

# SOUTHWEST COLLEGE Department of Mathematics

# COURSE SYLLABUS

# MATH 2414: CALCULUS II

## / SPRING 2015 / CRN 49975 / Monday-Wednesday 2:00-4:00 pm / Stafford Campus

INSTRUCTOR:	Dr. Bazargan
CONTACT INFORMATION:	Mohammad.bazargan@hccs.edu

WebAssign: www.webassing.netClass Key: hccs 2797 2594WebAssign is free for 14 days. You can decide on the selection of the options that are<br/>available during this time. (when you buy WebAssign you will have access to ebook).

#### Office location and hours:

Please feel free to contact me concerning any problems that you are experiencing in this course. You do not need to wait until you have received a poor grade before asking for my assistance. Your performance in my class is very important to me. I am available to hear your concerns and just to discuss course topics. Email me for an appointment at Stafford Campus.

**Early advisement**: Students will be advised about the current course, prerequisite, and subsequent Math courses.

**Catalog Description:** Calculus II, Integral calculus, includes discussions of transcendental functions, applications of integration, integration techniques and improper integrals, infinite series, Taylor series, plane curves, and polar coordinates. MATH 2414: Calculus II, Credit: 4 Prerequisite: MATH 2413

**Audience:** This course is intended basically for students who are pursuing degrees in mathematical sciences and engineering and who are required by the nature of their respective curricula to enroll in the 3 -semester calculus series. Students enrolled in other areas not requiring calculus may wish to take this course as an elective to broaden their mathematical background provided the necessary prerequisites have been met.

#### Textbook:



Calculus—10<sup>th</sup> edition Larson and Edwards Published by Cengage Learning <u>www.webassign.net</u>

When you buy the WebAssign code you will have access to the e-book.

Student Learning Outcomes	Course Objectives
<ol> <li>Compute derivatives and antiderivatives of transcendental functions.</li> </ol>	<ul><li>1.1 Define and use transcendental functions including logarithmic and exponential functions.</li><li>1.2 Compute derivatives and antiderivatives involving transcendental functions.</li></ul>
<ol> <li>Identity and apply the appropriate integration technique, and apply them to set up and solve various applications.</li> </ol>	<ul><li>2.1 Apply integration to various applications.</li><li>2.2 Show various integration techniques</li></ul>
<ol> <li>Demonstrate the correct use of L'Hopital's rule and various techniques for solving improper integrals.</li> </ol>	<ul><li>3.1 Show correct usage of L'Hopital's rule.</li><li>3.2 Describe and solve improper integrals.</li></ul>
<ol> <li>Recognize and use infinite series with attention to the application of the Taylor series.</li> </ol>	<ul><li>4.1 Recognize and use infinite series.</li><li>4.2 Recognize and apply Taylor series to various problems</li></ul>
<ol> <li>Demonstrate knowledge of plane curves and polar coordinates.</li> </ol>	5.1 Demonstrate knowledge of plane curves and polar coordinates.

#### Instructional Methods:

As an instructor, I want my students to be successful. I feel that it is my responsibility to provide you with knowledge concerning the field of mathematics, organizing and monitoring the success of each student with homework that allows you to connect the information that you learn in this course to applications in other course work and life in the real world.

As a student wanting to learn about the field of mathematics, it is your responsibility to read the textbook, submit assignments on the due dates, study for the exams, participate in classroom activities, attend class, and enjoy yourself while experiencing the real world of mathematics.

As I believe that engaging the students in the learning is essential for teaching to be effective, you will spend a portion of class time involved in problem solving activities. You will be involved in discussions with your classmates and your instructor. As you will want to contribute to these discussions, you will need to come to class prepared to discuss, analyze and evaluate information from your text and other assigned readings.

# **Testing policy:**

Three in class exams. Final exam is compulsory and comprehensive. Homework is online on WebAssign.

## Grading policy:

Your course grade is based on the following standard HCCS scale.

Average	90<=Av<=100	80<=Av< 90	70 <=Av<80	60<=Av<70	Av< 60
Grade	А	В	С	D	F

### Grade Average = [Exam1 + Exam2 + Exam3 + WebAssign + Final] / 5

## Make-up policy:

Make-up exam will not be given in this course for any reason. However, the compulsory final exam will be replaced for only one missed exam. The other missed exams will receive zero.

### **Homework policy:**

All homework must be completed online using WebAssign. (<u>www.webassign.net</u>) The sections corresponding to each exam should be completed <u>BEFORE</u> taking the exam.

Calculators: Calculators that do not have integrating capability may be used in class and on exams.

<b>Course Outline:</b>	Lecture Schedule / Examination Schedule.
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	Number of hours	
Chapter / Topic	(Approximate)	
~ ~ ~		10
Chapter Five: Logarithmic, Exponential, and other Transcendenta	Functions.	10
Chapter Seven: Applications of Integration. (Sections $7.1 - 7.3$ )		4
Review for Exam # 1		2
Exam # 1 (Chapter five and sections $7.1 - 7.3$ )		2
Chapter Seven: Applications of Integration. (Sections $7.4 - 7.7$ )		4
Chapter Eight: Integration Techniques, L'Hopital's Rule, and Impr	oper Integrals.	12
Review for Exam # 2		2
Exam # 2 (Sections 7.4 – 7.7 and chapter eight)		2
Chapter Nine: Infinite Series.		12
Review for Exam # 3		2
Exam # 3 (Chapter nine)		2
Chapter Ten: Plane Curves, Parametric Equations, and Polar Coor	dinates.	
(Excluding 10.1)		6
General Review.		2
FINAL EXAMINATION IS COMPREHESIVE. Wednesday, 5/1	3/2015, at 2:00pm.	2

#### HCC Policy Statement: Academic Honesty

A student who is academically dishonest is, by definition, not showing that the coursework has been learned, and that student is claiming an advantage not available to other students. The instructor is responsible for measuring each student's individual achievements and also for ensuring that all students compete on a level playing field. Thus, in our system, the instructor has teaching, grading, and enforcement roles. You are expected to be familiar with the College's Policy on Academic Honesty, found in the catalog. What that means is: If you are charged with an offense, pleading ignorance of the rules will not help you. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion.

Cheating on a test includes:

- Copying from another students' test paper;
- Using materials not authorized by the person giving the test;
- Collaborating with another student during a test without authorization;
- Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test that has not been administered;
- Bribing another person to obtain a test that is to be administered.

<u>Plagiarism</u> means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.

<u>Collusion</u> mean the unauthorized collaboration with another person in preparing written work offered for credit. Possible punishments for academic dishonesty may include a grade of 0 or F in the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System. (See the Student Handbook)

#### **HCC Policy Statements**

*Class Attendance - It is important that you come to class!* Attending class regularly is the best way to succeed in this class. Research has shown that the single most important factor in student success is attendance. Simply put, going to class greatly increases your ability to succeed. You are expected to attend all lecture and labs regularly. You are responsible for materials covered during your absences. Class attendance is checked daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences.

If you are not attending class, you are not learning the information. As the information that is discussed in class is important for your career, students may be dropped from a course after accumulating absences in excess of 8 hours of instruction. The 8 hours of class time would include any total classes missed or for excessive tardiness or leaving class early.

You may decide NOT to come to class for whatever reason. As an adult making the decision not to attend, you do not have to notify the instructor prior to missing a class. However, if this happens too many times, you may suddenly find that you have "lost" the class.

Poor attendance records tend to correlate with poor grades. If you miss any class, including the first week, <u>you are responsible for all material missed.</u> It is a good idea to find a friend or a buddy in class who would be willing to share class notes or discussion or be able to hand in paper if you unavoidably miss a class.

#### Class attendance equals class success.

#### HCC Course Withdrawal Policy

If you feel that you cannot complete this course, you will need to withdraw from the course prior to the final date of withdrawal, which is given in the college calendar. Before, you withdraw from your course; please take the time to meet with the instructor to discuss why you feel it is necessary to do so. The instructor may be able to provide you with suggestions that would enable you to complete the course. Your success is very important. Beginning in fall 2007, the Texas Legislature passed a law limiting first time entering freshmen to no more than **SIX** total course withdrawals **throughout** their educational career in obtaining a certificate and/or degree.

To help students avoid having to drop/withdraw from any class, HCC has instituted an Early Alert process by which your professor *may* "alert" you and HCC counselors that you might fail a class because of excessive absences and/or poor academic performance. It is your responsibility to visit with your professor or a counselor to learn about what, if any, HCC interventions might be available to assist you – online tutoring, child care, financial aid, job placement, etc. – to stay in class and improve your academic performance.

If you plan on withdrawing from your class, you **MUST** contact a HCC counselor or your professor prior to withdrawing (dropping) the class for approval and this must be done **PRIOR** to the withdrawal deadline to receive a "W" on your transcript. \*\*Final withdrawal deadlines vary each semester and/or depending on class length, please visit the online registration calendars, HCC schedule of classes and catalog, any HCC Registration Office, or any HCC counselor to determine class withdrawal deadlines. *Remember to allow a 24-hour response time when communicating via email and/or telephone with a professor and/or counselor. Do not submit a request to discuss withdrawal options less than a day before the deadline.* If you do not withdraw before the deadline, you will receive the grade that you are making in the class as your final grade.

#### Last day to drop a course, for regular term, is Tuesday, March 24, 2015 by 4:30pm.

#### FINAL GRADE OF FX

Students who stop attending class and do not withdraw themselves prior to the withdrawal deadline may either be dropped by their professor for excessive absences or be assigned the final grade of "FX" at the end of the semester. Students who stop attending classes will receive a grade of "FX", compared to an earned grade of "F" which is due to poor performance. Logging into a DE course without active participation is seen as non-attending.

Please note that HCC will not disperse financial aid funding for students who have never attended class. Students who receive financial aid but fail to attend class will be reported to the Department of Education and may have to pay back their aid. A grade of "FX" is treated exactly the same as a grade of "F" in terms of GPA, probation, suspension, and satisfactory academic progress

#### EGLS3 -- Evaluation for Greater Learning Student Survey System

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and division chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end of the term.

#### **Repeat Course Fee**

The State of Texas encourages students to complete college without having to repeat failed classes. To increase student success, students who repeat the same course more than twice, are required to pay extra tuition. The purpose of this extra tuition fee is to encourage students to pass their courses and to graduate. Effective fall 2006, HCC charges a higher tuition rate to students registering the third or subsequent time for a course. If you are considering course withdrawal because you are not earning passing grades, confer with your instructor/counselor as early as possible about your study habits, reading and writing homework, test taking skills, attendance, course participation, and opportunities for tutoring or other assistance that might be available.

#### **Classroom Behavior**

It is our shared responsibility to develop and maintain a positive learning environment for everyone. As your instructor, I take this responsibility very seriously and will inform members of the class if their behavior makes it difficult for him/her to carry out this task. As a fellow learner, you are to respect the learning needs of your classmates and assist your instructor achieve this critical goal.

#### Use of Camera and/or Recording Devices

As a student active in the learning community of this course, it is your responsibility to be respectful of the learning atmosphere in your classroom. To show respect of your fellow students and instructor, you will turn off your phone and other electronic devices, and will not use these devices in the classroom unless you receive permission from the instructor.

Use of recording devices, including camera phones and tape recorders, is prohibited in classrooms, laboratories, faculty offices, and other locations where instruction, tutoring, or testing occurs. Students with disabilities who need to use a recording device as a reasonable accommodation should contact the Office for Students with Disabilities for information regarding reasonable accommodations