

California State University Long Beach

Math 550 Topology I, Fall 2018

Professor : Ryan Blair

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Office : FO3-213

Office Hours : Tu 6:45-7:45 pm and W 4:00-5:00 pm

Class Meetings: TuTh 5:30-6:45pm LA5-153

Text: Topology, J. Munkres, 2nd edition

Course web page: web.csulb.edu/~rblair/Math550F18/index.html

Prerequisites: Math 361B

Course description: This course is an introduction to point-set topology and algebraic topology. We will cover the following topics together with additional topics as time permits: topological spaces, basis, continuous functions, metric spaces, connectedness, path-connectedness, compactness, product spaces, quotients spaces, countability axioms, separation axioms, and the Urysohn Theorem. This course is designed to prepare students for the comprehensive exam in topology.

Learning Outcomes: After finishing this course, students will be able to define all fundamental point-set topology concepts (topology, open, closure, basis, subspace, continuous function, homeomorphism, product space, quotient space, connected, path-connected, Hausdorff, compact, normal, 2^{nd} -countable, etc.) Students will be able to apply standard proof techniques to derive relationships between topological concepts, produce examples of topological spaces with certain properties, and produce counterexamples to topological statements. Students will be able to write mathematical proof at a graduate level. Finally, students will be prepared to take the comprehensive exam in Topology.

Attendance: To be successful in this course, you should be present for all class meetings. If you must miss class, please notify me as soon as possible. For more information, see http://www.csulb.edu/divisions/aa/catalog/current/academic_information/class_attendance.html

Homework: Homework assignments will be distributed in class and/or on the course web page, typically once a week. They will be due as noted. You are responsible for being aware of the assignments and due dates. Homework assignments will incorporate exercises from the book, exercises from past comprehensive exams and exercises from third sources. Homework will be graded based on correctness and completeness. Late homework will be accepted up to one week after the due date, but will be penalized with a 25% deduction from the final score.

You are strongly encouraged to work in groups to exchange ideas and help each other understand how to approach problems, but the work you turn in must be your own! If you work with others on an assignment, be sure to indicate the names of the other students on your homework. Additionally, if you use any outside resources (i.e. internet sources, other mathematicians, other books) to help you solve homework problems, you must cite your sources. **Failure to follow these rules will result in a score of zero on an assignment and may constitute a violation of academic integrity.**

Homework must be legible, well-organized, and written in complete sentences. Handwritten work is fine, but you are encouraged to type up the problems in LaTeX.

Exams: There will be two midterm exams and one final exam, according to the following tentative Schedule:

- 1) Midterm 1: in class, October 11th
- 2) Midterm 2: in class, November 15th
- 3) Final exam: December 13th 5pm to 7pm

Grades: Your grade for the course will be determined based on the following factors:

Homework 40 %
Midterm exams 15 % each
Final exam 30 %

Office hours: I will hold regular office hours at the times noted above, unless I email or tell you otherwise in class. Alternatively, you may set up an appointment to meet with me.

Accommodations: Students needing accommodations because of a disability should first register with Disabled Student Services and present the appropriate forms issued by DSS to the instructor no later than two weeks from the date classes begin. Information regarding DSS can be found at <http://www.csulb.edu/divisions/students2/dss/>.

Withdraw: The last day to withdraw without receiving a W is **September 10th**. The last day to withdraw with a W is **November 16th**. Plan early since it's sometimes hard to track people down for signatures. Any office hour may be cancelled due to illness or necessary appointments, and the students should not therefore depend on a faculty member being in his/her office for a particular office hour. Students should secure any necessary signatures well in advance of any deadlines.

Academic Integrity: Academic integrity is expected for assignments and exams. The usual penalty for a student caught cheating or plagiarizing includes an F in the course. Further penalties may include probation, suspension, or expulsion from the university. More information can be found on http://www.csulb.edu/divisions/aa/catalog/current/academic_information/cheating_plagiarism.html

Zero-Tolerance Policy: CNSM is committed to providing a safe and positive learning environment and has established a zero-tolerance policy for any sexual/gender-based misconduct, including, but not limited to sexual harassment, assault, relationship violence or stalking for all faculty, staff, and students.

The following entities at CSULB have been established to provide support and assistance for victims of sexual harassment and assault: Title IX Office http://web.csulb.edu/divisions/students/titleix/titleix_reporting.html, CSULB University Police Department <https://www.csulb.edu/university-police/title-ix>, The Women's & Gender Equity Center, http://web.csulb.edu/divisions/students/wrc/sexual_assault/, and the Counseling & Psychological Services (CAPS) Office <http://web.csulb.edu/divisions/students/caps/>, and Student Health Services: http://web.csulb.edu/divisions/students/shs/sexual_assault.htm. For more information regarding CSULB's policies on sexual misconduct and discrimination: <http://www.csulb.edu/titleix>.

As members of The Beach community, we practice tolerance and denounce hate and prejudice. Our classroom will strive to be a place of mutual respect where the focus is on learning and student success.

Note: The instructor reserves the right to alter anything on this syllabus at any time during the semester. Any alterations will be announced in class.