

Syllabus*
Calculus with Analytic Geometry III
MATH 223 (sec. 001); Spring 2015, TR 2:00–4:15 pm; BH 442

Instructor: Dr. Rick Mabry

Office:

BH 416; 797-5352;

MW 12:00–2:00; TR 10:00–11:00 and 12:15–12:45; F 1:00–2:00.

Other hours can occasionally be arranged by appointment. Note my on-campus class hours below.

TR: 11:00–12:15 (MATH 331 in BH 444), 2:00–4:15 pm (MATH 223 in BH 442)

F: 2:00–5:00 (MATH 398/498 in BH 442)

Email, Web page: rmabry AT lsus DOT edu, www.lsus.edu/rick-mabry

Text: *Calculus* by Sisson and Szarvas

Outline: The main topics in the course will come from chapters 11–15 of the text. Below is a list of the main topics (less than 100% of which will be covered).

Chapter 11: three-dimensional Cartesian space, vectors, dot products, cross products, lines and planes, cylinders and quadric surfaces.

Chapter 12: vector-valued functions, space curves, arc length, tangent vectors, projectile motion, curvature, normal and binormal vectors, torsion, planetary motion and Keplers laws.

Chapter 13: functions of several variables, limits and continuity, partial derivatives, tangent planes, linear approximations, the chain rule, directional derivatives, gradient vectors, extreme values, Lagrange multipliers

Chapter 14: double integrals and their applications, double integrals in polar coordinates, triple integrals and applications, triple integrals in cylindrical and spherical coordinates, change of variables in multiple integrals

Chapter 15: vector fields, line integrals, the fundamental theorem for line integrals, Greens theorem, surface integrals, parametrized surfaces, Stokes theorem, the divergence theorem

Grades: There will be a three tests and a comprehensive final exam (see **Calendar**, below, for dates). The lowest of the three test scores will be replaced with the grade on the final exam, if the grade on the final exam is higher, then the four scores will be averaged to compute the total exam score. For this reason (and others), the following will be strictly enforced: *any test missed without valid and verifiable excuse will be assigned a score of zero*, and the previous sentences apply.

Aside from that will be a “presentation” score, worth 15% of the grade. Some of this presentation will occur on Moodle, some in the classroom. The presentations will usually be based on various problems from class or in the text. The content will consist of either a detailed solution or a computer demonstration (using *Mathematica*).

If T and P are the exam and presentation scores, then the course grade G will be calculated as $G = .85T + .15P$. The final letter grades will be assigned, based on G , as follows:

$$F < 50 \leq D < 60 \leq C < 75 \leq B < 90 \leq A.$$

*The instructor reserves the right to make announced changes as the semester progresses.

Calendar:	Tue.	Jan. 13		First class. Howdy.
	Mon.	Jan. 19		MLK Holiday (no classes)
	Fri.	Jan. 30		Last day to drop without W
	Thu.	Feb. 5	<i>Test #1</i>	
	Mon.–	Feb. 16–		Mardi (no
	–Tue.	–Feb. 17		Gras classes)
	Wed.	Feb. 25		Last day to change to Audit
	Thu.	Mar. 5	<i>Test #2</i>	
	Fri.	Mar. 27		Last day to withdraw with W
	Mon.–	Mar. 30–		SPRING (no
	–Sat.	–Apr. 4		BREAK classes)
	Thu.	Apr. 9	<i>Test #3</i>	
	Thu.	Apr. 30		Our last class. It's been volumes of fun.
	Thu.	May 7	<i>FINAL EXAM</i>	@ 3:00 pm

Final exam schedules and other important dates:

www.lsus.edu/offices-and-services/records-and-registration/enrollment-guide

www.lsus.edu/offices-and-services/records-and-registration/final-exam-schedule

Homework: Homework will be assigned but only rarely (if ever) collected. (Ignore it your own peril! If you don't treat your homework like daily bread, you'll soon be toast.) Material stressed in class is usually a good indicator of its likelihood of appearing on a test. Be sure to consult the old exams, too, which are posted on our *home page* (see below).

You should have: The tools of the trade: graph paper and a ruler are recommended, of course; a scientific calculator (any kind) or convenient access to mathematical software is a must.

You can get a free year-long license for *Mathematica* as long as you are an LSUS student. Some assignments will make use of *Mathematica*. Warning: you will have no access to calculators (or other electronic devices) during your exams.

It is recommended you download MikTeX software (free from www.miktex.org) for use of the L^AT_EX mathematical typesetting system.

Student Email and Moodle: You can use the online Moodle system to check your test grades, send and receive class messages, etc. I send announcements using the News Forum on our Moodle page.

Check your official LSUS email daily (or even dailier) to be sure you don't miss important messages from me and others at LSUS. I'm told you can have LSUS email forwarded to another account of your choosing. www.lsus.edu/student-email

A link to Moodle is here: moodle.lsus.edu/

I often post items of interest on our unofficial Calc III *home page*, here:
lsusmath.rickmabry.org/rmabry/math223/

I answer my email daily. (Seems more like hourly.)

Disability Services: LSUS will make reasonable accommodations for persons with documented disabilities. Students must notify the Coordinator of Services for Students with Disabilities located in the Student Development & Counseling Center (Administration Building, Room 227, 797-5365) and the instructor of any special needs.

Code of Student Conduct: Academic dishonesty will not be tolerated. Students should familiarize themselves with the code of student conduct found in the Student Handbook. Some possible sanctions for violating the code may include:

- loss of credit for the work involved
- grade of F in the course
- separation from the university for one or more semesters
- expulsion from the university

The Student Handbook is online here:

www.lsus.edu/offices-and-services/policies-and-manuals/student-handbook/student-rights-and-responsibilities/student-conduct-code

Math Lab: Take advantage of the computing power in the Math Lab, BH 404.