

PMath 450/650
Lebesgue Measure and Fourier Analysis
Time and location to be determined.

Course Outline
September 2024

Instructor: L.W. Marcoux

MC 5014

Basic Outline:

- Vector-valued Riemann integration
- Lebesgue measure
- Lebesgue integration
- L^p spaces
- Hilbert spaces
- Fourier analysis

Exams: There will be one midterm examination and one final examination. Once the times and the locations of these exams is known, that information will be posted to the LEARN website.

A copy of the course notes for the course may be found on my Department website:

<https://www.math.uwaterloo.ca/~lwmarcou/> in the “Teaching” section.

Grading: The grading scheme for the course is as follows:

- Assignments: 15%, Midterm: 40%, Final: 45%;

Comments:

1. There will be *approximately* 7 assignments, handed out on a regular basis. All will count towards your assignment grade.
2. Solutions will be posted on the Learn webpage *immediately* after the due date. Because of this, **late homework assignments will not be accepted**. Also, **extensions will not be given**: it is not fair to the students who sacrifice to get their assignments in on time, nor is it fair to the graders who have to schedule their own work.
3. Assignments will be handed in using Crowdmark.
4. Getting *a bit* of help with assignments is OK, but copying from someone else’s assignment or exam (even just one question from that assignment or exam) constitutes *cheating*. Posting questions from the course online for others to solve, or downloading solutions to these questions, also constitutes *cheating*. In the long run, no one will care if you scored a 84 or an 81 in the course, but they will care whether or not you learned how the material and how to solve problems.

I do not deal with cheating issues at all, and I do not offer warnings. If I am presented with two assignment or exam solutions that look eerily similar, or if a solution looks suspiciously like an answer found in a book/on the web, or if I find evidence of any suspicious activity, then I *automatically* forward the information to the Integrity Officer. Simply put, if you want/feel the need to cheat to improve your grade, then this is the wrong course for you.

The only way to learn mathematics is to do mathematics. The more assignment questions you can answer on your own, the more you will learn, and the easier the exams will seem.

- **Academic Integrity:** In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility.

[Check www.uwaterloo.ca/academicintegrity/ for more information.]

- **Grievance:** A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4,

<http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>.

When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

- **Discipline:** A student is expected to know what constitutes academic integrity to avoid committing academic offenses and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about "rules" for group work/collaboration should seek guidance from the course professor, academic advisor, or the undergraduate associate dean. For information on categories of offenses and types of penalties, students should refer to Policy 71, Student Discipline,

<http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>.

For typical penalties check Guidelines for the Assessment of Penalties,

<http://www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm>.

- **Appeals:** A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72, Student Appeals,

<http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>.

- **Note for students with disabilities:** Access Ability Services, located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the Access Ability Services at the beginning of each academic term.