

# CS 3323 PROGRAMMING LANGUAGES

## Spring 2021 SYLLABUS

**Instructor:** Martin Kong (DEH-230, mkong@ou.edu)

**Office Hours:** Mondays and Wednesdays 2pm – 3:00pm.

**Class Meetings:** Dale Hall, 0211, 12:45 PM - 1:35 PM (MWF)

**Course Website:** Access through <https://canvas.ou.edu>

**Delivery Method:** The course will be delivered by standard face-to-face lectures also also live-streamed via Zoom. Lectures will be recorded and uploaded to the course's cloud, and accessible via a playlist. The links and access code to the zoom lectures can be found in the Canvas space of the course. Slides used in the lectures will be available for download in Canvas.

**Attendance Policy:** Class attendance is not mandatory. However, it will probably be more convenient to be in class for the online quizzes.

### Online Access:

- All instructor office hours will be given via zoom. You can find the access information in the Canvas space of the course.
- All TA office hours will be delivered via zoom. Information will be available in the Canvas space of the course.

**Textbook** No required book. However, different topics will be covered from the following books:

- *Programming Languages Pragmatics*, by Michael L. Scott, 4th edition, Morgan Kaufmann.
- *Compilers: Principles, Techniques, and Tools*, by Alfred Aho, Ravi Sethi, Jeffrey Ullman, Monica S. Lam. Pearson Publisher.
- *Engineering a Compiler*, by Keith D. Cooper and Linda Torczon, Morgan Kaufmann.

**Required Work:** The final grade consists of:

- Quizzes (30%): Six (6) online quizzes with Canvas. The quiz with the lowest score will not count towards your final grade. No make-up up quizzes can be provided. In class attendance to take the quizzes is not necessary, but might make solving technical difficulties easier.

In this course, all quizzes are open-book and open-notes, unless otherwise specified. In some cases you can also use compiler tools at hand.

- Programming Assignments (30%): You will develop parts of a language and compiler in four separate programming projects submitted via Canvas. You will have 2-4 weeks for each programming assignment. Can work in groups of up to 3 students. Working in groups is not mandatory. See Canvas for specific dates and details.

Late policy: You can submit your assignments up to 3 days late, but each group member will lose 1 point per day. No assignments will be accepted past the third day.

- Midterm (20%).
- Final Examination (20%): All course topics included, not just post-midterm.

NOTE1: midterm and final exams can include topics from the programming assignments.

**Learning Goals and Plan:** An introduction to theoretical foundations and paradigms of programming languages. Topics include basic concepts such as lexical analysis, syntax analysis, syntax-directed translation, type systems and semantics, intermediate code generation, some practical issues such as memory management, and programming paradigms such as imperative programming, object-oriented programming, functional programming and scripting.

**ABET Specific Outcomes of Instruction:** By the end of the semester, the students will be able to apply computer science theory and software development fundamentals to produce computing-based solutions. For more information, see <http://www.abet.org>.

## University Policies

**University Mandatory Masking Policy** *Each OU campus has implemented and will enforce a policy mandating that masks be worn by employees, students, patients, and visitors (1) when they are inside University facilities and vehicles and (2) when they are outdoors on campus and social distancing of at least six feet is not possible. Each campus policy has been reviewed and approved by OUs Chief COVID Officer and is effective until further notice.*

More information can be found here: <https://www.ou.edu/coronavirus/masking-policy>

*Masking Mentors are faculty, staff, and student employees of the OU community. In addition to serving as role models, Masking Mentors will help hold individuals accountable who are not following the aforementioned policies and procedures using bystander techniques (pdf) and providing access to PPE. To further support faculty and staff, de-escalation, informal, and formal accountability processes have been developed and provided for ongoing support. Formal processes may include education through informal/formal resolution, fines, or further disciplinary action. For further information about the enforcement of masking policies, see here.*

More information can be found here: <https://www.ou.edu/together/norman-phase-iii#XI>

**Academic Integrity** Students Guide to Academic Integrity can be found at [http://integrity.ou.edu/students\\_guide.html](http://integrity.ou.edu/students_guide.html)

**Religious Observance** It is the policy of the University to excuse the absences of students that result from religious observances and to reschedule examinations and additional required classwork that may fall on religious holidays, without penalty.

**Reasonable Accommodation Policy** Students requiring academic accommodation should contact the Disability Resource Center for assistance at (405) 325-3852 or TDD: (405) 325-4173. For more information please see the Disability Resource Center website <http://www.ou.edu/drc/home.html>. Any student in this course who has a disability that may prevent him or her from fully demonstrating his or her abilities should contact me personally as soon as possible so we can discuss accommodations necessary to ensure full participation and facilitate your educational opportunities.

**Title IX Resources and Reporting Requirement** For any concerns regarding gender-based discrimination, sexual harassment, sexual assault, dating/domestic violence, or stalking, the University offers a variety of resources. To learn more or to report an incident, please contact the Sexual Misconduct Office at 405/325-2215 (8 to 5, M-F) or [smo@ou.edu](mailto:smo@ou.edu). Incidents can also be reported confidentially to OU Advocates at 405/615-0013 (phones are answered 24 hours a day, 7 days a week). Also, please be advised that a professor/GA/TA is required to report instances of sexual harassment, sexual assault, or discrimination to the Sexual Misconduct Office. Inquiries regarding non-discrimination policies may be directed to: Bobby J. Mason, University Equal Opportunity Officer and Title IX Coordinator at 405/325-3546 or [bjm@ou.edu](mailto:bjm@ou.edu). For more information, visit <http://www.ou.edu/eoo.html>.

**Adjustments for Pregnancy/Childbirth Related Issues** Should you need modifications or adjustments to your course requirements because of documented pregnancy-related or childbirth-related issues, please contact your professor or the Disability Resource Center at 405/325-3852 as soon as possible. Also, see <http://www.ou.edu/eoo/faqs/pregnancy-faqs.html> for answers to commonly asked questions.

**Final Exam Preparation Period** Pre-finals week will be defined as the seven calendar days before the first day of finals. Faculty may cover new course material throughout this week. For specific provisions of the policy please refer to OUs Final Exam Preparation Period policy (<https://apps.hr.ou.edu/FacultyHandbook#4.10>).

**Emergency Protocol** During an emergency, there are official university procedures that will maximize your safety.

**Severe Weather:** If you receive an OU Alert to seek refuge or hear a tornado siren that signals severe weather 1. LOOK for severe weather refuge location maps located inside most OU buildings near the entrances 2. SEEK refuge inside a building. Do not leave one building to seek shelter in another building that you deem safer. If outside, get into the nearest building. 3. GO to the buildings severe weather refuge location. If you do not know where that is, go to the lowest level possible and seek refuge in an innermost room. Avoid outside doors and windows. 4. GET IN, GET DOWN, COVER UP. 5. WAIT for official notice to resume normal activities.

**Armed Subject/Campus Intruder:** If you receive an OU Alert to shelter-in-place due to an active shooter or armed intruder situation or you hear what you perceive to be gunshots: 1. GET OUT: If you believe you can get out of the area WITHOUT encountering the armed individual, move quickly towards the nearest building exit, move away from the building, and call 911. 2. HIDE OUT: If you cannot flee, move to an area that can be locked or barricaded, turn off lights, silence devices, spread out, and formulate a plan of attack if the shooter enters the room. 3. TAKE OUT: As a last resort fight to defend yourself. For more information, visit <http://www.ou.edu/emergencypreparedness.html>

**Fire Alarm/General Emergency:** If you receive an OU Alert that there is danger inside or near the building, or the fire alarm inside the building activates: 1. LEAVE the building. Do not use the elevators. 2. KNOW at least two building exits 3. ASSIST those that may need help 4. PROCEED to the emergency assembly area 5 ONCE safely outside, NOTIFY first responders of anyone that may still be inside building due to mobility issues. 6. WAIT for official notice before attempting to re-enter the building.