

## COURSE OUTLINE

### FALL 2011

**1. Course ID and number, Course Title:** PMAT 603.60 – Homotopical Algebra

**Lecture/Time:** TBA

**Instructor/Office/Phone/Email:** Kristine Bauer/ MS 578 / 220-7675 / [bauerk@ucalgary.ca](mailto:bauerk@ucalgary.ca)

**Office Hours:** MWF 14:00 – 14:50

**Course Website or Blackboard course name:** [blackboard.ucalgary.ca](http://blackboard.ucalgary.ca): PMAT 603 L01 (Fall 2011) – Conference Course in Pure Math

**2. Prerequisites:**

(see Section 3.5C of Faculty of Science [www.ucalgary.ca/pubs/calendar/current/sc-3-5.html](http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html) and Course Descriptions: [www.ucalgary.ca/pubs/calendar/current/course-desc-main.html](http://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:

<i>Assignments</i>	[ 2 ]	25 %
<i>Final Project</i>		75 % (Written portion due in class, December 5 2011)

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](http://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](http://www.ucalgary.ca/pubs/calendar/current/e-3.html).

**5. Textbook:** Charles Weibel, An introduction to homological algebra (recommended). See the list of recommended reading on the Blackboard website.

**6. Examination Policy:** There are no examinations in this course.

Students should also read the Calendar, Section G, on Examinations: [www.ucalgary.ca/pubs/calendar/current/g.html](http://www.ucalgary.ca/pubs/calendar/current/g.html)

**7.** In this course, the quality of the student's writing in assignments and on the final project will be a factor in the evaluation of those assignments and projects. See also <http://www.ucalgary.ca/pubs/calendar/current/e-2.html>.

**8. 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@ucalgary.ca](mailto:suvpaca@ucalgary.ca).  
SU Faculty Rep. **Phone:** 220-3913 **Email:** [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca) **Website** [www.su.ucalgary.ca/home/contact.html](http://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.
9. Course calendar: The first 6 weeks of the course will cover roughly the material in Chapter 1 – 3 and extra topics from either Chapter 6 or Chapter 8 of Weibel's *An introduction to homological algebra*. There will be two homework assignments on this material, due on October 14 and October 28, respectively. The homework problems will be computational in nature. The next 5 weeks of the course will cover the basic's of Quillen's homotopical algebra. There will be no assignments on this material. However, each student will be expected to present a final project in which they explore an example of a model category. The final project will have several deadlines. Students must present an initial topic proposal in writing before October 14. A detailed outline of the final project is due in writing by November 4. Projects involving an oral presentation will be scheduled during class time between November 28 and December 9. Final written projects are due before December 9.