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COURSE OUTLINE
MATH 365: A First Course in Topology

Instructor(s)

Lecturer: Ian F. Putnam

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Phone: 250-721-7449 (Use only in case of emergency)

Office: David Turpin Building A444

General Course Information

Number of Units: 1.5

Pre-requisites: Math 212 and one of Math 236, 335, 336

Office Hours and Assistance

Monday 10:00 am to 10:50 am

Wednesday 1:30 pm to 2:20 pm

or by appointment

Other Help: The Mathematics & Statistics Assistance Centre is a large space where students can go to work, on their own or in groups, and to discuss math & stats problems. The Centre is staffed with talented Teaching Assistants who are happy to discuss primarily first and second year course material with you. Please see http://www.math.uvic.ca/~msassist/index.html for more information.

Math Club: Students in Undergraduate Mathematics and Statistics (SUMS) was founded in 2014 as the reincarnation of a previous undergraduate course union that had been inactive for a few years. Please see http://www.uvic.ca/science/math-statistics/current-students/undergraduate/sums/index.php for more information.

Learning Objectives

- To learn the basic concepts of general topology.

- To provide proofs for the basic results.

- To investigate examples related to the results.

- To work with others toward an understanding the material.

- To learn to present the material in class.

- To learn to critique the presentations of others.

Course Material and Online Resources

Textbook: There will be no text for the course.

Notes: A collection of notes will be available.

Course webpage: All course materials will be available through CourseSpaces.

Calculator: A calculator is neither permitted nor needed in this course.

Class Meetings

The class will be held Tuesday, Wednesday and Friday mornings from 8:30 to 9:20 in CLE A 302. The first lecture will be Wednesday, January 3, 2018.

Specific Topics

1. Topological spaces

2. Bases for topological spaces

3. Metric spaces

4. Closed sets and limit points

5. Separation axioms

6. The relative topology

7. The product topology

8. Continuous functions

9. The quotient topology

10. Connected spaces

11. Compact spaces

12. Complete metric spaces

Evaluation and Grading

The course will be taught by a variation of what is commonly called the *Moore method*. There will be no lectures in the usual sense. The notes provided look like a typical text for an introductory course in topology, but without any proofs of the theorems, lemmas or corollaries. These will be provided by the students and presented in class.

In working through the notes, the students will work in teams of three or four. The teams will be set out by the instructor. They will be reset about the middle of the term. Each team's first task will be to agree upon a set of rules of how the team will work together.

A schedule will appear assigning problems to the teams. Each problem will be assigned to two teams.

In class, one team will be randomly selected to present the solution at the board. The solution will be done by one member of the team, with assistance from the rest. The choice of team member to do this will be by the team, but there is an expectation that this work will be spread out evenly among all team members over the term.

The second team assigned the problem will critique the presentation of the first: asking questions, finding weak points in the arguments and even offering improvements, if possible. The rest of the class is expected to participate in the discussion also.

At the end, an evaluation of both teams will be made by the instructor, one for presentation and one for the critique. For the presentation, the emphasis of the grade will be on correctness rather than style.

It is possible that due to limitations of class time, some of the assigned problems will not be presented in class, but must be written up, turned in and graded. (These will not be critiqued.)

There will be one Midterm examination on Tuesday, Feb. 20 in class. (This will be done individually, not in teams.) There will also be a final examination scheduled by the records office in the Final Examination period in April.

Your final percentage grade will be computed according to the following scheme.

Presentations in class	Critiques in class	Midterm Feb. 20	Final Exam TBA
30%	10%	20 %	40%

Accessibility Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Centre for Accessible Learning (CAL) as soon as possible. The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations `http://uvic.ca/cal`. The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.

Grading Percentage scores will be converted to letter grades according to the university-wide standard table `http://web.uvic.ca/calendar2017-05/undergrad/info/regulations/grading.html#`.

Final Examination Off-schedule final examinations (i.e., deferred examinations) are given only in accordance with the university policy as outlined in the Calendar. If you are

unable to write a final examination due to illness, accident or family affliction, please refer to the following webpages for detailed instructions how to proceed:
http://web.uvic.ca/calendar/undergrad/info/regulations/concessions.html

Students are **strongly advised not to make plans for travel or employment during the final examination period** as special arrangements will not be made for examinations that conflict with such plans.

Supplemental Examinations. The Department of Mathematics and Statistics does not award 'E' grades or offer Supplemental Examinations in any of its courses.

Course Experience Survey (CES)

I value your feedback on this course. Towards the end of term, as in all other courses at UVic, you will have the opportunity to complete an anonymous survey regarding your learning experience (CES). The survey is vital to providing feedback to me regarding the course and my teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete the survey you will receive an email inviting you to do so. You will need to use your UVic netlink ID to access the survey, which can be done on your laptop, tablet, or mobile device. I will remind you and provide you with more detailed information nearer the time but please be thinking about this important activity during the course.

Policies and Ethics

Attendance The university Calendar states 'Students are expected to attend all classes in which they are enrolled.'
http://web.uvic.ca/calendar/undergrad/info/regulations/attendance.html

Our courses are conducted on that basis. If you miss an announcement (information concerning midterms, corrections to assignment, etc.) because you did not attend class, you must accept the consequences of not having learned of the change.

Guidelines on Religious Observances Where classes or examinations are scheduled on the holy days of a religion, students may notify their instructors, at least two weeks in advance, of their intention to observe the holy day(s) by absenting themselves from classes or examinations. Instructors will provide reasonable opportunities for such students to make up work or missed examinations.

Missing work If a midterm is missed due to accident, illness or affliction, it can be taken late.

Academic Integrity Academic integrity is intellectual honesty and responsibility for academic work that you submit individual or group work. It involves commitment to the values of honesty, trust, and responsibility. It is expected that students will respect these ethical values in all activities related to learning, teaching, research, and service. Therefore, plagiarism and other acts against academic integrity are serious academic

offenses.

The responsibility of the institution

Instructors and academic units have the responsibility to ensure that standards of academic honesty are met. By doing so, the institution recognizes students for their hard work and assures them that other students do not have an unfair advantage through cheating on essays, exams, and projects.

The responsibility of the student

Plagiarism sometimes occurs due to a misunderstanding regarding the rules of academic integrity, but it is the responsibility of the student to know them. If you are unsure about the standards for citations or for referencing your sources, ask your instructor. Depending on the severity of the case, penalties include a warning, a failing grade, a record on the students transcript, or a suspension.

It is your responsibility to understand the University's policy on academic integrity: `http://web.uvic.ca/calendar/undergrad/info/regulations/academic-integrity.html#`

Important Dates

Classes begin	Wednesday, January 3
Drop (100 % Fee Reduction)	Tuesday, January 16
Last Day to Add Courses	Friday, January 19
Drop (50 % Fee Reduction)	Tuesday, February 6
Reading Break (no classes)	February 12 to 16
Midterm	Tuesday, February 20
Academic Drop Date	Wednesday, February 28
Good Friday (no classes)	March 30
Easter Monday (no classes)	April 2
Last day of classes	Friday, April 6
Examination period	April 9 to 24