COURSE OUTLINE
FALL 2012

1. PMAT 505 – Topology I

Lec	Day	Time	Instructor	Office	Phone	Email	Office Hours
01	MWF	12:00- 12:50	K. Bauer	MS 578	220-7675	bauerk@ucalgary.ca	By appointment

Blackboard course name: PMAT 505 L01 (Fall 2012) – Topology I

2. Prerequisites: Pure Mathematics 435 or 455 or Mathematics 335 or 355 or consent of the Division.
(see Section 3.5C of Faculty of Science www.ucalgary.ca/pubs/calendar/current/sc-3-5.html
and Course Descriptions: www.ucalgary.ca/pubs/calendar/current/course-desc-main.html)

3. Grading: The University policy on grading and related matters is described in sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course, the following weights will be used:

Assignments	[Best 9 of 10]	30 %
Midterm Test	[1]	30 % (Monday November 4, in class)
Final Exam		40 % (To be scheduled by the Registrar)

The various components above will be assigned a percentage score and will be combined with the indicated weights to produce an overall percentage in the course. The conversion table between course percentage and letter grade will be provided at least one week before the withdrawal deadline.

A passing grade in the Final Examination is essential for an overall grade of C- or better.

4. Missed Components of Term Work. The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in section 3.6: **www.ucalgary.ca/pubs/calendar/current/sc-3-6.html.** It is the student's responsibility to be familiar with these regulations. See also www.ucalgary.ca/pubs/calendar/current/e-3.html.

5. There are no exercises scheduled outside of regular class hours.   REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME ACTIVITY. If you have a conflict with any out of class time activity, please inform your instructor at least one week in advance of the activity so that other arrangements may be made for you.

6. Textbook: Topology, 2nd edition, James R. Munkres.

7. Examination Policy: No study aids will be permitted during the midterm or final exam. Students should also read the Calendar, Section G, on Examinations: **www.ucalgary.ca/pubs/calendar/current/g.html**

8. In this course, the quality of the student's writing in homework assignments will be a factor in the evaluation of those assignments. See also **http://www.ucalgary.ca/pubs/calendar/current/e-2.html**.

9.   OTHER IMPORTANT INFORMATION FOR STUDENTS:

(a) ACADEMIC MISCONDUCT (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under K. Student Misconduct (http://www.ucalgary.ca/pubs/calendar/current/k.html) to inform yourself of definitions, processes and penalties.

(b) ASSEMBLY POINTS in case of emergency during class time. Be sure to FAMILIARIZE YOURSELF with the information at http://www.ucalgary.ca/emergencyplan/assemblypoints.

(c) ACADEMIC ACCOMMODATION POLICY. Students with documentable disabilities are referred to the following links: Calendar entry on students with disabilities: **http://www.ucalgary.ca/pubs/calendar/current/b-1.html**
Disability Resource Centre: **http://www.ucalgary.ca/drc/**

(d) SAFEWALK: Campus Security will escort individuals day or night (**http://www.ucalgary.ca/security/safewalk/**). Call **220-5333** for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.

(e) FREEDOM OF INFORMATION AND PRIVACY: This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence**, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page**. For more information see also   **http://www.ucalgary.ca/secretariat/privacy.**

(f) STUDENT UNION INFORMATION: VP Academic **Phone**: 220-3911 **Email**: suvpaca@ucagary.ca.
SU Faculty Rep. **Phone:** 220-3913 **Email:** sciencerep@su.ucalgary.ca **Website http://www.su.ucalgary.ca/**
Student Ombudsman: **http://www.ucalgary.ca/provost/students/ombuds**

(g) INTERNET and ELECTRONIC COMMUNICATION DEVICE Information. You can assume that in all classes that you attend, **your cell phone should be turned off**. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.

10. SCHEDULE and TOPICS.   The following table indicates a calendar of lecture topics, homework due dates and midterm exam date. Please note that this semester represents a trial run for a permanent syllabus change. Some topics related to metric spaces have been removed (related to Chapters 5/6/7 of Munkres) and instead we will pursue persistent homology, a device based on topological ideas used in imaging.

Date	Lecture Topic	Assessment
September 10 – 14	Review Chapter 1	
September 17 - 21	Chapter 2: Topological spaces, basis, examples	
September 24 – 28	Chapter 2: Products, subspaces, limit points, maps	HW 1 due Wednesday, 9/26
October 1 – 5	Chapter 2: Product, metric and quotient topologies	HW 2 due Wednesday, 10/3
October 8-12 (no class Monday)	Chapter 3: connected and compact spaces	HW 3 due Wednesday, 10/10
October 15 – 19	Chapter 3: more compactness	HW 4 due Wednesday, 10/17
October 22 – 26	Chapter 4: Separation axioms	HW 5 due Wednesday, 10/24
October 29 – November 1	Chapter 4: More separation axioms	HW 6 due Wednesday, 10/31
November 4 – 8	Supplemental material: persistent homology	Midterm Exam Monday, 11/4
November 11 – 15	Supplemental material: persistent homology	HW 7 due Wednesday, 11/13
November 18 – 22	Chapter 9: The homotopy relation	HW 8 due Wednesday, 11/20
November 25 – 29	Chapter 9: Fundamental group	HW 9 due Wednesday, 11/27
December 3 – 7	Flexible time (review or fun topic)	HW 10 due Wednesday, 12/5