Course Syllabus for CMPSC 461: Programming Language Concepts

Gary Tan

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Course description.   It covers the essential concepts and features in the design and implementation of programming languages. Students will learn various programming languages and paradigms. Students will have the ability to pick the best language for an application, and the ability to learn new programming languages independently.

Prerequisites.   CMPSC 221 (OO Programming) and CMPSC 360 (Discrete Math) *It is required that you have taken the prerequisite courses.*

Instructors.   Gary Tan, Westgate W358, 814-8657364, gtan@psu.edu. Office hours: Thursdays 2-3:30pm or by appointment.

Course staff.   TAs: Sun Hyoung Kim (swsh0406@gmail.com); Xiaodong Jia (jiaxiaodong1994@gmail.com); Andrew Millward (axm6090@psu.edu), and Karthik Gurunathan (kkg5499@psu.edu). Learning Assistants: Chaewan Chun (czc5884@psu.edu); Deep Harkhani (dph5402@psu.edu). Graders: Pei-Chen Kuo (pzk5269@psu.edu), Mutian Fan (mzf5189@psu.edu), Ziheng Song (zbs5158@psu.edu)

Office hour information of TAs and LAs can be found on the course website and Canvas.

Course Website.   A public website is at http://www.cse.psu.edu/~gxt29/teaching/cs461s22/. Readings and schedule are announced there. Course supplemental materials will be posted in Canvas (canvas.psu.edu).

Textbook.   Michael L. Scott. Programming Language Pragmatics (third or fourth edition). Morgan Kaufmann. 3rd edition ISBN: 978-0123745149; 4th edition ISBN: 978-0124104099.

Required Course Materials.   Syntax; Lexical and syntactic analysis; Scope; Parameter passing; Functional programming in Scheme; Type systems; Purity and side effects; Memory management; OO programming; Program verification (if time permits).

Readings.   Readings will be announced on the public course website.

Assignments.   You will periodically receive homework and project assignments that are to be turned in online. Assignments and their due dates will be announced.

Late Homework and Missed Exams.   Late Policy: Unless otherwise noted, starting right after the required submission date of any homework or project or lab report, 10% of the grade will be deducted per day up to five days. NO points will be given to submissions more than five days late. Make up for missed exams will only be granted on a case-by-case basis. A documented condition which could affect this policy must be immediately brought to the attention of the instructor.

There will be unannounced quizzes. The quizzes won't be graded, but are used as a way to record attendance. The quizzes will be conducted in Canvas. *No makeup quizzes will be given.* Students who are excused from a quiz will not be penalized for missing the quiz.

Grading.   Homework 20%; programming projects 20%; Midterm exams 25%; Final exam 30%; Class attendance (checked by quizzes) 5%.

Percent-grade to letter-grade conversion. 93–100% A; 90–92.9% A-; 87–89.9% B+; 83–86.9% B; 80–82.9% B-; 77–79.9% C+; 70–76.9% C; 60–69.9% D; <60% F

Collaboration Policy. You are expected to work alone (unless explicitly allowed in an assignment). Submissions of identical or virtually-identical homeoworks or code by two students, when it is clear that this is not a coincidence, will be treated as a violation of the university's academic integrity policy. The same holds for materials found on the internet: you should not use them unless explicitly allowed.

Academic Integrity. The University defines academic integrity as the pursuit of scholarly activity in an open, honest and responsible manner. All students should act with personal integrity, respect other students' dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts (refer to Senate Policy 49-20. Dishonesty of any kind will not be tolerated in this course. Dishonesty includes, but is not limited to, cheating, plagiarizing, fabricating information or citations, facilitating acts of academic dishonesty by others, having unauthorized possession of examinations, submitting work of another person or work previously used without informing the instructor, or tampering with the academic work of other students. Students who are found to be dishonest will receive academic sanctions and will be reported to the University's Office of Student Conduct for possible further disciplinary sanctions (refer to Senate Policy G-9).

In addition, also refer to the CSE department's academic-integrity policy.

Recording of Class Sessions. Video and audio recordings of class lectures will be part of the classroom activity. The video and audio recording is used for educational use/purposes and only may be made available to all students presently enrolled in the class. For purposes where the recordings will be used in future class session/lectures, any type of identifying information will be adequately removed.

Masking requirements. Penn State University requires everyone to wear a face mask in all university buildings, including classrooms, regardless of vaccination status. ALL STUDENTS MUST wear a mask appropriately (i.e., covering both your mouth and nose) while you are indoors on campus. This is to protect your health and safety as well as the health and safety of your classmates, instructor, and the university community. Anyone attending class without a mask will be asked to put one on or leave. Instructors may end class if anyone present refuses to appropriately wear a mask for the duration of class. Students who refuse to wear masks appropriately may face disciplinary action for Code of Conduct violations. If you feel you cannot wear a mask during class, please speak with your adviser immediately about your options for altering your schedule.

Disability Access Statement. Penn State welcomes students with disabilities into the University's educational programs. Every Penn State campus has an office for students with disabilities. The Office for Disability Services (ODS) Web site provides contact information for every Penn State campus:
http://equity.psu.edu/ods/disability-coordinator. For further information, please visit the Office for Disability Services Web site: http://equity.psu.edu/ods.

In order to receive consideration for reasonable accommodations, you must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: http://equity.psu.edu/ods/guidelines. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with an accommodation letter. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. You must follow this process for every semester that you request accommodations.

Counseling and Psychological Services Students who experience personal issues that interfere with their academic performance, social development or satisfaction at Penn State are encouraged to seek confidential assistance from Counseling and Psychological Services (CAPS) Center. They can be reached at (814) 863-0395. Some of the more common concerns they can help with include anxiety, depression, difficulties in relationships (friends, roommates, or family); sexual identity; lack of motivation or difficulty relaxing, concentrating or studying; eating disorders; sexual assault and sexual abuse recovery; and uncertainties about personal values and beliefs. Crisis intervention is available from Centre County CAN HELP at 1-800-643-5432, 24 hours a day, seven days a week.

Educational Equity and Reporting Bias. Penn State takes great pride to foster a diverse and inclusive environment for students, faculty, and staff. Acts of intolerance, discrimination, or harassment due to age, ancestry, color, disability, gender, gender identity, national origin, race, religious belief, sexual orientation, or veteran status are not tolerated and can be reported through Educational Equity via the Report Bias webpage.

Feedback. The success of this course needs a mutual communication between course staff and students. We welcome your feedback related to the course, such as course materials we cover, teaching techniques, and difficulties in the assignments and exams. We need your inputs.