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CS2035 Course Outline

1. Course Information

Course Information

Data Analysis and Visualization (2035B), winter 2022, the lectures will be held online and synchronous via Zoom until January 31, 2022, Tuesdays 12:30-2:30pm; Thursdays 1:30-2:30pm.

We hope to return to the in-person teaching after January 31, but it is possible that we will need to extend the delivery of classes virtually beyond January 31.

List of Prerequisites

0.5 course in Applied Mathematics, Calculus, Mathematics, Statistics (including Introductory Statistics), or the former Linear Algebra at the 1000-level or above, or permission of the Department.

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

2. Instructor Information

Dr. Boyu Wang, bwang@csd.uwo.ca

Prof. Boyu Wang Office Hours: Thursday 2:30-3:30pm (right after the lecture) or by appointment.

Zoom link to office hours: <https://westernuniversity.zoom.us/j/99254981829> (no passcode)

Students must use their Western (@uwo.ca) email addresses when contacting their instructors. The students should include the course number in the subject line of the email and what the email is related to. For example: CS2035 – assignment 1.

3. Course Syllabus, Schedule, Delivery Mode

Essential skills and computational tools for working with data from a number of disciplines. Uses MATLAB for data analysis and visualization through basic statistics, numerical computing, and programming, with interdisciplinary applications ranging from image processing to financial computing, and more. Suitable for both Computer Science and non-Computer Science students.

Lectures: Tuesdays 12:30-2:30pm; Thursdays 1:30-2:30pm.

Zoom link: <https://westernuniversity.zoom.us/j/99254981829> (no passcode)

Classes begin: January 10

Reading Week: February 19 - 27

Classes end: April 8

Contingency plan for an in-person class pivoting to 100% online learning

In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor.

4. Course Materials

There is no required textbook. However, there are several good textbooks describing parts of the material that we will cover.

1. **Recommended text:** Mastering MATLAB, Duane Hanselmann and Bruce Littlefield, Pearson (Prentice Hall), 2012. However, any MATLAB textbook would mostly like be sufficient.
2. **Another good text:** MATLAB Programming for Engineers (5th edition), Stephen J. Chapman, Cenage Learning, 2016.
3. The course notes and some MATLAB functions and data will be on the course webpage.

Students should check OWL (<http://owl.uwo.ca>) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class. Students are responsible for checking OWL on a regular basis.

All course material will be posted to OWL: <http://owl.uwo.ca>.

If students need assistance, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Technical Requirements

The students need to have access to stable internet connection, computer with working microphone and/or webcam.

5. Methods of Evaluation

The overall course grade will be calculated as listed below:

Assignments (4)	60%
Labs (8)	10%
Final Exam	30%

Tentative Timetable:

Assignment 1: Release: Jan 27, Due: Feb 7

Assignment 2: Release: Feb 7, Due: Feb 17

Assignment 3: Release: March 7, Due: March 21

Assignment 4: Release: March 21, Due: April 4

Labs: There are (potentially) either 10 or 11 labs but you only have to complete 8 to obtain full marks.

Final Exam: TBA

Accommodated Evaluations

10% of each assignment will be taken off each day for late submissions; after 5 days being late, no points are given anymore. The assignments are worth 60% of the overall mark for the course. If an assignment has to be cancelled for any reason, the remaining assignment weights will be prorated to add up to 60%.

If you miss the Final Exam, please contact your faculty's Academic Counselling Office as soon as you are able to do so. They will assess your eligibility to write the Special Exam (the name given by the university to a makeup Final Exam).

6. Student Absences

Academic Consideration for Student Absences

Students who experience an extenuating circumstance (illness, injury or other extenuating circumstance) sufficiently significant to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

- (i) Submitting a Self-Reported Absence (SRA) form provided that the conditions for submission are met. To be eligible for a Self-Reported Absence:

- an absence must be no more than 48 hours
- the assessments must be worth no more than 30% of the student's final grade
- no more than two SRAs may be submitted during the Fall/Winter term

- (ii) For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner to the Academic Counselling office of their Faculty of Registration.
- (iii) Submitting appropriate documentation for non-medical absences to the Academic Counselling office in their Faculty of Registration.

Note that in all cases, students are required to contact their instructors within 24 hours of the end of the period covered, unless otherwise instructed in the course outline.

Students should also note that individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds, or for other reasons. **All documentation required for absences that are not covered by the Self-Reported Absence Policy must be submitted to the Academic Counselling office of a student's Home Faculty.**

For the policy on Academic Consideration for Student Absences – Undergraduate Students in First Entry Programs, see:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf

and for the Student Medical Certificate (SMC), see:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

Religious Accommodation

When a course requirement conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request accommodation for their absence in writing at least two weeks prior to the holiday to the course instructor and/or the Academic Counselling office of their Faculty of Registration. Please consult University's list of recognized religious holidays (updated annually) at

<https://multiculturalcalendar.com/ecal/index.php?s=c-univwo>.

Absences from Final Examinations

If you miss the Final Exam, please contact the Academic Counselling office of your Faculty of Registration as soon as you are able to do so. They will assess your eligibility to write the Special Examination (the name given by the University to a makeup Final Exam).

You may also be eligible to write the Special Exam if you are in a “Multiple Exam Situation” (e.g., more than 2 exams in 23-hour period, more than 3 exams in a 47-hour period).

6. Accommodation and Accessibility

Accommodation Policies

Students with disabilities work with Accessible Education (formerly SSD), which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on

Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf,

7. Academic Policies

The website for Registrarial Services is <http://www.registrar.uwo.ca>.

In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf,

the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Tests and examinations in this course will be conducted using a remote proctoring service. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide **personal information** (including some biometric data) and the session will be **recorded**. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at:

<https://remoteproctoring.uwo.ca>.

8. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters: <https://www.uwo.ca/sci/counselling/>.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at (519) 661-2147 if you have any questions regarding accommodations.

Students who are in emotional/mental distress should refer to Mental Health@Western (<http://www.health.uwo.ca/mentalhealth>) for a complete list of options about how to obtain help.

Additional student-run support services are offered by the USC, <http://westernusc.ca/services>.