

Math 201, sections 1–4 — Calculus and Analytic Geometry III, Fall 2009–10
Course webpage: <http://people.aub.edu.lb/~kmakdisi/>

Professor

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Instructor

Ms. Rana Nassif, Bliss 314, phone 4220, e-mail rn40@aub.edu.lb, office hours Monday 10:30–11:30, Friday 10–11.

Lecture

MWF 3:00, in Bliss 203 (President's Club Lecture Hall).

Mandatory recitations — make sure you know which section you are registered in

- section 1, F 11:00, Nicely 410;
- section 2, F 2:00, Nicely 210;
- section 3, F 4:00, Nicely 210;
- section 4, F 9:00, Nicely 211.

Textbook

Finney, Weir, and Giordano, *Thomas' Calculus*, 11th edition.

Prerequisites

Math 102 or its equivalent, such as a good scientific Baccalaureate in school. **Make sure to review the following sections from the textbook in the first two weeks of the semester:** 1.6, 7.1, 7.2, 7.3, 7.4, 7.7, 7.8, 12.1–12.5, 8.1–8.5. If you lack a small part of this background, learn it **NOW** from the book and come to us with questions in office hours. **If you do not know most of the above material, then you should start with Math 102.**

Course learning outcomes for Math 201

- Define the sum of a series as a limit of a sequence
- Use tests to decide about the convergence of a series
- Use series to approximate functions
- Define differentiability for functions of several variables
- Find the derivative of a function in a given direction
- Maximize or minimize a function subject to a given constraint
- Define the integral of a function of several variables
- Use Fubini's theorem to evaluate double and triple integrals
- Apply double and triple integrals to find areas, volumes, and centers of mass
- Define line and surface integrals
- Apply line integrals to find work, circulation, or flux of a given vector field along a curve
- Use Green's theorem to evaluate line integrals
- Use surface integrals to find surface area

Course requirements

Your grade will be determined by the BETTER of the following two options: a) 25% each of Quizzes 1 and 2, 50% final, and b) 15% Quiz 1, 20% Quiz 2, and 65% final. Option b) is mainly there to help students who have shown improvement during the semester. I will not give any make-up exams. If you miss a quiz for a significant medical reason (with a note from **the AUB infirmary ONLY**) or other reason that I consider justified, I will determine an appropriate way of assigning the grade based on your remaining coursework. **Please make a note from now of the date and time of Quiz 1 and Quiz 2, as given below; make sure that you keep those times free.**

Syllabus and assigned exercises

University courses are different from school: for each hour you spend in class, you need to spend **THREE hours** on average studying at home or in the library. Carefully read and review the book and your notes, and work through all the assigned exercises **as a minimum**.

Week of Section Assigned Exercises: if you need extra work to understand a section, do even more problems

Oct 5	11.1	1, 5, 7, 9, 13, 14, 15, 20, 21, 23, 24, 27, 31–53, 60–71, 73, 75–81, 87, 88, 97, 121, 123, 124.
	11.2	3, 5, 7, 9, 12, 13, 14, 15, 19, 23, 24, 25, 30, 34, 36, 37, 38, 43, 51, 56, 68, 72, 78.
Oct 12	11.3	16, 23, 25, 39, 40.
	11.4	1, 3, 7, 8, 13, 14, 16, 17, 25, 27, 29 — PLUS — section 11.3, exercises 1, 3, 5, 10, 17, 18, 22.
	11.5	2, 4, 5, 8, 10, 16, 17, 20, 21, 22, 23, 25, 26, 35, 41, 42, 45.
Oct 19	11.6	3, 5, 12, 13, 14, 15, 18, 21, 23, 26, 34, 35, 36, 39, 40, 45, 47, 49.
	11.7	4, 6, 8, 14, 16, 17, 19, 21, 22, 23, 25, 30, 31, 33, 37, 38, 39, 40, 41, 43.
Oct 26	11.8	2, 3, 5, 11, 13, 14, 15, 17, 18, 20, 26, 28, 35.
	11.9	2, 6, 7, 10, 12, 16, 17, 19–28, 57.
	11.10	2, 3, 5, 9, 11, 12, 14, 33, 37, 40, 44, 45, 47, 48, 50, 51, 52, 54, 55, 57, 61, 69.
Nov 2	11.11	1, 2, 3, 4, 7, 8, 16.

QUIZ 1 (closed book; NO CALCULATORS ALLOWED) **Monday, November 2, 5:00–6:00 p.m.**

Nov 9	10.5	7–12, 19, 21, 23, 25, 27, 29, 33, 34, 39, 45, 47, 49, 51, 53, 58, 61.
	10.6	1, 3, 4, 6, 15, 21, 29, 31, 34, 52.
	13.1	5, 8, 10, 11, 15, 16, 33, 35, 36, 38, 39.
Nov 9	13.3	1, 3, 4, 15 — PLUS — section 10.7, exercises 19, 21, 26, 27.
	14.1	2, 6, 7, 8, 30, 31, 40, 41, 42, 43 — PLUS — section 12.6, exercises 1–12, 45, 46, 49, 52–55, 57, 58.
	14.2	3, 6, 13, 18, 21, 24, 27, 29, 31, 35, 37, 39, 41, 45, 47, 51, 52, 53, 57, 58, 59, 60, 64.
Nov 16	14.3	1, 4, 6, 7, 8, 12, 15, 17, 19, 21, 23, 29, 33, 35, 41, 43, 44, 52, 57, 63, 67.
	14.4	1, 3, 4, 7, 9, 13, 17, 23, 25, 26, 27, 31, 32, 33, 35, 37, 41, 42, 45.
Nov 23	14.5	3, 7, 11, 13, 17, 19, 23, 25, 26, 28, 30, 32, 36.
	14.6	1, 2, 3, 6, 7, 9, 11, 15, 17, 19, 20, 23. (Optional: 28, 31, 39, 43, 48, 49, 50, 51, 53, 59.)
Nov 30	14.7	1, 3, 5, 13, 21, 27, 30, 31, 35, 39, 41, 44, 53.
	14.8	1, 3, 7, 9, 12, 13, 17, 18, 23, 27, 28, 33, 35.

QUIZ 2 (closed book; NO CALCULATORS ALLOWED) **Wednesday, December 2, 5:00–6:00 p.m.**

Dec 7	15.1	1, 5, 6, 7, 10, 13, 15, 19, 21, 25, 28, 29, 31, 35, 36, 37, 43, 44, 47, 51, 53, 57, 61.
	15.2	1, 3, 7, 10, 11, 13, 17, 19, 32, 33.
	15.3	3, 5, 7, 13, 15, 17, 21, 25, 29, 34, 37, 38 — PLUS — section 10.7, exercises 1, 7, 9, 17.
Dec 14	15.4	3, 5, 8, 9, 10, 13, 15, 17, 21, 22, 25, 29, 32, 33, 41, 43, 47.
	15.5	6, 7, 13, 14, 17, 18.
	15.6	3, 5, 7, 9, 11, 15, 17, 19, 21, 23, 27, 29, 31, 34, 37, 43, 50, 61, 77.
Dec 21	15.7	1, 3, 5, 7, 9, 13–17, 19–22.
Jan 4	16.1	1–8, 9, 11, 13, 15, 16, 19, 21, 22, 23, 25, 26.
	16.2	1–5, 7, 9, 13, 15, 17, 19, 21, 23, 25, 27, 29, 33, 37.
Jan 11	16.3	1, 3, 4, 5, 6, 7, 8, 9, 13–22, 25, 26, 28, 31, 33, 38.
	16.4	1–4, 5, 7, 8, 9, 16, 17, 19, 20, 21, 28, 29, 33, 35.
Jan 18	16.5	1, 3, 5, 13, 14, 19, 20, 21, 22, 25, 26, 27, 28, 32. If time allows, we will do more of Chapter 16.

COMPREHENSIVE FINAL EXAM (once again closed book, no calculators), date & time to be announced later.

!!!! MAKE SURE TO RESERVE FROM NOW THE DATE AND TIME OF QUIZZES 1 AND 2 !!!!

Some previous exams are available from the **Jafet library** website. Go to **E-reserve** → **Previous Exams**.