

**COURSE OUTLINES (SYLLABI) FOR UNDERGRADUATE COURSES****1. Course Information****Course Information**

Data Analysis and Visualization (2035B), winter 2021, the lectures will be held online and synchronous via Zoom.

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

Zoom link: <https://westernuniversity.zoom.us/j/99254981829> (passcode: 882685)

Labs: Mondays 2:30-3:30pm; Mondays 3:30-4:30pm (you attend the one you registered for).

Zoom link: <https://westernuniversity.zoom.us/j/99817750056> (passcode: 261067)

**List of Prerequisites [if applicable]**

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](mailto:bwang@csd.uwo.ca)

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

Zoom link: <https://westernuniversity.zoom.us/j/99254981829> (passcode: 882685)

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.

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Classes begin: January 11

Reading Week: February 13-21

Classes end: April 12

## 4. Course Materials

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, Cengage 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)	40%
Labs (8)	10%

Final Exam

50%

Tentative Timetable:

Assignment 1: Release: Jan 29, Due: Feb 12

Assignment 2: Feb 12, Due: Feb 26

Assignment 3: March 5, Due: March 19

Assignment 4: March 19, Due: April 2

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. If for any reason the assignment schedule cannot be adhered to, the assignment marks will be pro-rated. The assignments are worth 40% 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 40%.

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. 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 Academic Accommodation for Students with Disabilities policy can be found at: [https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/Academic\\_Accommodation\\_disabilities.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf)

### **Academic Consideration for Student Absence**

Students will have up to two (2) opportunities during the regular academic year to use an on-line portal to self-report an absence during the semester, provided the following conditions are met: the absence is no more than 48 hours in duration, and the assessment for which consideration is being sought is worth 30% or less of the student's final grade. Students are expected to contact their instructors within 24 hours of the end of the period of the self-reported absence, unless noted on the syllabus. Students are not able to use the self-reporting option in the following circumstances:

- for exams scheduled by the Office of the Registrar (e.g., December and April exams)
- absence of a duration greater than 48 hours,
- assessments worth more than 30% of the student's final grade,
- if a student has already used the self-reporting portal twice during the academic year

If the conditions for a Self-Reported Absence are *not* met, students will need to provide a Student Medical Certificate if the absence is medical, or provide appropriate documentation if there are compassionate grounds for the absence in question. Students are encouraged to contact their Faculty academic counselling office to obtain more information about the relevant documentation.

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

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/Academic\\_Consideration\\_for\\_absences.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Consideration_for_absences.pdf)

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

[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf)

### **Religious Accommodation**

Students should consult the University's list of recognized religious holidays, and should give reasonable notice in writing, prior to the holiday, to the Instructor and an Academic Counsellor if their course requirements will be affected by a religious observance. Additional information is given in the Western Multicultural Calendar:

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

You may also be eligible to write the Special Exam if you are in a "Multiple Exam Situation" (see [http://www.registrar.uwo.ca/examinations/exam\\_schedule.html](http://www.registrar.uwo.ca/examinations/exam_schedule.html)).

[optional] If a student fails to write a scheduled Special Examination, the date of the next Special Examination (if granted) normally will be the scheduled date for the final exam the next time this course is offered. The maximum course load for that term will be reduced by the credit of the course(s) for which the final examination has been deferred. See Academic Calendar for details (under [Special Examinations](#)).

## **7. Academic Policies**

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

In accordance with policy, <http://www.uwo.ca/its/identity/activatenonstudent.html>, 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.

### **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.

Participants in this course are not permitted to record the sessions, except where recording is an approved accommodation, or the participant has the prior written permission of the instructor.

[if special electronic devices are used in this course]

If applicable, add a statement on what electronic devices will or will not be permitted on tests and exams; e.g., specific models of calculators.

**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](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf).

## 8. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on add/drop 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 Student Accessibility Services (SAS) at (519) 661-2147 if you have any questions regarding accommodations.

[New] Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: <https://www.uwo.ca/se/digital/>.

[optional] Learning-skills counsellors at the Student Development Centre (<http://www.sdc.uwo.ca>) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Students who are in emotional/mental distress should refer to Mental Health@Western ([http://www.health.uwo.ca/mental\\_health](http://www.health.uwo.ca/mental_health)) 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>.