

Course Syllabus
Math 244.01
Calculus III
4 Credits
Fall, 2004

- 1. Class meeting information:** Class meets in 219 LDB
Monday and Wednesday 9:00 - 10:00 am
Tuesday and Thursday 9:30 - 11:00 am
- 2. Professor:** Dr. Jacqueline Jensen
Office: 410 Lee Drain
Office Phone: 294-3517
e-mail: jensen@shsu.edu
web-page: http://www.shsu.edu/~mth_jaj
- 3. Office Hours:**
Monday 8:30 - 10:00 am
Tuesday 2:00 - 3:00 pm
Wednesday 8:30 - 10:00 am
Thursday 2:00 - 3:00 pm
and, of course, by appointment.
- 4. Course Description:**
This course includes the study of the calculus of functions of several variables and topics in vector calculus including line and surface integrals, Green's Theorem, Divergence Theorem, and Stoke's Theorem.

Students taking Math 244 must have completed Math 143 with a grade of C or better.

Class will be primarily oriented around student presentations, with some supplemental lectures. See below for more details.
- 5. Course Objectives:**
Students completing this course should have mastery of the following major concepts. Other techniques and ideas will also be covered.
 - Definitions and applications of vectors in the plane
 - Operations on vectors in the plane, including dot product
 - Derivatives and integrals of vector valued functions
 - Polar coordinates
 - Derivatives and integrals using polar coordinates
 - Vectors in space
 - Operations on vectors in space, including dot and cross products
 - Orthogonal vectors
 - Equations for lines, planes, and surfaces

- Arc length in space
- Vector valued functions
- Tangent and Normal vectors
- Multivariable functions
 - Limits and continuity of multivariable functions
 - Partial derivatives of multivariable functions
 - Directional derivatives, gradient vectors and tangent planes
 - Saddle points
 - Lagrange multipliers
 - Multiple integrals
 - Centers of Mass
 - Integrals in Polar, Spherical and Cylindrical coordinates
- Green's Theorem
- Gauss' Theorem
- Stoke's Theorem
- Divergence Theorem

6. **Required Textbook:**

Thomas' Calculus by Finney, Weir and Giordano, Tenth Edition.

7. **Required Supplies:** A graphing calculator - TI-83 recommended.

8. **Attendance Policy:** Students are expected to attend every class. If class must be missed, the student is expected to get the notes from a classmate, and to check the web-page for announcements and updated assignments. The professor will keep a record of attendance. Since the course is very student-oriented, you should make every effort to attend all classes. Students who miss more than four classes during the semester will see a large effect in their grade.

Students are expected to arrive to class on time. If a student is perpetually late, they will be asked to not attend class unless they arrive on time. If tardiness becomes a problem for the class as a whole, people who arrive late will not be permitted to enter the class. If this stricter policy becomes necessary, there will be an announcement made in class.

9. **Assignments:**

- (a) **Quizzes:** There will be a quiz in class every Tuesday and Thursday over the material covered since the previous quiz. Each quiz will be given during the first 10-15 minutes of class and will consist of computational problems. Extra time will not be allowed if you are late to class, so be sure to be on time. No make-ups are allowed under any circumstances. To compensate for this, at least the lowest two quiz scores for the semester will be dropped.
- (b) **Class participation:** Students will be expected to solve problems at the board. This will be on a "volunteer basis", with preference going to students who have presented the fewest solutions. In the event of a tie, the professor will randomly select the student to present. During student presentations, the rest of the class is encouraged to ask questions, and to think critically about the solution presented by the classmate.

Presentation Guidelines

Grading:

- Accuracy of the problem you present, including following guidelines below.
- Defense of your work, including, including following guidelines below.
- Constructive criticism of classmates work, including following guidelines below.
In particular you will be awarded a "point" in the appropriate category every time you contribute in one of the following ways:
- P - presentation point for presenting the solution to a problem
- Q - asking a good question of the presenter
- C - an oral contribution other than the two categories above
- I - contributing a demonstration of mathematical insight into the presentation or question asked.
Remember that the presenter will always have the first chance to answer a question.

Guidelines For Your Presentation:

- Write the problem on the board.
- State what method / theorem / idea you will use.
- Clearly explain each step.
- Do not use stupid, trivial, obvious, etc.

Guidelines For Defending Your Work:

- You must answer you classmates and professors questions in a respectful manner.
- Do not use "stupid", "trivial", "obvious", etc.
- You must try to answer every question posed.
- Its OK to say, "Im not sure that I understand your question." It is not OK to say, "Your question doesnt make sense."
- Talk to the class, not to the board.

Guidelines For Criticism of Classmates Work:

- You are to ask questions about your classmates work. Do NOT suggest another technique. In some cases, there may be more than one way to solve a problem.
- Do not use "stupid", "trivial", "obvious", etc.
- You must ask questions in a respectful manner.
- Its OK to say, "Can you explain how you got from line 3 to line 4?" It is not OK to say, "Line 4 is wrong," or "Line 4 doesnt make sense."

How Presenters Are Selected:

I will ask for volunteers for each problem. If no one volunteers, someone will be drafted. This means that you will need to be prepared with answers to all of the problems, since if there are no volunteers a student will be chosen at random. If more than one person volunteers, one volunteer will be randomly selected. This means that you may not get to present your first choice problem, so you should be prepared with solutions to more than one problem.

10. **Exams:** There will be two exams during the semester. They are tentatively scheduled to occur on **Tuesday, 28 September** and **Thursday, 4 November**. Any changes to this schedule will be announced in class and posted on the web-page.

If a student misses an exam, the student will be allowed to replace that exam score with their score on the final exam if the student takes and passes the next exam at the regularly scheduled time.

The final exam will be held on **Tuesday, 14 December, 2004 from 8 - 10 am** in our usual classroom. It will be comprehensive.

11. **Grading Plan:** The course grade is based on:

Quizzes	10%
Presentations	30%
Exam 1	15%
Exam 2	15%
Final Exam	30%

The course grade will be assigned via the following table:

Percentage earned	Grade
90-100%	A
80 - 89%	B
70 - 79%	C
60 - 69%	D
0 - 59	F

There is no additional curve in this class, and no extra credit, so keep up as the semester progresses.

12. **Academic Dishonesty:** All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on and examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.
13. **Classroom Rules of Conduct:** Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. **Cellular telephones and pagers must be turned off before class begins.** Students are prohibited from using tobacco products in class, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing or engaging in any other form of distraction. **Inappropriate behavior in the classroom shall result in a directive to leave class.** Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.
14. **Visitors in the Classroom:** Unannounced visitors to class must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not the visitor will be allowed to remain in the classroom.

15. **Student Absences on Religious Holy Days Policy:** Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). This request must be made in the first fifteen days of the semester or the first seven days of a summer session in which the absence(s) will occur. The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

16. **Disabled Student Policy:** SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Counseling Center and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. **NOTE:** No accommodation can be made until you register with the Counseling Center.
17. **Additional Information** All information on this syllabus is subject to change. Any changes will be announced in class.