Course title and number  MATH 152 – Engineering Mathematics II  
Sections 507-512  

Term  Fall 2015  
Class times and location  Sections 507-509 Lecture:  MWF 12:40-1:30pm HELD 111  
Sections 510-512 Lecture:  MWF 1:50-2:40pm HELD 111  
Recitation/Lab:  
Section 507 – T 8:00-8:50am C E 222  
Section 507 – T 9:35-10:25am C E 136  
Section 509 – T 11:10-12:00pm C E 136  
Section 510 – T 12:45-1:35pm C E 223  
Section 510 – T 2:20-3:10pm C E 136  
Section 512 – T 3:55-4:45pm HRBB 126  

INSTRUCTOR INFORMATION  
Name  Rosanna Pearlstein  
Webpage  www.math.tamu.edu/~rosanna  for course syllabus, and  
http://www.math.tamu.edu/courses/math152/  From there, you will be able to  
access links to: Course Description, Course Schedule, Lab Schedule,  
eHomework, Suggested Homework, Common Exam Schedule, Common  
Exam Guidelines, Past Common Exams, streaming videos for past exams  
solutions, Week in Review Schedule, Help Session Schedule, CalcLab Help  
Sessions, Maplets, Online Calculus I.  
Note that announcements and important information, as well as lecture notes,  
will be posted on eCampus.  
Phone number  Department of Mathematics:  845-3261  
Email address  rosanna@math.tamu.edu  
Check your TAMU email account daily, because this is where class emails  
will be sent. You are responsible for any announcements made through email.  
Office  Blocker 245B  
Office hours  MWF 11:15-12:15pm or by appointment  

COURSE DESCRIPTION AND PREREQUISITES  
Description:  4 credit. Integration techniques and their applications (area, volumes, work), improper  
integrals, analytic geometry, vectors, infinite series, power series, Taylor series, computer algebra (Matlab).  
Prerequisites:  Math 151 or equivalent. Credit will not be given for more than one of Math 148, 152, 172.  

Calculator Policy:  Calculators are not allowed on exams or quizzes, although they may be used on  
home assignments. Use of a calculator on a quiz or exam is considered academic dishonesty and will  
be reported to the Aggie Honor Council.  

LEARNING OUTCOMES  
This course is focused on quantitative literacy in mathematics as applied to Engineering and Physics. Upon  
successful completion of this course, students will be able to:  
• Use the concepts of definite integrals to solve problems involving area, volume, work, and other  
  physical applications.  
• Use substitution, integration by parts, trigonometric substitution, and partial fractions to evaluate  
  definite and indefinite integrals.  
• Apply the concepts of limits, convergence, and divergence to evaluate different types of improper
integrals.

- Determine convergence or divergence of sequences and series.
- Use Taylor and MacLaurin series to represent functions.
- Use Taylor or MacLaurin series to integrate functions not integrable by conventional methods.
- Understand and apply vector operations such as dot and cross product in three dimensions.
- Use Computer Algebra Systems such as Matlab to solve non-routine problems.

**Textbook and/or Resource Material**

- **Textbook:** Stewart, *Calculus: Early Vectors*, Cengage Learning. You paid for an electronic version of this textbook (eBook) through the online system WebAssign when you paid your course fees. Information on how to access your eBook can be found under the “Student Information Page” at http://www.math.tamu.edu/courses/eHomework. You are welcome to purchase a physical copy of the textbook or a loose-leaf copy of the text if you prefer, but this is not required.
- **Lab Manual:** Gilat-Amos, *MATLAB: An Introduction with Applications*, 5th edition, Wiley

**Grading Policies**

The course grading will be based on the tables below. Due to FERPA privacy issues, I cannot discuss grades over email or phone. If you have a question about your grade, please come see me in person.

- **Grade Breakdown**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>Weekly</td>
<td>10%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>Weekly</td>
<td>10%</td>
</tr>
<tr>
<td>Labs</td>
<td>See Lab Schedule</td>
<td>5%</td>
</tr>
<tr>
<td>Common Exam I</td>
<td>Thursday, October 1, 7:30-9:30pm</td>
<td>50%</td>
</tr>
<tr>
<td>Common Exam II</td>
<td>Thursday, October 29, 7:30-9:30pm</td>
<td>50%</td>
</tr>
<tr>
<td>Common Exam III</td>
<td>Tuesday, December 1, 7:30-9:30pm</td>
<td>50%</td>
</tr>
<tr>
<td>Average of 3 Exams</td>
<td></td>
<td>50%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>See next page for date</td>
<td>25%</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

- **Grading Scale**

<table>
<thead>
<tr>
<th>Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 ≤ Average ≤ 100</td>
<td>A</td>
</tr>
<tr>
<td>80 ≤ Average &lt; 90</td>
<td>B</td>
</tr>
<tr>
<td>70 ≤ Average &lt; 80</td>
<td>C</td>
</tr>
<tr>
<td>60 ≤ Average &lt; 70</td>
<td>D</td>
</tr>
<tr>
<td>Average ≤ 60</td>
<td>F</td>
</tr>
</tbody>
</table>

**Attendance and Makeup Policies**

- **Excused absences:** The University views class attendance as an individual student responsibility. It is essential that students attend class and complete all assignments to succeed in the course. University student rules concerning excused and unexcused absences as well as makeups can be found at http://student-rules.tamu.edu/rule07. In particular, make-up exams and quizzes or late homework/labs will NOT be allowed unless a University approved reason is given to me in writing. Notification before the absence is required when possible. Otherwise, you must notify me within 2 working days of the missed exam, quiz, or assignment to arrange a makeup. In all cases where an exam/quiz/assignment is missed due to an injury or illness, whether it be more or less than 3 days, I require a doctor's note. I will not accept the “University Explanatory Statement for Absence from Class” form. Further, an absence due to a non-acute medical service or appointment (such as a regular checkup) is not an excused absence. Providing a fake or falsified doctor’s note or other falsified documentation is considered academic dishonesty, will be reported to the Aggie Honor Council, and will result in an F* in the course.

- **Makeup** exams will only be allowed provided the above guidelines are met. You will be
allowed to make up a missed exam during one of the scheduled makeup times provided by the Math Department. According to Student Rule 7, you are expected to attend the scheduled makeup unless you have a University-approved excuse for missing the makeup time as well. If there are multiple makeup exam times, you must attend the earliest makeup time for which you do not have a University-approved excuse. The list of makeup times will be available at http://www.math.tamu.edu/courses/makeupexams.html. If a quiz is missed due to a documented university excused absence, then your quiz average will not be compromised.

**ADDITIONAL COURSE INFORMATION AND POLICIES**

**Common Exams:** There will be 3 common exams during the semester. These exams are evening exams taken by all Math 152 students at the same time. Bring your Texas A&M student ID and a pencil to all exams. The location of the common exams will be determined at a later time. The dates for the exams and the tentative content are as follows:

- **Common Exam 1:** Thursday, October 1, 7:30-9:30pm (through 8.2)
- **Common Exam 2:** Thursday, October 29, 7:30-9:30pm (through 10.2)
- **Common Exam 3:** Tuesday, December 1, 7:30-9:30pm (through 11.2)

**Final Exam:** The final exam will be a cumulative (comprehensive) exam. The day and time of the final exam are determined by the University. Sections 507-509: final will be on Monday, December 14, 10:30am-12:30pm in HELD 111. Sections 510-512: final will be on Tuesday, December 15, 3:30pm-5:30pm in HELD 111.

**Graded Homework:** Graded homework assignments will be primarily done online, but may include the occasional written assignment. Online homework will be done in WebAssign. Access to WebAssign was included in your course fees. Other important information such as how to log in, how to access and take assignments, and the Student Help Request Form can be found at http://www.math.tamu.edu/courses/eHomework. I suggest you bookmark this page and visit it before you log in to WebAssign each time.

**Suggested Homework:** Math cannot be learned just by watching someone else do math. It requires a lot of practice. On the webpage http://www.math.tamu.edu/courses/math152/currenthw.html there is a list of suggested homework. I STRONGLY suggest that you do these problems for more practice in addition to the online homework. They will not be collected, but doing them is essential to your success in this class.

**Recitation/Lab:** Your section will meet twice weekly with your TA for recitation/lab. On Tuesdays, you will be in recitation. During recitation sessions, your TA will answer questions, review material, and give weekly quizzes for a grade. You must attend the recitation and lab you are registered for. On Thursdays, you will be in lab where you will complete MATLAB assignments.

**Quizzes:** There will be quizzes given weekly on Tuesday during recitation by your TA. The best way to prepare for these quizzes is to practice problems by doing the suggested homework and the online homework. There may also be quizzes given during class, either announced or unannounced, as well as take home quizzes. The lowest quiz score will be dropped at the end to accommodate any quiz missed due to a university approved absence.

**Lab:** On Thursdays, you will meet in the computer lab to work on computer assignments using MATLAB. Assignments are posted on the web and are due at the BEGINNING of lab on the designated day. MATLAB assignments will be done in groups and each group will turn in one lab.

**Grade Appeals:** If you believe an error has been made in grading, you have until the next class period after the exam, quiz, or assignment has been handed back to let me know. Otherwise, you must accept the grade you received.

**Classroom Respect:** Please refrain from using electronic devices during class. Texting and playing on your phone or computer distracts not only you, but also those around you. If you would like to use a laptop or iPad during class to take notes with, please ask for permission prior to doing so.
Copyright: All printed handouts and web-materials are protected by US Copyright Laws. No multiple copies can be made without written permission by the instructor.

Additional Helpful Links:
• Help Sessions http://www.math.tamu.edu/courses/helpsessions.html
• Week in Reviews http://www.math.tamu.edu/courses/weekinreview.html
• Academic Calendar http://registrar.tamu.edu/General/Calendar.aspx
• Final Exam Schedule http://registrar.tamu.edu/General/FinalSchedule.aspx

Note: As with any math class, it is very important that you keep up with the suggested homework and that you do not fall behind. Please don’t hesitate to ask questions in class, to come to my office hours, or to send me an e-mail. My goal is not to cram information into your head, but to help you learn. If you are not understanding the concepts, please ask for help. Don’t wait until the day before an exam to try and grasp the material. There are Week in Reviews and Help Sessions regularly, as well as streaming videos and other materials online. Please take advantage of these resources!

COURSE TOPICS (Tentative weekly schedule)

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TOPIC</th>
<th>SECTIONS COVERED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Review of the Fundamental Theorem of Calculus, integration by substitution, area</td>
<td>Sections 6.4–6.5, 7.1</td>
</tr>
<tr>
<td>2</td>
<td>Area, volumes by slicing, disks, washers</td>
<td>Sections 7.1–7.2</td>
</tr>
<tr>
<td>3</td>
<td>Volume by cylindrical shells, work</td>
<td>Sections 7.3–7.4</td>
</tr>
<tr>
<td>4</td>
<td>Average value, integration by parts, trigonometric integrals</td>
<td>Sections 7.5, 8.1–8.2</td>
</tr>
<tr>
<td>5</td>
<td>Trigonometric substitution, partial fractions. Exam 1 (covers through Section 8.2).</td>
<td>Sections 8.3–8.4</td>
</tr>
<tr>
<td>6</td>
<td>Improper integrals, arc length, surface area of revolution</td>
<td>Sections 8.9, 9.3–9.4</td>
</tr>
<tr>
<td>7</td>
<td>Sequences, Series</td>
<td>Sections 10.1–10.2</td>
</tr>
<tr>
<td>8</td>
<td>Series, convergence tests</td>
<td>Sections 10.2–10.3</td>
</tr>
<tr>
<td>9</td>
<td>Absolute convergence, convergence tests. Exam 2 (covers through Section 10.2).</td>
<td>Section 10.4</td>
</tr>
<tr>
<td>10</td>
<td>Power series, representing functions as power series</td>
<td>Sections 10.5–10.6</td>
</tr>
<tr>
<td>11</td>
<td>Taylor and Maclaurin series, applications of Taylor series</td>
<td>Sections 10.7, 10.9</td>
</tr>
<tr>
<td>12</td>
<td>3D coordinates, vectors, dot product</td>
<td>Section 11.1–11.2</td>
</tr>
<tr>
<td>13</td>
<td>Cross product</td>
<td>Section 11.3</td>
</tr>
<tr>
<td>14/15</td>
<td>Polar coordinates. Exam 3 (Covers through Section 11.2), Review for Final Exam</td>
<td>Section 13.4</td>
</tr>
</tbody>
</table>

AMERICANS WITH DISABILITIES ACT (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, in Cain Hall, Room B118, or call 845-1637. For additional information visit http://disability.tamu.edu

ACADEMIC INTEGRITY

Cheating and other forms of academic dishonesty will not be tolerated. Please do not compromise your integrity for the sake of temporary benefits.

Aggie Honor Code: “An Aggie does not lie, cheat, or steal, or tolerate those who do.”

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System.

For additional information please visit: http://aggiehonor.tamu.edu