First Day Handout for Students  
MATH 2414 Calculus II – Spring 2013

Section & Synonym: 011 (24022)  
Time: 8:35 – 10:20 TTh  
Room: PIN 606

Instructor: V. Payne, Ph.D.  
Office: PIN 1021  
Office Hours:  
MW 8:00 – 9; 10:45 – 12; 1:20 – 1:50  
TH 8 8:30; 11:50 1:50  
Thursday only: 4:20 - 5  
Phone: (512) 223-8178

Email address: vpayne@austincc.edu

Check Blackboard and/or my web site (www.austincc.edu/vpayne) for first-day handouts, assignments, my schedule, answers to worksheets, announcements, etc.

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COURSE DESCRIPTION  
MATH 2414 Calculus II (4-4-0). A standard second course in calculus. Topics include integration of elementary functions; techniques of integration; integrals with infinite limits of integration; integrals of discontinuous integrands; applications of the definite integral; an introduction to differential equations; infinite series; and other applications of integrals. Prerequisites: MATH 2413 with a C or better or the equivalent. (MTH 1864)

TEXT AND OPTIONAL MATERIALS
Required Textbook:  
(Single-variable version has all the material for Calculus II, but not for Calculus III. Students should buy the full version if they intend to take Calculus III.)

Required Technology: You must have access to technology which enables you to (1) Graph a function, (2) Find the zeroes of a function. Because I’m familiar with the TI family of graphing calculators, TI calculators are highly recommended for student use. Other calculator brands can also be used, but TI-89 calculators and other brands that have features that produce exact solutions are not allowed. Graphing calculators may be used to demonstrate concepts and check solutions to many types of problems, but you are required to work each problem using good notation.

Optional Supplemental Material for Students: Student Solution Manual

COURSE RATIONALE
This course is the second course in the traditional calculus sequence for mathematics, science and engineering students. It is part of what could be a four-semester sequence in calculus courses. The approach allows the use of technology and the rule of four (topics are presented geometrically, numerically, algebraically, and verbally) to focus on conceptual understanding. At the same time, it retains the strength of the traditional calculus by exposing the students to the rigor of proofs and the full variety of traditional topics: integration, techniques of integration, applications of integration, and infinite series.

COURSE EVALUATION/GRADING SCHEME
• Homework will be collected weekly and one or more problems will be graded. No late homework will be accepted but at least three (3) homework grades will be dropped.
• There will be four (4) exams and an optional comprehensive final exam. The final exam will be given in class during the last scheduled class meeting and may replace ONE low or missed exam or homework
average. Each exam, the final, and the homework average will count equally. **There may be a problem from previous exams on exams after the first exam.**

**INSTRUCTIONAL METHODOLOGY** This course is taught in the classroom primarily as a lecture/discussion course.

**COURSE POLICIES**

**Missed exam policy** The comprehensive final exam grade may replace one low or missed exam grade.

**Late work policy** No late work will be accepted.

**Class participation expectations** Each student is expected to participate in all course activities.

**Reinstatement Policy** If a student is withdrawn from the course, that student will not be reinstated.

**Attendance Policy** Students with excessive absences WILL NOT be dropped by the instructor. It is the student's responsibility to initiate all withdrawals in this course. **Students who stop attending and do not withdraw will receive an F.**

**Withdrawal Policy** It is the student's responsibility to initiate all withdrawals in this course. The instructor may withdraw students for excessive absences (4) but makes no commitment to do this for the student. After the last day to withdraw, **Monday, April 22, 2013**, neither the student nor the instructor may initiate a withdrawal.

**Incomplete Grade Policy** Incomplete grades (I) will be given only in very rare circumstances. Generally, to receive a grade of "I", a student must have taken all examinations, be passing, and after the last date to withdraw, have a personal tragedy occur which prevents course completion.

**COMMON COURSE OBJECTIVES**
The objectives of Calculus II are for the students to understand the following topics and to be able to apply these concepts to solve application problems. Calculus II covers: techniques of integration: substitutions, integration by parts, partial fraction decomposition and the use of integration tables. The course also includes:

1. Numerical integration techniques.
2. Improper integrals.
3. Applications of integration: areas, volumes, arc length and other applications.
4. Introduction to differential equations: slope fields, Euler’s method and separation of variables.
5. Convergence or divergence of sequences and series.
6. Power series, their interval of convergence and their applications.

Course Objectives are also listed at: [http://www.austincc.edu/mthdept2/tfcourses/obj2414.htm](http://www.austincc.edu/mthdept2/tfcourses/obj2414.htm).

**COURSE-SPECIFIC SUPPORT SERVICES** Sometimes sections of MATH 0187 (1-0-2) are offered. This lab is designed for students currently registered in Calculus I MATH 2413. It offers individualized and group setting to provide additional practice and explanation. This course is not for college-level credit. Repeatable up to two credit hours.

**LEARNING LABS** ACC main campuses have Learning Labs which offer free first-come first-serve tutoring in mathematics courses. The locations, contact information and hours of availability of the Learning Labs are posted at: [http://www.austincc.edu/tutor](http://www.austincc.edu/tutor). The Learning Lab at the Pinnacle campus is in room PIN 600.

**SUGGESTED CALENDAR** 16-Week Semester

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<thead>
<tr>
<th>Week 1</th>
<th>Review of selected topics from 4.9 to 5.4</th>
<th>Week 9</th>
<th>7.1, 7.2</th>
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<tbody>
<tr>
<td>Week 2</td>
<td>5.5, 5.6</td>
<td>Week 10</td>
<td>finish 7.2, 7.3</td>
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<tr>
<td>Week 3</td>
<td>5.7, 5.8, begin 5.9</td>
<td>Week 11</td>
<td>7.4, 8.1</td>
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<td>Week 4</td>
<td>finish 5.9, 5.10</td>
<td>Week 12</td>
<td>8.2, 8.3</td>
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<td>Week 5</td>
<td>1.7, 3.5, 6.1</td>
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<td>8.4, 8.5</td>
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<td>Week 6</td>
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<td>Week 14</td>
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<td>Week 7</td>
<td>6.4, begin 6.5</td>
<td>Week 15</td>
<td>8.8, 8.9</td>
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<td>Week 8</td>
<td>finish 6.5, 6.7</td>
<td>Week 16</td>
<td>Review &amp; Final Exam</td>
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*Please note: Schedule changes may occur during the semester. Any changes will be announced in class.*