

MAT 322/523: ANALYSIS IN SEVERAL DIMENSIONS SYLLABUS

SPRING 2024

Instructor: Johan Asplund, johan.asplund@stonybrook.edu, Math Tower 3-116

Class time & location: MW 2:30–3:50pm, Frey Hall 224

Office hours: MW 5:30–6:30pm, Math Tower 3-116

MLC hours: Tu 5:00–6:00pm, via Zoom

Grader: Shuhao Li, shuhao.li@stonybrook.edu, Math Tower 2-109

Office hours: W 1:00–2:00pm, Math Tower 2-109

MLC hours: W 9:00–10:00am (via Zoom) and W 12:00–1:00pm (in Math Tower S-235)

Course webpage: math.stonybrook.edu/~jasplund/mat322_spr24

Course description: Continuity, differentiation, and integration in Euclidean n -space. Differentiable maps. Implicit and inverse function theorems. Differential forms and the general Stokes's theorem. This course is offered as both MAT 322 and MAT 523.

Prerequisites: C or higher in MAT 203, MAT 220, MAT 307, or AMS 261; C or higher in MAT 310 or MAT 315; B or higher in MAT 320.

Attendance: Strongly encouraged, but not mandatory.

Textbook: Analysis on Manifolds (Advanced Books Classics) by James R. Munkres.

Exam dates: You must bring your University ID to all exams.

Exam	Date	Time	Location
Midterm I	W Feb 28	2:30–3:50pm	In class
Midterm II	W Apr 10	2:30–3:50pm	In class
Final	W May 15	2:15–5:00pm	TBA

Homework: • Weekly homeworks, except during exam weeks, due **Monday 12:00 pm**; there will be 13 homeworks in total.

- Late submissions will **not** be accepted.
- The two lowest scores will be dropped.
- Collaboration is encouraged but you must submit your own solutions.

Grades: Your final grade will be determined as follows.

Homework:	20%
Midterm I:	20%
Midterm II:	20%
Final:	40%

Makeup exams: Not available. If you miss one midterm exam with documented evidence (for instance, a letter from Student Accessibility Support Center), then your final exam grade will be counted with weight 60% in your final grade. A student must attend the final exam at the scheduled time in order to receive a passing grade in the course.

Date: January 22, 2024.

Tentative schedule: See the course webpage for a more detailed (but still tentative) schedule, notes and the homework. All sections refer to sections in the course textbook.

Week	Dates	Sections
1	Jan 22, 24	§1–3
2	Jan 29, 31	§4–6
3	Feb 5, 7	§7–8
4	Feb 12, 14	§9–11
5	Feb 19, 21	§12–14
6	Feb 26, 28	§16, Midterm I
7	Mar 4, 6	§17–20
8	Mar 11, 13	Spring Recess (No class)
9	Mar 18, 20	§23–25
10	Mar 25, 27	§26–27
11	Apr 1, 3	§27–29
12	Apr 8, 10	§30, Midterm II
13	Apr 15, 17	§29–32
14	Apr 22, 24	§32–35
15	Apr 29, May 1	§37, 39–40
17	May 15	Final

Student Accessibility Support Center Statement: If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, Stony Brook Union Suite 107, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Academic Integrity Statement: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person’s work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology and Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at <http://www.stonybrook.edu/commcms/academicintegrity/index.html>.

Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Student Conduct and Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students’ ability to learn. Until/unless the latest COVID guidance (<https://www.stonybrook.edu/commcms/strongertogether/latest.php>) is explicitly amended by SBU, during Spring 2022 “disruptive behavior” will include refusal to wear a mask during classes.