Western University
Department of Computer Science

Computer Science 2034B / Digital Humanities 2144B
Data Analytics: Principles and Tools
Course Outline -- Winter 2025

1. Course Description

A comprehensive and interdisciplinary introduction to data analytics using modern computing systems, with equal attention to fundamentals and practical aspects. Topics include sources of data, data formats and transformation, usage of spreadsheets and databases, statistical analysis, pattern recognition, data mining, big data, and methods for data presentation and visualization.

Prerequisites

No prerequisites are required for this course.

2. Learning Outcomes

By the end of this course, students will be able to:

- Describe types, sources, and facets of data.
- Use spreadsheets, macros and VBA to analyze data.
- Utilize programming constructs to process data.
- Explain relevant statistical analysis and machine learning techniques.
- Evaluate different visual artifacts for data presentation.
- Choose data analytics tools appropriate for data problems.

3. Instructor:

Dr. Daniel Servos
E-Mail: dservos5@uwo.ca
Office: ███████████████████
Office Hours: By appointment *(see appointment link for times)*
Appointment Link: http://danielservos.ca/apt

Office hour appointments must be requested via http://danielservos.ca/apt at least 24 hours before the desired date. The number of appointments available each day is limited and will be scheduled on a first-come first-served basis. No office hours will be held on the week of February 16th (reading week).

4. Textbook:

There are no required textbooks. However, freely accessible readings will be assigned throughout the term.

5. Technology Requirements:

To successfully complete this course, all students **must** have access to a personal computer capable of running the **current version** of Microsoft Excel included in Office 365. Office 365 (including Microsoft Excel) is available for free to Western students for both Windows and MacOS.

To participate fully in in-class activities, students are required to bring a device capable of connecting to Western's Wi-Fi network and loading web pages. A laptop is highly recommended, but a modern smart phone should also suffice.

6. Teaching Assistants

Teaching Assistant (TA) contact information and consulting hour details will be posted on OWL when available.

Teaching assistants will hold an open in-person consulting hour each week. No appointment is required to attend a TA's consulting hour. No consulting hours will be held on the week of February 16th (reading week) or after April 4th.

7. Lectures

There will be one lecture held each week in ▮▮▮▮▮▮ at the following time:

- Tuesday 2:30PM - 4:30PM

Students are expected to bring blank paper and writing implements to each lecture. A laptop, tablet, phone or other electronic device capable of connecting to the internet and viewing web pages is also required for participation in some in-class activities.

8. Course Website & E-Mail Communication

This course uses the Online Western's Learning (OWL) system (https://owl.uwo.ca).

Announcements, assignments, labs, lecture notes, and other course-related information will be posted on this website. It is the responsibility of the student to ensure their UWO account is operational for both E-Mail and using the OWL course site and routinely check both for updates.

Before sending questions to the course instructor, please first check the course syllabus (this document), the OWL course site, and the OWL course forums before sending your inquiry. **General questions that may be helpful to other students (and do not contain personal information) should be posted to the OWL course forums so that others may benefit from the answer.** E-mail messages should be sent from your UWO e-mail account and include "CS2034" in the subject line to avoid any spam filters.

You can normally expect a response with-in 2 business days (nonholiday Mondays to Fridays). Please ensure enough time is available for a response when asking questions regarding assignments that are nearing a deadline.

9. Time zone and Scheduling of Course Components:

All times listed in this document and on the OWL course site are assumed to be in Eastern Time (the local time of the Western University campus) unless otherwise stated. Assignment due dates and exams will be scheduled for the Eastern Time Zone. Students must ensure they are available during these times. No alterative deadlines, or exam dates/times will be offered for students who make travel plans that conflict with these dates.

10. Evaluation:

Element	Weight
4 Assignments	22%
Labs (10)	12%
Participation	10%
Midterm Exam	20%
Final Exam	35%
Orientation Quiz *(due Jan. 24th)*	1%

If an assignment or lab has to be cancelled for any reason, the remaining assignments/labs weights will be prorated (scaled) to add up to the total weight for that element. If the midterm exam is cancelled, the weight will be placed on the final exam.

Rounding & Curving of Grades
Final grades will be rounded to a whole number by truncating the decimal places (i.e. taking the floor of the decimal final grade such that an 89.56% becomes an 89%).

To ensure a consistent and fair grading scheme, assignments and exam grades maybe be normalized or curved to ensure consistency in marking between different TA graders. A curve may also be applied to final grades to ensure overall averages fall within historical ranges for the course.

11. Assignments:
- There will be 4 assignments.
- Tenatative assignment schedule (dates subject to change) and weights are as follows:

Assignment #	Due Date (tentative)	Weight (of final grade)
1	Jan. 30th	5%
2	Feb. 13th	5%
3	Mar. 6th	6%
4	Apr. 3rd	6%

- **Assignments are due 1 minute before midnight** (11:59PM) of the due date. It is expected that you will submit well in advance of this deadline to account for any issues (technological or otherwise) as such no extensions will be given for such issues.
- Assignment instructions and details will be posted at least one week prior to the due date.
- All submissions will be submitted electronically via the OWL course management system. No submissions will be accepted via e-mail or other means.
- Assignment descriptions will be posted on the OWL course site. Any changes, updates, or clarifications to assignments will also be posted on the OWL course site. It is your responsibility to monitor these OWL pages regularly for updates (an e-mail may not always be sent).
- Note that an Excel Sheet or VBA function that produces the correct output is not necessarily a "working" solution. It must also satisfy the specifications given in the assignment description and work with a variety of different valid inputs.
- **Your assignment solutions are expected to be your own individual work**, not the products of group effort. You may not share your assignment solutions with another student for any reason nor are

you to request solutions from another student or make use of solutions available on-line. Such sharing of solutions is considered a scholastic offence and will be penalized as such.

- **Use of tools to generate solutions is forbidden.** All solutions must be your own work and can not be generated by any tool including large language models (e.g. ChatGPT) or any other tool. Using tools to generate solutions is considered a scholastic offence and will be penalized as such.
- **It is your responsibility to keep up-to-date off-site backups** (e.g. on OneDrive or Dropbox) of assignment files. Retain copies of all material handed in, as well as the graded assignment, to guard against the possibility of lost assignments or errors in recording marks. You should keep these materials until you are satisfied that your final mark for the course has been computed properly. No extensions will be given for lost or corrupted files.
- Assignments will be marked by the TAs, who follow marking schemes provided by the instructor. Every effort will be made to have assignments marked and handed back within 2 weeks after the due date, preferably sooner.
- **You should direct any questions or appeals about marking to the TA who marked your assignment.** If your discussion with the TA is not satisfactory, you may further discuss the issue with the course instructor.
- A request for an adjustment in an assignment mark must be made within 1 week following the date the assignment is returned. All assignments marks are considered to be final after that date.
- The course instructor reserves the right to completely remark an appealed assignment or otherwise correct any errors they notice in the TA's marking. This may raise or lower the grade compared to that given by the TA.
- **This course uses a late coupon system for assignments:**
  - Each student starts the course with 4 late coupons.
  - One late coupon can be used to give a period of 1 day (up until 11:59PM the next day) with no penalty for submitting late.
  - At most 3 late coupons can be used per assignment.
  - If you have no late coupons remaining or your assignment is more than 3 days late, a zero grade will be given.
  - An estimate of your late coupons will be tracked through a gradebook item on OWL, however, this will not be updated live and may be out of date. It is your responsibility to keep track of your own late coupons and ensure your have enough remaining before submitting late.
  - No action is required to use a late coupon. Any late submission will automatically use the required number of late coupons. All late submissions must use late coupons as the alternative is a zero grade.
  - After all late coupons are used, no extensions will be given for assignments except for in the event of serious medical or compassionate grounds. A student must follow the procedure for Academic Advising for Medical Illness as given in this document.
  - Late coupons must be used before special circumstances (consideration requests) are considered.

12. Labs
- **Labs start the week of Jan. 19th.**
- There will be 10 two-hour labs worth 1.5% each. **Your lowest two lab grade will be dropped (missing a lab counts as your lowest lab grade).**
- See the Western Timetable for location and time information.
- Labs will be run by TAs and act as practical tutorial sessions that may cover new material or review concepts discussed in lectures. Collaboration on lab problems with other students is allowed and encouraged, but you must create your own solution (it can not be another student's work).
- Lab descriptions will be posted on the OWL course site prior to your lab session. Any changes, updates, or clarifications to labs will also be posted on the website. It is your responsibility to monitor these pages frequently for any updates.

- **It is expected that you read over lab materials beforehand and come prepared to lab sessions** with any required resources or reference materials. Some labs may have tasks to complete before attending the lab session.
- As seating in labs is limited, **you are required to attend the lab section you are registered in**. No credit will be given for attending the wrong lab session unless you have the express written permission of the course instructor.
- To obtain full marks for a given lab session, **you must attend the lab in person and complete the lab to the TA's satisfaction <u>during</u> the lab session** (see the Lab Rubric at the end of this document for details).
- TAs may give a zero or reduced lab mark to students that arrive late, do not work on lab material during the lab session, leave before having the TA check their work, or are unable to answer questions about their work. It is expected that students abstain from working on assignments during lab time until they have completed and received a mark for the lab.
- **You must attend the lab section you are registered in.** Labs can not be made up for in future lab sessions or submitted via e-mail.
- The weight of any missed labs missed beyond the 2 dropped labs will be moved to the final exam. No consideration request is required for this reweighting, it will be applied automatically. However, you will be expected to know the topics and content covered in the labs for any assignments or tests.

13. Participation:

As Computer Science is a highly collaborative field, it is important to develop the skills and tools you need to work with others on complex programming and technical problems. For this reason, CS2034/DH2144 makes use of active learning and group work during in-class activities. It is expected that you will be an active participant in all course activities and come prepared by reading the required readings before class each week.

Participation will be tracked using "participation points" that are awarded for different activities that demonstrate engagement and participation in the course, aiding other students, completing in-class activities, Or answer questions in-class.

The following are examples of activities that award participation points (other opportunities may be added at the instructor's discretion, but will always be offered to the whole class and not individually):

Activity	Participation Points	Description
Completing in-class activities.	150	In-class lectures may include a group work activity or tutorial section that asks you to work with a group to complete a small poll, quiz, short written response, or other activity. Completing these (even if your answer is incorrect) will award points. These activities must be done in-class during the designated time and recorded through the http://cs1.ca tool. For full points a proper summary of the activity must be submitted through the tool. **Most (but not necessarily all) weeks will have one or more activities worth 150 points in total.**
Participation Tickets (Ducks)	75	During in-class lectures the instructor may award participation tickets for answering a question out loud in-class or otherwise showing involvement in the lecture. These tickets will award 75 participation points if entered into the http://cs1.ca tool. **Tickets must be entered into the tool within one week of being issued.**
Answering a question in-class using the in-class response tool	0 to 10	During in-class lectures the instructor may occasionally ask questions to the class. If you answer these questions via the http://cs1.ca tool, a small amount of participation points may be awarded based on the quality of your answer and the question being asked. Responses must

		be made in a reasonable time frame after the question is asked. **At most 50 points per lecture can be earned from answering question this way.**
Answer a question on the course forums.	0 to 100	Answering an **unanswered** question posted by another student on the OWL course forums in a **meaningful way** or **significantly adding to an already answered question**. To count, the answer must be **posted in good faith**. No points will be awarded to students working together to post/answer questions purely for points. The answer **must be correct, timely,** and address the student's question within a week of posting it or before the assignment deadline (if the question is referring to an assignment), which ever is sooner. A high-quality answer post will include examples, diagrams, or screenshots to aid in the explanation as well as cite its sources. **Most meaningful answers will be given 50 points on average** depending on the quality and correctness. **At most 300 points can be earned from answering questions.**
Posting a tutorial on the course forums.	0 to 150	Writing your own tutorial or guide to one of the topics covered or related to the content covered in class and posting it on the course forums. **To count for points, your tutorial <u>must</u> meet the following requirements:** 1) be written by you and not taken from another source or generated by AI, 2) cover content related to the course, lab, or assignment, 3) cite sources used, 4) include media to demonstrate the concept (images, videos, diagrams, screenshots, etc.), 5) no give away solutions to an assignment or lab, and 6) cover a different topic then any already posted tutorials. **The number of points awarded for a tutorial will be based on the effort and correctness** of the tutorial and will not be more than 150 points per tutorial. Tutorials that appear to have minimal effort put into them will receive minimal points. **An average quality tutorial could except to receive 75 points**. **At most 300 points can be earned from posting tutorials.**

Participation points will be converted into percentage (out of 10) to calculate your final participation mark using the following table:

Level	Grade (out of 10%)	Minimum Participation Points Required
0	0%	0
1	1%	150
2	2%	225
3	3%	340
4	4%	460
5	5%	600
6	6%	810
7	7%	1050
8	8%	1330
9	9%	1650
10	10%	2000
11	10% + up to 2% bonus to final grade (depending on number of extra points past 2500), final grade can not be over 100%.	2500

No fraction of percentages will be granted for participation. You must make it to the next level to increase your participation grade. For example, 975 points would still be a level 6, worth 6%.

Due to technical limitations, participation points will not be updated live, and it is your responsibility to estimate them if you wish to track your progress. However, the CS1.ca site will show you which in-class group work activities you have completed and how many participation tickets you have input. A final official calculation will be done **after** April 4th and **all work that counts towards participation must be completed by April 4th at 11:59pm.**

The final subjective decision of what constitutes a "meaningful contribution" or how may points is assigned for a contribution is at the sole discretion of the course instructor. Quantity or length of posts/answers is not a substitute for quality and multiple low-quality posts/answers do not add up to one meaningful contribution. While spelling and grammar will not be marked, all posts/answers must be legible, intelligible, and written in English.

If for any reason the course must be moved online for a period of time, the in-class activities may be offered asynchronously online. In such as case, you may be required to have a webcam and microphone. The course instructor reserves the right to switch the in-class response tool to different software should issues arise with the http://cs1.ca response tool. In such a case, the points will remain the same and only the tool used to submit answers/record participation will change.

To encourage students to read this course syllabus in full 50 participation points can be earned by navigation to http://cs1.ca/ask/syb?c=cs2034 and inputting your username and student number by January 24nd. No points will be granted for this after this date. You may not share this link with other students.

In the instructor's sole discretion, participation points may be removed for disruptive in-class or online behaviour including but not limited to talking during inappropriate times, inappropriate comments, or failing to work well with other students during group work activities. Participation points may also be removed for attempting to "cheat" the participation system. For example, submitting in-class group work for students not in attendance or giving a participation ticket to a student that did not earn it. Spamming the discussion forums or the in-class response system with low quality posts purely to inflate your participation mark may also be penalized.

Sharing a participation code with a student not in attendance or submitting work for a student not in attendance is considered to be an academic offence for all students involved. As is using a participation ticket (duck) you did not earn. Academic offences related to participation will result in a zero-participation grade and referral to the integrity committee who may apply additional penalties.

14. Midterm & Final Exam:

- **Tentative** exam dates are as follows:

    Midterm Exam
    Date: Saturday March 1st (tentative)
    Time: TBA (2 hours in length)
    Location: TBA

    Final Exam
    Date/Time/Location: Scheduled by the registrar's office during the Winter exam period.
    Length: 3 hours.

- The format and exact rules of the exams will be announced before the exam (at least 2 weeks in advance if possible).
- Both exams will be comprehensive and may include anything covered in lectures, labs, assignments, and assigned readings up until the point in the course unless otherwise stated by the instructor.
- No electronic devices of any kind, including but not limited to calculators, phones, laptops, and smart watches, will be allowed during the examinations. Having these on your person (e.g. in your coat or pocket) during the exam will be considered an academic offence.
- No communication or collaboration with any other person is allowed during the exams.
- No resources, cheat sheets, texts, notes, or references (including dictionaries) are allowed for the exams unless otherwise specified in the exam rules.
- No make-up midterm exam will be held. Students absent due to a documented and approved consideration request will have the weight of the midterm placed on the final exam. The consideration request must cover the date of the midterm and be submitted on time for the weight to be removed.
- Violation of any exam rule (mentioned above or on the exam it's self) or cheating of any kind will result in a 0% grade for the final exam and the possibility of additional penalties as deemed appropriate by the course instructor, department or university including but not limited to a failing grade being entered for the course.

15. General information about missed coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs* posted on the Academic Calendar: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf,

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person.

The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult Accessible Education.

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage:
https://registrar.uwo.ca/academics/academic_considerations/
All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline.

All Academic Consideration requests must include supporting documentation; however, recognizing that formal documentation may not be available in some extenuating circumstances, the policy allows students to make one Academic Consideration request **without supporting documentation** in this course. However, the following assessments are excluded from this, and therefore always require formal supporting documentation:
- Examinations scheduled during official examination periods (Defined by policy)
- Midterm Exam (Designated by the instructor as the one assessment that always requires documentation when requesting Academic Consideration)
- Assessment that already have flexibility built-in including assignments, participation, and labs.

When a student *mistakenly* submits their one allowed Academic Consideration request **without supporting documentation** for the assessments listed above or those in the **Coursework with Assessment Flexibility** section below, the request cannot be recalled and reapplied. This privilege is forfeited.

Evaluation Scheme for Missed Assessments

Final Exam
When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name given by the University to a makeup Final Exam). See the Academic Calendar for details (under Special Examinations), especially for those who miss multiple final exams within one examination period.

Coursework with Assessment Flexibility
By policy, instructors may deny Academic Consideration requests for the following assessments with built-in flexibility:

Flexible Completion
Labs
This course has 10 labs, and the 8 labs with the highest marks are counted towards your final grade. Should extenuating circumstances arise, students do not need to request Academic Consideration for the first 2 missed labs. After 2 labs are missed, the weight of any additional missed labs will be moved to the final exam. This is automatic, and students do not need to request Academic Consideration for lab absences. Academic consideration requests will be denied for labs as flexibility is already provided.

Participation
The participation points required to obtain a full participation grade in this course is 2000. However, more opportunities for participation points exist then required to obtain 2000 points. The table in section 13 also lists activities such as creating tutorials that can be used to make up for points from a missed lecture. Consideration requests for missed lectures will only be considered if the participation points can not be made up for in another way. Typically, this would require more than 4 lecture absences until a full participation grade is no longer possible.

Deadline with a No-Late-Penalty Period
Assignments
Students are expected to submit each of the 4 assignments by the deadline listed. Should extenuating circumstances arise, students are expected to use the flexibility provided by the late coupon system. Each student is given 4 late coupons for the whole term. Each late coupon grants a period of 24 hours with no late penalty. No more than 3 late coupons can be used on an individual assignment and no submissions will be accepted 3 days past the due date. If you submit late and do not have enough late coupons, or more than 3 days have past since the due date, a zero grade will be given for the assignment. Late coupons are applied automatically when you submit late and once used are gone for good.

In the event of extenuating circumstances occurring before or on the due date that could not be covered by the late coupon system due to the length of the circumstance being longer than 3 days, student may submit a consideration request to academic advising. If the request is approved, covers at least 3 days of the assignment time **before** the due date, and the consideration request was submitted on time, the weight of the assignment will be placed on the final exam.

Accommodations Due to Disabilities
The instructor is happy to work with students with accommodations for flexibility in deadlines and other elements of their course work. However, it is important to communicate these needs to the instructor before any due dates so we can ensure your accommodations are provided. **Accommodations can not normally be applied retroactively**, so please ensure you book your tests with accommodated exams before any deadlines and inform the instructor of any accessibility needs on assignments and in-class participation as soon as you are able to.

16. Scholastic Offences & Academic Dishonesty

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

To preserve a fair and honest learning environment for all, scholastic offences and any breach of ethical conduct will not be tolerated and punished according to department policy. In addition, to the offences outlined in the department and university policy, the following will be considered academic misconduct:

- Working with another person on assignments (assignments are to be completed individually).
- Sharing assignment solutions with other students or posting them on-line in a manner that is accessible to other students (e.g. GitHub, Course Hero, in Facebook groups, via Discord, etc.).
- Using any part of another student's assignment solution including but not limited to formatting and templates.
- Using a tool to generate solutions to any part of an assignment including large language models (e.g. ChatGPT) or other tools. No part of your assignment may be generated by such tools, including creating starter code or templates.
- Sharing your account or using another student's UWO account in any way.
- Submitting a Group Work Code for an activity you did not participate in or were absent for.
- Submitting a participation ticket that you did not earn yourself.
- Sharing or giving a Group Work Code or participation ticket to another student.
- Attempting to circumvent or in any way manipulate the systems in place for monitoring participation or attendance (e.g. CS1.ca ASKTool, etc.).
- Altering a midterm or exam in any way after it has been graded.
- Removing a midterm or exam from the exam room without permission of the chief proctor.
- Using any kind of electronic device while taking an exam, including but not limited to smart phones, smart watches, smart glasses, ear buds, headphones, calculator, or any device with a display.
- Misrepresenting work done during labs with the intent to receive a higher lab grade.
- Taking the place of another student in labs sessions, exams, midterms, etc.
- Any other offences listed in a department or university policy.

You are responsible for reading and respecting the Computer Science Department's policy on:
Scholastic Offences:

   https://www.csd.uwo.ca/undergraduate/current/policies/scholastic_offenses.html

and Rules of Ethical Conduct:

   https://www.csd.uwo.ca/undergraduate/current/policies/ethical_conduct.html

Plagiarism Detection Software
All assignments, quizzes, and exams may be subject to textual and metadata similarity review using plagiarism detection software. All assignments, quizzes and exams submitted for such checking may be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of such services are subject to the licensing agreement with The University of Western Ontario. These services and software may include but are not limited to Turnitin (http://www.turnitin.com), MOSS, Gradescope, SCANEX, and custom plagiarism detection software developed for the course.

17. Additional Statements

Religious Accommodation

When conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible but not later than two weeks prior to the writing or the examination (or one week prior to the writing of the test).

Please visit the Diversity Calendars posted on our university's EDID website for the recognized religious holidays:

https://www.edi.uwo.ca.

Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, 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.

Academic Policies

The website for Registrar Services is https://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 their official university address is attended to in a timely manner.

Support Services

Please visit the Science & Basic Medical Sciences Academic Advising 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/.

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

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

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

http://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at Learning Development and Success (https://learning.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.

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/.

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

Appendix: Lab Rubric

Grade	Exemplary *(3 marks)*	Satisfactory *(2 marks)*	Needs Improvement *(0 to 1 marks)*
Description	• All required components of lab completed and correct. • Demonstrates understanding of lab content and correctly answers questions about their work. • Arrives on time and prepared for the lab with all required prelab readings and activities completed. • Does not leave before completing the lab in full. • All lab work is done during the lab session.	• At least half of lab content is completed. • Several or significant errors in work. • Likely that errors could be corrected if more time was given. • Likely that most of lab could be completed with more time. • Demonstrates some understanding of completed lab content and able to explain most completed work. • Arrives on time and with most prelab readings and activities completed. • Does not leave before completing the majority of the lab or the end of the lab session (which ever happens first).	• Majority of lab tasks are incomplete. • Many significant errors in work. • Unlikely that errors could be corrected if more time was given. • Unlikely that most of lab could be completed with more time. • Fails to demonstrate understanding of lab content. • Arrives late, without prelab readings or leaves early. • Did not work on assigned lab during lab time. • Came to the lab with the lab already completed.

Lab Rubric Notes:
- Each lab is marked out of 3 points
- Some labs may have a bonus/optional part that will allow for a grade over 3. Bonus marks will only be given if the required parts of the lab are completed to the TA's satisfaction, contain no errors, and you can answer questions correctly about your work. Bonus marks (including bonus participation marks) can not add more than 2% bonus to your final grade. Your final grade can not be over 100%.
- Lab absences will result in a 0/3 grade for the missed lab. You are only considered to be in attendance if the TA grades your lab work during the lab session.
- You are expected to work on the lab during the lab session (note complete it at home) and collaborate with your fellow students. TAs may give a reduced grade if you come to the lab with the lab already completed or stay for less than 30 minutes (even if the lab is completed and correct).