



UNIVERSITY OF CALGARY

DEPARTMENT OF MATHEMATICS AND STATISTICS

COURSE OUTLINE

Course: AMAT 415 – Mathematical Methods

Dates: January 09, 2017 – April 12, 2017

1.

Lecture	Day	Time	Location	Instructor	Office	Phone	Email	Office Hours
01	MWF	14:00-14:50	ENG 224	Wenyuan Liao	MS 530	220-3946	wliao@ucalgary.ca	M 15:00-16:00 W 15:00-16:00

Desire 2 Learn (D2L) course name: AMAT 415 L01 - (Winter 2017) – Mathematical Methods

Department of Mathematics and Statistics – MS476 Telephone number – 403-220-5210

2. **Prerequisites:** One of Applied Mathematics 311, 307, Mathematics 331, 353, 367, 375, 381, or Applied Mathematics 309. Credit will not be allowed for more than one of Applied Mathematics 415 and 413 for the Actuarial Science, Applied Mathematics, General Mathematics, Pure Mathematics, and Statistics programs.

Note: Credit in an introductory Computer Science course prior to taking Applied Mathematics 415 is highly recommended.

3. **Grading:** The University policy on grading and related matters is described 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 (4)	40%	
Midterm tests (2)	20%	(Feb. 17, Mar. 24 – in class)
Final Examination	40%	(To be scheduled by the Registrar)

Each piece of work (assignment, laboratory report, midterm test or final examination submitted by the student will be assigned a percentage score. The student's average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade (bearing in mind that a passing grade in the final examination is necessary for an overall grade of C- or better). The conversion between course percentage and letter grade is given below.

Letter Grade Conversions	
Letter Grade	% range
A+	[95,100]
A	[90,95)
A-	[85,90)
B+	[80,85)
B	[75,80)
B-	[70,75)
C+	[65,70)
C	[60,65)
C-	[55,60)
D+	[50,55)
D	[45,50)
F	[0,45)

- 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](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also Section E.6 of the University Calendar. In the unlikely event of a health problem, the [Physician/Counsellor Statement Form](#) must be accompanied by either "[Application for Deferred Final Examinations](#)" or an "[Application for Deferment of Term Work](#)" in order to gain approval for such request. For all other missed term work such as quizzes, assignments or midterms, the [Physician/Counsellor Form](#) must be handed directly to your course instructor for approval.
- 5. Course Materials:** The course has no set text. Recommended for the bulk of the course is the Schaum series entitled Complex Variables (2nd Edition). Alternatively Anthony Osborne's Complex Variables could also be useful. Recommended for the material on signal processing is Michael Weeks' book 'Digital Signal Processing'. Annotated lecture slides for the entire course will be posted on D2L.

Online Course Components: No online tools will be used beyond those provided by D2L.

- 6. Examination Policy:** Examinations will be closed-book exams. A basic scientific calculator may be used, but no device with communications capability will be allowed. Students should also read the Calendar, [Section G](#), on Examinations.
- 7. Approved Mandatory and Optional Course Supplemental Fees:** none.
- 8. Assignments:** There will be four assignments in the course, and some Matlab programming will be required. [Matlab for students](#) is freely available for University of Calgary students. Please note the department policies on the preparation of assignments, including presentation, neatness, stapling, lateness, and plagiarism.
- 9. Labs:** There will be weekly labs, except in the first week of classes. Students will have access to the MATLAB programming language in these labs, in order to experiment with some of the numerical implementations of Fourier transforms, filters, and other mathematical ideas presented in class. Again, [Matlab for students](#) is freely available for University of Calgary students.

10. 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 [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties
- (b) Assembly Points:** In case of an emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- (c) Academic Accommodation Policy:** Students with documentable disabilities are referred to the following links: [Calendar entry on students with disabilities](#) and [Student Accessibility Services](#). Students needing an Accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, preferably in writing, to the Associate Head of Mathematics and Statistics, Jim Stallard, by email at jbstall@ucalgary.ca or by phone at 403-220-3953.

- (d) Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 403-220-5333 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.
SU Faculty Rep. Phone: 220-3913 Email: sciencerep@su.ucalgary.ca; Student Ombudsman
- (g) Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. 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.
- (h)** At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.