# UNIVERSITY OF CALGARY

# COURSE OUTLINE
## FALL 2011

1. **Course ID and number, Course Title**: PMAT 505 – Topology I
   **Lecture/Time**: MWF 13:00 – 13:50
   **Instructor/Office/Phone/Email**: Kristine Bauer / MS 578 / bauerk@ucalgary.ca
   **Office Hours**: MWF 14:00 – 14:50
   **Course Website or Blackboard course name: blackboard.ucalgary.ca: PMAT 505 L01 (Fall 2011) – Topology I**

2. **Prerequisites**: PMAT 435 or 455 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 % (Friday, November 4 ) |
   | *Final Exam* | | 40 % (In class, Friday December 9) |

   **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. **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, second edition, James R. Munkres.

7. **Examination Policy**: There are no study aids permitted during exams. 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 on 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 www.su.ucalgary.ca/home/contact.html**.
Student Ombudsman: **http://www.su.ucalgary.ca/services/student-services/student-rights.html**

**(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.

| Date | Topic | Assessment |
|---|---|---|
| September 12 – 16 | Review Chapter 1 | |
| September 19 – 23 | Chapter 2: Topological spaces, basis, the order topology | |
| September 26 – 30 | Chapter 2: Products, subspaces, limit points, continuous functions | HW 1 due Monday, 9/26 |
| October 3 – 7 | Chapter 2: Product topology, metric topology, quotient topology | HW 2 due Monday, 10/3 |
| October 10 – 14 | Chapter 3: connected and compact spaces | HW 3 due Monday, 10/10 |
| October 17 – 21 | Chapter 3: more compactness | HW 4 due Monday, 10/17 |
| October 24 – 28 | Chapter 4: countability, separability, Hausdorff spaces | HW 5 due Monday, 10/24 |
| October 31 – November 4 | Chapter 4: Normal spaces, Urysohn's Lemma | HW 6 due Monday, 10/31 Midterm Exam Friday, 11/4 |
| November 7 – 11 | Chapter 4/5: Urysohn metrization, Tychonoff's theorem | |
| November 14 – 18 | Chapters 6/7: Paracompactness, complete metric spaces (as time permits) | HW 7 due Monday, 11/14 |
| November 21 – 25 | Chapter 9: The homotopy relation, the fundamental group | HW 8 due Monday, 11/21 |
| November 28 – December 2 | Chapter 9: The fundamental group of the circle, covering spaces | HW 9 due Monday, 11/28 |
| December 5 – December 9 | Chapter 9: The fundamental group of spheres | HW 10 due Monday, 12/5 Final exam in class Friday, 12/9 |