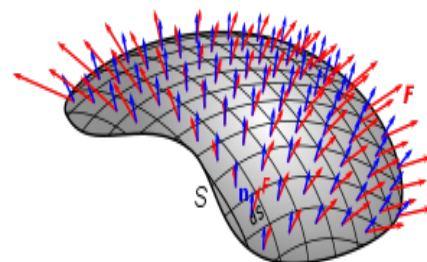


Live Lecture Time: MWF 1:30 - 2:20 pm
Zoom Room: TBD
Course Slack Channel: [Invite at this link](#)
Instructor: Jason Bramburger, jbrambur@uw.edu
Office Hours: by appointment
Course Website: Canvas



Course Content

Emphasizes acquisition of solution techniques; illustrates ideas with specific example problems arising in science and engineering. Includes applications of vector differential calculus, complex variables; line-surface integrals; integral theorems; and Taylor and Laurent series, and contour integration. Topics related to each component of the course:

Vector Calculus (4 weeks)	Complex Analysis (6 weeks)
Vector fields	Complex numbers
Vector calculus	Functions of a complex variable
Gradient, Divergence & Curl	Analyticity
Line, surface & volume integrals	Integration
Green's theorem	Cauchy's theorem and the Cauchy integral formula
Stoke's theorem	Taylor and Laurent series
Divergence theorem	Residues and contour integration
	Fourier transform

Instruction

Due to the ongoing COVID-19 pandemic, this course will be entirely online until further notice. Lectures will be held on Monday, Wednesday, and Friday at 1:30-2:20 pm, which is the scheduled time for AMATH 501. Recordings of the lectures will be posted on the course webpage following the live lecture and will remain available until the end of the course. At the top of this page there is also an invitation to the course slack channel where you can ask questions to myself and other students.

Textbook

There is no required textbook, but the following is a list of resources that will complement the course material:

Vector Calculus:

- *Introduction to Vector Analysis*, H.F. Davis and A.D. Snider, Allyn and Bacon.
- *Multivariable Calculus*, J. Stewart, Thomson Brooks/Cole.

Complex Analysis:

- *An Introduction to Complex Analysis*, R.P. Agarwal, K. Perera, and S. Pinelas, Springer.
- *Complex Analysis*, J. Bak and D.J. Newman, Springer.
- *Complex Analysis with Applications in Science and Engineering*, H. Cohen, Springer.
- *Complex Variables with Applications*, S. Ponnusamy and H. Silverman, Birkhauser.

Prerequisites: 401 students: either MATH 126 or MATH 136; 501 students: a course in vector calculus.

Assessment

Homework	40%
Midterm	30%
Final Exam	30%

Homework

Assignments will be available on the course webpage and are due by 5:00 pm on the due date. Late assignments will not be accepted without a legitimate excuse and prior approval. Students are encouraged to collaborate on homework assignments, but assignments must be written up separately and individually. Homework assignments must take the form of a single package with your name and neatly written (or typed) solutions labeled with problem numbers. Solutions must show all work, not just the final answer. Assignments that do not meet these requirements will be subject to point deductions.

Tests

Tests will be taken home with a fairly allotted amount of time to complete. Tests will not be given at any other times than these scheduled times, except in cases of illness or emergency. If a serious conflict arises, you need to contact me as soon as possible prior to the midterm, and documentation verifying the excuse will be required.

Accommodations for Students with Disabilities

If you need accommodations for classes, assignments, or exams, please contact me and Disability Resources for Students. Website: <https://depts.washington.edu/uwdrs/>.

Diversity and Inclusion Statement

I strive to create a learning environment for you that supports a diversity of thoughts, perspectives, and experiences, and honours your identities. To help accomplish this:

- If you have a name and/or set of pronouns that differ from those that appear in your official UW records, you are encouraged to let me know.
- If you feel your performance in the course is being impacted by your experiences outside of class, please come talk with me.
- I am still in the process of learning about inclusion, diverse perspectives, and identities. If something was said in class (by anyone, including me) that made you feel uncomfortable, please talk to me about it.
- As a participant in course discussion and problem-based sessions, you should strive to honour the diversity of your classmates.

Religious Accommodation Policy

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The University of Washington policy, including information about how to request an accommodation, is available at Faculty Syllabus Guidelines and Resources. Accommodations must be requested within the first two weeks of this course using the Religious Accommodations Request form available at [this link](#).

Additional Course Policies

- All announcements will be posted on the course webpage. Be sure your Canvas notifications are turned on, and you it periodically.
- I am here to facilitate your learning; let me know if you have questions! I can always be reached by e-mail, and can schedule additional office hours.

Anonymous feedback: [You can provide anonymous feedback for this class here.](#)