

- Identify unsolvable problems as well as theoretically decidable problems that are practically infeasible

Topic Coverage: We will cover the following topics:

- Recursive definitions
- Regular expressions, finite automata (DFAs, TGs, NFAs), Kleene’s theorem
- Context-free grammars, pushdown automata
- Regular and context-free languages and corresponding pumping lemmas
- Turing machines
- Recursive and recursively enumerable languages
- Church’s thesis
- Decidability and algorithms
- Fundamentals of complexity theory

Course Grading Policy: Your final grade for this course will depend on regular quizzes, between 8 and 10 assignments, and 3 exams. Each assignment and exam will be graded on a scale from 0 to 100. All assignments will carry the same weight when computing your overall assignment grade. Your overall numerical grade for the course will be computed as the weighted sum of the component grades using the following weights:

Component	Weight
Assignments	35%
Quizzes	5%
Exam #1	20%
Exam #2	20%
Exam #3	20%

Your final letter grade for the course will be computed using the following mapping:

Numerical Score	Grade	Numerical Score	Grade
92 and above	A	Between 72 and 79	C
Between 89 and 92	AB	Between 69 and 72	CD
Between 82 and 89	B	Between 60 and 69	D
Between 79 and 82	BC	Below 60	F

I will be glad to discuss any questions you may have about grades. However, make sure to bring them up right away, upon return of each graded assignment or exam. Last minute requests after the final exam will not be entertained.

Attendance and Participation: You are expected to not only attend **every** class meeting but also to come **prepared** for and **participate** actively in it. Necessary preparation requires you to have studied and assimilated the material covered in previous sessions, to have met with me outside of class to discuss any questions you may have, to have done the assigned reading, and to have completed the assignments on time.

It is hard to imagine how a student could do well in this course while missing classes, attending them unprepared, or not participating.

On the positive side, I have high expectations for my students and will always support and encourage you. I **strongly encourage** you to **ask any question** or raise any issue you have with the course either during or at the end of class, or during my office hours. I will also gladly meet with you by appointment. Send me email or give me a call to make an appointment. While I will meet with you as soon as my schedule permits, do not expect me to be widely available before an assignment is due.

Late Submissions: I will describe the submission procedure for your assignments when the time comes. However, let me point out right away that each assignment will come with a deadline (day and time) after which any submission is considered late, **with no exception**. The late-submission policy works as follows. If your submission is past the deadline on the due date, you will lose 10% of your score. If your submission reaches me 1, 2, or 3 days after the due date, I will grade your assignment as if it were turned in on time and then reduce your numerical grade by 25%, 50%, and 75%, respectively. If your submission is more than 3 days late, I will not grade it and you will receive a zero. Late submissions can easily be avoided by starting to work on the assignment right away and asking me questions early if you get stuck.

The penalty for late submissions can be waived in **only one** scenario, namely if you give me a signed note from the attending physician or a written justification for the extension from the Dean of Students Office. If you miss a scheduled exam, you **may** be able to take a make-up exam provided you give me a valid justification (see above) ahead of time if possible. Only one make-up exam will be given. It will be a comprehensive exam scheduled at the end of the semester.

Bonus Points

Since late submissions are penalized, it is only fair to reward early ones as well. Therefore, if you submit an assignment at least one full day early, you will earn three bonus points for every full 24-hour interval between your submission's time stamp and the deadline time. Furthermore, there will be other opportunities for bonus points throughout the semester.

Collaboration versus Cheating: All submissions must be the work of only one student, namely the one whose name appears on the submission. While it is acceptable and encouraged to discuss the assignments with others, you must submit your own work unless you can live with a zero and the other potential academic sanctions of cheating. Check out the UWO Student Discipline Code (UWS 14) at <http://www.uwosh.edu/dean/conduct.htm> for details.

In conclusion, remember that computer science classes require a lot of work in addition to active participation in class. It takes considerable practice to develop the technical and analytical skills targeted by this course. You will need to spend **at least (and typically more than) three hours of effort outside of class for each in-class hour**. Having said this, I expect every hardworking student to do well in this course.

Have fun this semester and good luck!