COURSE DESCRIPTION
CALCULUS II
MA 126–6C, 31924
SPRING 2014

DEPARTMENT OF MATHEMATICS
UNIVERSITY OF ALABAMA AT BIRMINGHAM

Course Instructor: Dr. Carmeliza Navasca
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Office Hours: MonWed 11:00–12:00 PM, Tue 2:30–3:30 PM (or by appointment)

Course Info

Meeting times: MonWed, 12:20–2:10 PM
Meeting location: CH 205
Prerequisite: Grade of C or better in MA 125 or equivalent.
Credits: 4 semester hours
Textbook: *Essential Calculus — Early Transcendentals, Second Edition* by James Stewart, Thomson-Brooks/Cole, 2013; Topics to be covered: Sections 10.1-10.5,10.7-10.8, 5.1-5.5, 6.1-6.3, 6.6, 7.1-7.2, 7.6, 8.1-8.7.

Below is the link to the personalized website for UAB Calculus where students can purchase their course materials directly from Cengage Learning at a discount. `http://www.cengagebrain.com/micro/5PI-2OWN`

- Option #1: Loose leaf bundle (3-ring binder) version of the Stewart textbook packaged together with Enhanced WebAssign access (includes full eBook). MICROSITE PRICE $120

- Option #2: eBook only: access to Enhanced WebAssign student will use eBook available within the platform and not purchase a printed textbook. MICROSITE PRICE $95

- Option #3: Hardbound bundle: hardbound version of the full textbook packaged together with Enhanced WebAssign access (includes full eBook). MICROSITE PRICE $156

Important Dates

First day of our class: January 6, 2014
Last day to drop without paying full tuition: January 13, 2014
MLK Day (UAB Holiday): Monday January 20, 2014
Spring Break: March 24–28
Last day to withdraw with a "W": March 31, 2014
Last day of our class: April 18, 2014

Date: January 6, 2014.

Major exams (tests):
Test I: Wed, Jan 29, Sections: 10.1-10.5, 10.7
Test II: Wed, Feb 19, Sections: 5.1-5.5, 6.1-6.2
Test III: Wed, Mar 12, Sections: 6.3, 6.6, 7.1-7.2, 7.6, 10.8
Test IV: Wed, Apr 9; Sections: 8.1-8.7

(These dates are approximate and may be slightly shifted due to unforeseen circumstances.)
Final exam: Wed, Apr 23, 2014, 1:30–4:00 PM (Location to be announced.)

Course Policies

- Please make sure that you are able to receive e-mail through your Blazer-ID account. Official course announcements may be sent to that address.
- If your are contacted by the Early Alert Program, you should consider taking advantage of the services it offers. Various services to assist you are also listed in the *Student Resources* section of the *Blazernet* (`http://uab.edu/blazernet`) website.
- If you wish to request a disability accommodation please contact DSS at 934-4205 or at *dss@uab.edu.*
- The two lowest quiz grades and the two lowest homework grades will be dropped to account for any missed assignments due to illness or any other circumstance. If a test is missed due to a serious verifiable circumstance or official university business, the test grade will be replaced with the properly rescaled final exam score. You must contact the instructor of such circumstances **before** the exam takes place.
- No books, notes, or calculators will be allowed during any of the tests or quizzes.

Objectives of the Course

Upon successful completion of the course, a student

(1) understands the concept of a vector, can perform basic vector calculations, and is able to use vectors to describe lines and planes in space;
(2) understands the concept of vector-valued functions, and is able to use vector functions to describe parametric curves, tangent vectors and velocity;
(3) understands the concept of definite integral;
(4) is able to apply the definite integral to find volumes, work, and arc length;
(5) knows the basic techniques of integration;
(6) is able to apply Calculus concepts to problems in Physics and Engineering;
(7) is able to determine the convergence/divergence of improper integrals, sequences, and infinite series; and
(8) can find power series representations of functions and use them for approximation, evaluation of integrals, and limits.

The understanding of a concept is demonstrated by an ability to solve pertinent problems related to that concept.

Methods of Teaching and Learning

- Class meetings of 110 minutes consisting of lectures and discussions of examples and homework problems. Time also includes quizzes and four in-class tests.
- Some time will be devoted to Labs where students work practice problems.
- Students are expected to undertake at least 10 hours of private study and homework per week.

- The online homework system WebAssign (`http://www.webassign.net/`) will be used (look for more information below).
- The online class management system Blackboard (Bb) (`http://www.uab.edu/bblearn/`) will be used to post important handouts, class announcements, practice exams, grades and other pertinent links. Students should log in to Bb at least once a week! Students can also download the <u>Blackboard Mobile Learn</u> App for accessing Bb on-the-go via smartphones and ipads.

Course Content

Essential Calculus — Early Transcendentals, Second Edition, by James Stewart, Thomson-Brooks/Cole, 2013.

- Vectors in three dimensions, their geometric and algebraic representation, dot product and cross product.
- Equations of lines and planes.
- Vector-valued functions and parametric curves, tangent vectors, velocity and speed.
- Riemann sums, the definite integral, area and distances.
- The fundamental theorem of calculus, indefinite integrals and antiderivatives.
- Basic techniques of integration including substitution, integration by parts, partial fractions and the use of tables.
- Applications of integration (area, volumes, arc length).
- Applications to Physics and Engineering.
- Sequences and series, power series.

Assessment Procedures

- Student achievement will be assessed by the following measures:
  - **Regular online homework.** Homework will be due on most Wednesdays. There will be no extension of deadlines for any reason (however, the lowest two grades will be dropped). Feedback is provided when wrong answers are given. Students are encouraged to retake the homework problems (with randomly changed parameters) until they obtain correct answers. A limited number (at most 3) of takes is allowed during the week in which the set is available. Homework contributes 10% to the course average. Problems on tests are modeled after homework problems. Staying on top of homework is therefore extremely important.
  - **Unannounced/announced quizzes.** Quiz problems are similar to the homework problem sets. This allows students to gauge whether they are ready to work problems in a test situation. Quizzes contribute 5% to the course average. Lowest two quiz grades will be dropped.
  - **Four in-class tests** including short questions for which either full credit or no credit is awarded (Part I) as well as problems requiring in depth understanding (including word-problems) for which partial credit is awarded where appropriate. Each test contributes 13% to the course average.
  - **A 150-minute comprehensive final examination** including Part I and Part II type problems. The final contributes 33% to the course average.

Grading Scheme: 10% homework, 5% quiz, 13% test 1, 13% test 2,
13% test 3, 13% test 4, 33% final exam

- Your course performance is your course average (including the final exam score). This is a number between 0 and 100.
- Your final grade is determined according to the following table:

Course performance:	88-100	75-87	62-74	50-61	below 50
Final Grade:	A	B	C	D	F

- In addition your grade maybe raised by a strong performance on the final exam (normally at most one letter grade).

Tips

- Help is available in the Math Learning Lab (HH 202); M–Th 9–8, F 9–5. Here's a direct link to the Math Learning Lab Schedule (`http://www.uab.edu/cas/mathematics/mll/math-learning-lab-schedule`) and to the Calculus Tutoring Schedule (`http://www.uab.edu/cas/mathematics/mll/tutoring-schedule`). Note that all tutors in the room HH 202 are capable of answering Calculus problems.
- By working steadily and regularly, you will increase your chances to succeed in this course.
- Remember, being a full-time student is a full-time job.

How to get started on Enhanced WebAssign

(1) Go to `http://www.webassign.net` and click on *I HAVE A CLASS KEY* in the *signin* link.
(2) Enter the following course key:

uab 1123 2486

and proceed. (If prompted for your institution, enter *uab*)
(3) When prompted to purchase an access code, select "**...trial period**" (Do not purchase an access code at this time. However, you must purchase an access code within two weeks for you to continue using the system beyond the two-week trial period. The system will prompt you to enter your access code when the deadline approaches. Your book may have an access code bundled with it. You must use it.)
(4) After your first registration, you can sign in as returning user.
(5) Should you run into technical problems Enhanced WebAssign provides technical support online and/or by phone.

Academic Honor Code

UAB Faculty expects all members of its academic community to function according to the highest ethical and professional standards. Academic dishonesty and misconduct includes, but is not limited to, acts of abetting, cheating, plagiarism, fabrication, and misrepresentation. Candidates are expected to honor the UAB Honor Code as detailed in the most current UAB Student Catalog. Please consult this resource for additional information regarding the specific procedures to be undertaken when a student violates the UAB Honor Code. See `http://www.uab.edu/students/academics/honor-code`

Non-harassment, Hostile Work/Class Environment

The UAB College of Arts and Sciences expects students to treat fellow students, their Course Instructors, other UAB faculty, and staff as adults and with respect. No form of hostile environment or harassment will be tolerated by any student or employee.