in our classroom at the University-scheduled final exam time, which this semester is expected to be **Friday, December 15, from 8:00 to 11:00 am.** University and course policies concerning the final exam will be strictly adhered to. More information on the exam will be given towards the end of the semester.

**A request**

In an effort to improve my teaching in future semesters, I'd like to hold on to copies of some student work to use as examples for students in future semesters of this course and possibly related courses. For these purposes it is helpful to have
both correct examples and incorrect ones. At times I may contact you (usually by email) asking if you will allow me to use copies of your submitted work, in an anonymous way, as part of an example in my future teaching. You will be free to ask questions and/or decline, and I will never directly use your work for these purposes without your consent. However, if you are willing to help me and future semesters of students in this way, I will gratefully and respectfully use your (anonymized) work to help me clearly and effectively show students how to learn this course's material. (And of course, if there are mistakes in your work, I'll do my best to help you overcome those, too, no matter whether you grant me permission to save it or not.)

**Accommodations for special needs**

Section 504 of the Rehabilitation act of 1973 and the Americans with Disabilities Act of 1990 require the University of Rhode Island to provide academic adjustments or the accommodations for students with documented disabilities. The student with a disability shall be responsible for self-identification to the Disability Services for Students in the Office of Student Life, providing appropriate documentation of disability, requesting accommodation in a timely manner, and follow-through regarding accommodations requested. It is the student’s responsibility to make arrangements for any special needs and the instructor’s responsibility to accommodate them with the assistance of the Office of Disability Services for Students.

Any student with a documented disability is welcome to contact me as early in the semester as possible so that we may arrange reasonable accommodations. As part of this process, please be in touch with Disability Services for Students Office at 330 Memorial Union, 401-874-2098 (http://www.uri.edu/disability/dss/)

**Academic honesty**

All submitted work must be your own. If you consult other sources (including resources belonging to other students from this or other universities/semesters and/or online resources such as so-called "homework help" sites) these MUST be properly documented with a written comment on your assignment giving bibliographic information, or you will be charged with plagiarism/academic dishonesty and will receive a penalty for the assignment, up to and including a full loss of credit. In some cases, this may result in a failure of the course as well. In addition, the charge of academic dishonesty will go on your record in the Office of Student Life. If you have any doubt about what constitutes plagiarism, visit the URI Student Handbook and University Manual sections on Plagiarism and Cheating at http://www.uri.edu/facsen/8.20-8.27.html.
For example, unless you receive instructor authorization in writing, you may not receive help on exams from any source, and if you receive help as you complete a homework assignment, you should acknowledge that help on your assignment. If you are unsure about whether an action you have taken or are considering is academically honest, please ask (sooner, rather than later).

Additionally, all communication with the instructor must be strictly truthful. Please avoid dishonesty for the purpose of receiving points or special arrangements that your work or circumstances do not merit; the same penalties described above will apply to the assignments, quizzes, and/or exams affected. If you feel pressure to be untruthful because of your circumstances, please contact me early so we can work together to see what options might legitimately be available to you.

Inappropriate use of course materials

All course materials (e.g., outlines, handouts, syllabi, exams, quizzes, slideshows/presentations, lectures, audio and video recordings, etc., whether in tangible or digital form) are proprietary. In order to preserve the value of course materials and the educational experiences of later students, and to maintain appropriate copyright status for instructor creations, all rights are reserved. In particular, students are prohibited from posting online or selling any such course materials without express written permission from the instructor.

Religious holidays

It is the policy of the University of Rhode Island to accord students, on an individual basis, the opportunity to observe their traditional religious holidays. Students desiring to observe a holiday of special importance must provide written notification to each instructor prior to the holiday.
Tentative Course Schedule

The following schedule is subject to change with fair notice to be given in class and through Sakai.

### Course Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Topics/Readings, Events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sept. 6, 8</td>
<td>Sections 3.3-3.5&lt;br&gt;Sections 6.2-6.3</td>
</tr>
<tr>
<td>2</td>
<td>Sept. 11-15</td>
<td>Sections 6.6-6.7&lt;br&gt;(Tues 9/12: Open add deadline)</td>
</tr>
<tr>
<td>3</td>
<td>Sept. 18-22</td>
<td>Sections 6.7-7.1</td>
</tr>
<tr>
<td>4</td>
<td>Sept. 25-29</td>
<td>Sections 7.2-7.3&lt;br&gt;(Wed 9/27: Deadline to drop with no transcript entry)</td>
</tr>
<tr>
<td>5</td>
<td>Oct. 2-6</td>
<td>Sections 7.3, 8.1&lt;br&gt;&lt;strong&gt;Friday, October 6: Exam 1 (on Chapters 6 and 7)&lt;/strong&gt;</td>
</tr>
<tr>
<td>6</td>
<td>Oct. 11, 13</td>
<td>(Mon 10/9: Columbus Day; no classes)&lt;br&gt;Sections 8.1-8.2</td>
</tr>
<tr>
<td>7</td>
<td>Oct. 16-20</td>
<td>Sections 8.2-8.3&lt;br&gt;(Wed 10/18: Deadline to drop with transcript entry)</td>
</tr>
<tr>
<td>8</td>
<td>Oct. 23-27</td>
<td>Sections 8.4-8.5</td>
</tr>
<tr>
<td>9</td>
<td>Oct. 30, Nov. 1, 3</td>
<td>Sections 8.6, 9.1</td>
</tr>
<tr>
<td>10</td>
<td>Nov. 6, 8, 10</td>
<td>&lt;strong&gt;Monday, November 6: Exam 2 (on Chapter 8)&lt;/strong&gt;&lt;br&gt;Section 9.1-9.2</td>
</tr>
<tr>
<td>11</td>
<td>Nov. 15, 17</td>
<td>(Mon 11/13: Veterans Day; no classes)&lt;br&gt;Sections 9.3-9.4</td>
</tr>
<tr>
<td>12</td>
<td>Nov. 20, 22</td>
<td>Section 9.5</td>
</tr>
<tr>
<td>13</td>
<td>Nov. 27, 29, Dec. 1</td>
<td>Sections 9.6-9.7</td>
</tr>
<tr>
<td>14</td>
<td>Dec. 4-8</td>
<td>Section 10.1&lt;br&gt;&lt;strong&gt;Wednesday, December 6: Exam 3 (on Chapter 9)&lt;/strong&gt;&lt;br&gt;Section 10.3</td>
</tr>
<tr>
<td>15</td>
<td>Dec. 11</td>
<td>Review for the final exam; course evaluation time</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Pastore Hall Room (our classroom)&lt;br&gt;Friday, December 15, 8:00 – 11:00 am</td>
<td></td>
</tr>
</tbody>
</table>