



## **SOUTHWEST COLLEGE** *Department of Mathematics*

### COURSE SYLLABUS

## **MATH 2415: CALCULUS III**

/FALL 2015 / CRN 75678 / Monday, Wednesday 5:00pm-7:00 pm /  
Stafford Campus, Room W 106

INSTRUCTOR:	Dr. Bazargan
CONTACT INFORMATION:	<a href="mailto:Mohammad.bazargan@hccs.edu">Mohammad.bazargan@hccs.edu</a>

**WebAssign:** [www.webassign.net](http://www.webassign.net)

**Class Key:** hccs 5217 0981

**WebAssign is free for 14 days. You can decide on the selection of the options that are available during this time. (when you buy WebAssign you will have access to ebook).**

#### **Office location and hours:**

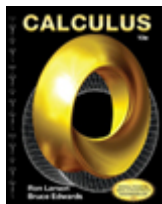
Please feel free to contact me concerning any problems that you are experiencing in this course. You do not need to wait until you have received a poor grade before asking for my assistance. Your performance in my class is very important to me. I am available to hear your concerns and just to discuss 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 III. A survey of advanced topics in calculus including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, Jacobians, divergence and Stokes' theorems. Prerequisite: MATH 2414. 4 credit (4 lecture).

**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  
[www.webassign.net](http://www.webassign.net)

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

Student Learning Outcomes	Course Objectives
1. Understand vector functions, operations with them (including differentiation and integration), and their application to motion in space	1.1 Apply calculus to vectors and vector-valued functions
2. Understand real functions of several variables, operations with them (including differentiation and integration), optimization of multivariable functions, and their application to physical problems	2.1 Describe and use partial differentiation 2.2 Apply Lagrange multipliers to solve problems.
3. Compute multiple integrals in Cartesian, polar, cylindrical, and spherical coordinates, and apply multiple integrals to physical problems;	3.1 Solve multiple integrals. 3.2 Find the Jacobian using determinant notation.
4. Solve problems using the Fundamental Theorem of Line Integrals, Green's Theorem, the Divergence Theorem, and Stokes' Theorem.	4.1 Apply Green's theorem to evaluate line integrals around a bounded area. 4.2 Apply the Divergence theorem and Stokes' theorem to specific problems.

### 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	$90 \leq Av \leq 100$	$80 \leq Av < 90$	$70 \leq Av < 80$	$60 \leq Av < 70$	$Av < 60$
Grade	A	B	C	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. ([www.webassign.net](http://www.webassign.net)) The sections corresponding to each exam should be completed **BEFORE** taking the exam.

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

**Course Outline:** Lecture Schedule / Examination Schedule.

Chapter / Topic	Number of hours (Approximate)
Chapter Eleven: Vectors and the Geometry of Space.	10
Chapter Twelve: Vector – Valued Functions.	8
Review for Exam # 1	2
Exam # 1 (Chapters eleven and twelve)	2
Chapter Thirteen: Functions of Several Variables.	10
Review for Exam #2	2
Exam # 2 (Chapter thirteen)	2
Chapter Fourteen: Multiple Integration.	12
Chapter Fifteen: Vector Analysis. Sections 15.1-15.4	6
Review for Exam # 3	2
Exam # 3 (Chapter Fourteen and Sections 15.1-15.4)	2
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Chapter Fifteen: Vector Analysis, Sections 15.5-15.8	4
FINAL EXAMINATION IS COMPREHENSIVE, MONDAY, 12/7/15 at 5:00pm	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.

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

Collusion 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, you are responsible for all material missed. 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.**

### **Classroom Behavior**

It is our shared responsibility to develop and maintain a positive learning environment for everyone. All of you are expected to respect the right of your classmates who need to be in an environment that is conducive to learning. As your instructor, I take this responsibility very seriously and will not allow any disruptive or distracting behavior.

## **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 the regular term, is Friday, 10/30/15 by 4:30pm.**

## **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 will charge 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.

## **HCC Policy Statement - ADA**

### Services to Students with Disabilities

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office at his or her respective college at the beginning of each semester. Faculty members are authorized to provide only the accommodations requested by the Disability Support Services Office. Persons needing accommodations due to a documented disability should contact the ADA counselor for their college as soon as possible. For questions, please contact Donna Price at

713.718.5165. To visit the ADA Web site, please visit [www.hccs.edu](http://www.hccs.edu) then click Future students, scroll down the page and click on the words Disability Information.

### **HCC Policy Statement: Title IX**

HCC is committed to provide a learning and working environment that is free from discrimination on the basis of sex which includes all forms of sexual misconduct. Title IX of the Education Amendments of 1972 requires that when a complaint is filed, a prompt and thorough investigation is initiated. Complaints may be filed with the HCC Title IX Coordinator available at 713 718-8271 or email at [oie@hccs.edu](mailto:oie@hccs.edu).

### **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

### **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

### **Personal Communication Device Policy:**

All personal communication devices (any device with communication capabilities including but not limited to cell phones, blackberries, pagers, cameras, palmtop computers, lap tops, PDA's, radios, headsets, portable fax machines, recorders, organizers, databanks, and electronic dictionaries or translators) must be muted or turned off during class. Such activity during class time is deemed to be disruptive to the academic process. Personal communication devices are not to be on the student desk during examinations. Usage of such devices during exams is expressly prohibited during examinations and will be considered cheating (see academic honesty section above).

### **Student Course Reinstatement Policy:**

Students have a responsibility to arrange payment for their classes when they register, either through cash, credit card, financial aid, or the installment plan. Faculty members have a responsibility to check their class rolls regularly, especially during the early weeks of a term, and reconcile the official class roll to ensure that

no one is attending class whose name does not appear on it. Students who are dropped from their courses for nonpayment of tuition and fees who request reinstatement after the official date of record (OE Date) can be reinstated by making payment in full and paying an additional \$75 per course reinstatement fee. A student requesting reinstatement should present the registrar with a completed **Enrollment Authorization Form** with the signature of the instructor, department chair, or dean who should verify that the student has been attending class regularly. Students who are reinstated are responsible for all course policies and procedures, including attendance requirements.

**Resources:**

Free tutoring is available in most campuses. The Learning Emporium at the Central Campus is available to all HCC students for tutoring in Mathematics, among other subjects. You may visit them in SJAC 384 or contact them at 713-714-6356 Additional help is also available through Student Support Services. Students can get free assistance, 24 hours a day, 7 days a week, in Math, English and other subjects, at [www.hccs.askonline.net](http://www.hccs.askonline.net). Typically, posted questions are answered by an HCC tutor or faculty within 24 hours (usually under 6 hours). There are also several online math resources that you can find with an internet search. You may also find information on the Learning Web site accessible through your specific HCCS campus website.

**EGLS<sub>3</sub> -- 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. Visit [www.hccs.edu/EGLS3](http://www.hccs.edu/EGLS3) for more information.

**Administration contact information**

**College - Level Math Courses**

Chair of Math	Jaime Hernandez	SW Campus	713-718-7772	Stafford, Scarcella, N108
- Secretary		SW Campus	713-718-7770	Stafford, Scarcella, N108
Math Assoc. Chair	Roderick McBane	CE Campus	713-718-6644	San Jacinto Building, Rm 369
Math Assoc. Chair	Ernest Lowery	NW Campus	713-718-5512	Katy Campus Building, Rm 112
Math Assoc. Chair	Mahmoud Basharat	NE Campus	713-718-2438	Codwell Hall Rm 105

**Developmental Math Courses**

Chair of Dev. Math	Susan Fife	SE Campus	713-718-7241	Felix Morales Building, Rm 124
- Secretary	Carmen Vasquez	SE Campus	713-718-7056	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Marisol Montemayo	SE Campus	713-718-7153	Felix Morales Building, Rm 124
Dev. Math Assoc. Chair	Jack Hatton	NE Campus	713-718-2434	Northline Building, Room 321

For issues related to your class, please first contact your instructor.  
 If you need to contact departmental administration, then contact the appropriate Associate Chair.  
 If further administrative contact is necessary, then contact the appropriate Department Chair.