

MATH 5120 SPRING 24

VANDERBILT UNIVERSITY

1. GENERAL INFORMATION

Instructor: Marcelo Disconzi. Office: Stevenson Center 1515. Office phone: 322-7147.
email: marcelo.disconzi@vanderbilt.edu.

Lecture time and location: Tue–Thu, 2:45–4pm, Stevenson Center 1313.

Course webpage:

<https://www.disconzi.net/Teaching/MAT3120-Spring-24/MAT3120-Spring-24.php>

Office hours: Tue, 4–6pm, Thu 1–2pm, or by appointment.

Math Office: Stevenson Center 1326.

2. COURSE INFORMATION

2.1. **Textbook.** No textbook will be adopted, and we will follow the class notes posted on the course webpage. Some complementary references are:

- An introduction to partial differential equations, by Yehuda Pinchover and Jacob Rubinstein.
- Partial differential equations: an introduction (2nd edition), by Walter Strauss.
- Partial differential equations (2nd edition), by Lawrence Evans.

2.2. **Description.** The course will cover the basic concepts and tools of Partial Differential Equations (PDEs), such as initial- and boundary-value problems, separation of variables, Fourier series and integrals, representation of solutions, maximum principles, and explicit solutions of problems involving the heat equation, the wave equation, and Laplace’s equation. Emphasis will be put on both the importance of mathematically sound arguments and on techniques devised to treat common applications. If time allows, more advanced material may be covered.

3. GRADING POLICY

Grades will be assigned based on class participation, homework assignments, a class project, and a final exam, with the distribution:

| Final grade range (rounded) | Letter grade |
|-----------------------------|--------------|
| 95–100 | A |
| 90–94 | A– |
| 87–89 | B+ |
| 84–86 | B |
| 80–83 | B– |
| 77–79 | C+ |
| 74–76 | C |
| 70–73 | C– |
| 67–69 | D+ |
| 64–66 | D |
| 60–63 | D– |
| <60 | F |

Extra credit work may be assigned. Extra credit assignments will not carry a specific number of points towards your total grade, *unless otherwise specified*. The primary goal of such extra assignments is to help the course instructor decide on borderline cases. For example, suppose your final grade corresponds to a B+, but it is sufficiently close to the cutoff for an A–. In such a case, having done all or most of the extra credit problems may lead the instructor to decide that you deserve a little boost in your grade, giving you an A–.

If this policy is not clear, please talk to your instructor during his office hours.

3.1. Assignments and schedule. An up-to-date schedule will be maintained on the course webpage. Some important dates are:

| | |
|----------------|--------------|
| March 9–17 | Spring break |
| April 16–22 | Dead week |
| May 1st, 3–5pm | Final exam |

Important: There will be no alternate date for the final exam.

3.2. Homework problems and schedule. An up-to-date schedule that includes the due date of homework assignments will be maintained on the course webpage. Students who are granted an extension on a HW are not allowed to consult the posted solutions for the corresponding HW until after they turn in the assignment for which the extension has been granted.

4. COURSE POLICIES

4.1. Calculators. Calculators or other electronic devices will not be used on the tests.

4.2. Classroom Policy. Students are allowed to use electronic equipment in class for their academic benefit, such as tablets, laptops, etc. If you do so, make sure your equipment is in silent mode.

4.3. Honor Code. All work submitted for credit must be the student's own and is subject to the provisions of the Vanderbilt Honor Code. Details can be found at the Honor Council web site: <https://studentorg.vanderbilt.edu/honorcouncil/>.

4.4. Classroom recording policy. The use of technologies for audio and video recording of lectures and other classroom activities is allowed only with the express permission of the instructor. In cases where recordings are allowed, such content is restricted to personal use only unless permission is expressly granted in writing by the instructor and by other classroom participants, including other students. Personal use is defined as use by an individual student for the purpose of studying or completing course assignments. When students have permission for personal use of recordings, they must still obtain written permission from the instructor to share recordings with others.

4.5. **Accommodation Procedure.** A student who needs course accommodations due to a disability, special arrangements in case the building must be evacuated, or has emergency medical information that needs to be shared with the instructor, should contact the instructor as soon as possible. Equal Opportunity and Access (EOA) (<https://www.vanderbilt.edu/ea/>) at Vanderbilt provides specific accommodations for students with physical or learning disabilities. Upon receiving appropriate documentation from the student, EOA will make arrangements with the instructor for the accommodations.

4.6. **Attendance.** The student who misses a class meeting is responsible for any assignments and/or announcements made. **Office hours will not be utilized to re-teach material presented in class.** The stated attendance policy of the College of Arts and Science applies in this course: Students are expected to attend all scheduled meetings of classes in which they are enrolled; they have an obligation to contribute to the academic performance of all students by full participation in the work of each class. The faculty of the College of Arts and Science recognizes that occasions arise during the academic year that merit the excused absence of a student from a scheduled class or laboratory during which an examination, quiz, or other graded exercise is given. Examples include participation in sponsored university activities (e.g., debate team, varsity sports), observance of officially designated religious holidays, serious personal problems (e.g., serious illness, death of a member of the student's family), and matters relating to the student's academic training (e.g., graduate or professional school interviews). Conflicts arising from personal travel plans or social obligations do not qualify as excused absences.

4.7. **Anonymous feedback.** Students are encouraged to bring suggestions and to discuss with the course instructor any concerns they may have, including something they think is not being properly handled in the course. But if you do not feel comfortable about doing that, you have the opportunity to send some anonymous feedback on the course webpage.