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Advanced C Programming - 22821 - ECE 26400 - 003

Course Information
Associated Term: Fall 2019
Meeting Days & Times: Tuesday & Thursday, 9:00 am - 10:15 am
Class Location: Electrical Engineering Building 115
Course Credit Hours: 3.000 Credits

Course Website
1) Lecture notes, announcements, and discussion are posted on Blackboard Learn at https://mycourses.purdue.edu. It is strongly suggested that students explore and become familiar not only with the site navigation, but with content and resources available for this course. For example, you will find in the left-hand course menu the items *Student Help* and *Student Success*. *Student Help* contains information about Blackboard Learn, including tutorials to help you learn about Blackboard Learn functionality, as well as a link to the Purdue Libraries. *Student Success* contains many resources offered through programs at Purdue to help you become successful in your courses, such as tutoring, downloadable resources and more.
2) Course assignments (designed by Prof. Yung-Hsiang Lu) can be found at https://github.com/PurdueECE264/2019FallProblems.
3) All course assignments should be submitted on blackboard. Please DO NOT submit your assignments to the teaching staffs via email. Sorry but email submission will NOT be graded.

Instructor
Lead Instructor: Xiaoqian Joy Wang
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Phone Number: (765)494-2045
Email Address: joywang@purdue.edu
Office Hours, Time, and Location: Tuesday & Thursday, 10:30 am - 12:00 pm, WANG 3061
Instructor's Webpage: https://sites.google.com/site/joyxqwang/

Teaching Assistant: Teaching assistants for ECE 264 are available for lab hours from Monday to Saturday. Please see the following two tables for details.

	First Name	Last Name	Email Address
Graduate Teaching Assistants	Abhinav	Goel	goel39@purdue.edu
	Vani	Nagarajan	nagara16@purdue.edu

	First Name	Last Name	Email Address
Undergraduate Teaching Assistants	Gore	Kao	gkao@purdue.edu
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Lab Hours ECE 264

Start	End	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
10:00	**11:00**				ME 1009			
12:30	**13:00**			ME 1051				
13:00	**13:30**			ME 1051				
13:30	**14:00**		WALC B066	ME 1051		WALC B066	WALC B066	
14:00	**14:30**		WALC B066	ME 1051		WALC B066	WALC B066	
14:30	**15:00**		WALC B066			WALC B066	WALC B066	
15:00	**15:30**	HIKS G980D	WALC B066			WALC B066	WALC B066	HIKS G980D
15:30	**16:00**	HIKS G980D						HIKS G980D
16:00	**17:00**	HIKS G980D						HIKS G980D
17:00	**18:00**		WALC 3087	WALC 3087	WALC 3087	WALC 3087	WALC 3087	
18:00	**19:00**		WALC 3087	WALC 3087	WALC 3087	WALC 3087	WALC 3087	
19:00	**20:00**		WALC 3087	WALC 3087	WALC 3087	WALC 3087	WALC 3087	

Prerequisites
Undergraduate level CS 15900 Minimum Grade of C-

Learning Outcomes
This course covers the following topics: *tools, array, file read and write, structure, pointer, memory allocation, recursion, sorting algorithm, linked list, stack, binary tree, machine learning (if time permits).*

This course is designed to facilitate students who passes the course with the following abilities:
- *Ability to read and write C programs that use files.*
- *Ability to read and write C programs that use recursion.*
- *Ability to read and write C programs that use structures.*
- *Ability to read and write C programs that use dynamic data structures.*

Learning Resources
- **Textbook:** *Computer Science: A Structured Programming Approach Using C (3rd Edition) by Behrouz A. Forouzan (ISBN 9780534491321)*
- **Reference Learning Material:** *Intermediate C Programming (1st Edition) by Prof. Yung-Hsiang Lu (ISBN 9781498711630).* The book is available at WALC (QA76.73.C15 L83 2015). Online copy of this book is available for Purdue students from the library at **https://purdue-primo-prod.hosted.exlibrisgroup.com/primo-explore/search?query=any,contains,Intermediate%20C%20Programming&tab=default_tab&search_scope=everything&vid=PURDUE&mode=Basic**

Grading Philosophy and Scale
In this class grades reflect the sum of your achievement throughout the semester. You will accumulate points in the following three ways:
- **50% Homework:** A total of at least 16 homework assignments. All assignments have the same number of points. The lowest score of one (only one) assignment is not included in the calculation of the final grade.
- **50% Exams:** 3 midterms and 1 final exam (details below).
- **5% Bonus Points:** see details below.

Grade	Homework	Exams
A	38	38
B	35	35
C	30	30
D	30	25

* **These conditions are "AND".** A student that receives A must have 38 or higher in programming

assignments AND 38 or higher in exams. If a person has 48 in homework assignments and 26 in exams, this person will receive D.

Bonus Points: Each person can earn up to 5 points bonus by
- Post lecture notes (Discussions) within 48 hours after the lectures. 0.25 points per posting.
- Asking or answering questions (Discussions) in the discussion forum. 0.25 points per posting.
- Additional assignments as specified.
- There will be no additional assignments at the students' requests.

The bonus point will be added either to the homework or the exams depending on which gives a student a higher grade. The bonus point cannot be divided and assigned to both homework and exams.

Midterm and Final Exams

All exams are open-book, open-source. Anything on paper is allowed. You cannot borrow any book from any student during the exam.

NO electric devices are allowed for the exam.

Please bring your **Purdue ID** to the exam.

All exams are **cumulative**: you need to know everything covered from the first lecture. But the emphasis will be on the recently covered topics.

If due to an excused University absence or an approved accommodation from the Purdue Disability Resource Center you need to change the exam date or environment, it is your responsibility to discuss with the professor at least two weeks ahead of the exam time to schedule a change.

Exam schedule:

Midterm 1: 8:00pm - 9:00pm Thursday, September 19, Location: EE 117
Midterm 2: 8:00pm - 9:00pm Wednesday, October 16, Location: EE 117
Midterm 3: 8:00pm - 9:00pm Thursday, November 21, Location: EE 117
Final Exam: 8:00am - 10:00am Thursday, December 12, Location: EE 129, PHYS 112

Programming Assignments

Please first read the Github page by Prof. Yung-Hsiang Lu on grading and warnings of the assignments.

- Unless otherwise specified, assignments are due by 11:59 p.m. Eastern Standard Time (as used in West Lafayette, Indiana) on the due date listed in the Github page. To accommodate rare unexpected situations, everyone gets one hour no-penalty grace period.
- **Late Submission Policy:** Except for medical and family emergencies (accompanied by verification), there will be NO individual extensions granted for programming assignments. Truly exceptional cases (such as serious illness) should be requested to the Purdue Office of

Dean of Students (https://www.purdue.edu/odos/). After the grace period, **2% penalty will be imposed for each hour late.**
- Multiple submissions are allowed for each assignment. In the case of multiple submission, your score of the assignment will be the maximum of the following:
  - o Score of the last submission as of the due time
  - o Score of the last submission after applying the late penalty

For example, if you make a total of 4 submissions for a certain assignment as below:

Submission Order	Submission Time	Whether or Not Graded	Your final score for this assignment
Submission 1	Two days before due	Not Graded	Maximum of the score for submission 3 and submission 4.
Submission 2	One day before due	Not Graded	
Submission 3	10 mins before due	Graded	
Submission 4	24 hours after grace period	Graded (with 48% penalty for late submission)	

Email Availability and Policies

The teaching staffs will NOT reply to emails regarding general questions that also apply to other students. **Please post the question on the blackboard.** This is so in order to ensure that students get a unified answer to the same question and also benefit students who may have the similar questions.

If you have questions of a personal nature that only applies to you, please feel free to email the teaching staffs, talk with the teaching staffs during the office hours, or send an email to schedule an appointment at another time.

Academic Dishonesty

Purdue prohibits "dishonesty in connection with any University activity. Cheating, plagiarism, or knowingly furnishing false information to the University are examples of dishonesty." [Part 5, Section III-B-2-a, University Regulations] Furthermore, the University Senate has stipulated that "the commitment of acts of cheating, lying, and deceit in any of their diverse forms (such as the use of substitutes for taking examinations, the use of illegal cribs, plagiarism, and copying during examinations) is dishonest and must not be tolerated. Moreover, knowingly to aid and abet, directly or indirectly, other parties in committing dishonest acts is in itself dishonest." [University Senate Document 72-18, December 15, 1972]

Students are referred to Purdue's student guide for academic integrity for additional information.

Copyrighted Materials

Students are expected, within the context of the Regulations Governing Student Conduct and other applicable University policies, to act responsibly and ethically by applying the appropriate exception under the Copyright Act to the use of copyrighted works in their activities and studies. The University does not assume legal responsibility for violations of copyright law by students who are not employees of the University.

A Copyrightable Work created by any person subject to this policy primarily to express and preserve scholarship as evidence of academic advancement or academic accomplishment. Such works may include, but are not limited to, scholarly publications, journal articles, research bulletins, monographs, books, plays, poems, musical compositions and other works of artistic imagination, and works of students created in the course of their education, such as exams, projects, theses or dissertations, papers and articles.

Students are referred to [University Regulations on policies](#) for additional information.

Attendance

Students are expected to be present for every meeting of the classes in which they are enrolled. Only the instructor can excuse a student from a course requirement or responsibility. When conflicts or absences can be anticipated, such as for many University sponsored activities and religious observations, the student should inform the instructor of the situation as far in advance as possible. For unanticipated or emergency absences when advance notification to an instructor is not possible, the student should contact the instructor as soon as possible by email or phone. When the student is unable to make direct contact with the instructor and is unable to leave word with the instructor's department because of circumstances beyond the student's control, and in cases of bereavement, the student or the student's representative should contact the Office of the Dean of Students. A member of the Dean of Students staff will notify the student's instructor(s) of the circumstances. The student should be aware that this intervention does not change in any way the outcome of the instructor's decision regarding the students' academic work and performance in the course.

Purdue University recognizes that a time of bereavement is very difficult for a student. The University therefore provides the following rights to students facing the loss of a family member through the Grief Absence Policy for Students (GAPS). GAPS Policy: Students will be excused for funeral leave and given the opportunity to earn equivalent credit and to demonstrate evidence of meeting the learning outcomes for missed assignments or assessments in the event of the death of a member of the student's family.

Students are referred to the University's [website for additional information](#).

Violent Behavior Policy

Purdue University is committed to providing a safe and secure campus environment for members of the university community. Purdue strives to create an educational environment for students and a work environment for employees that promote educational and career goals. Violent Behavior impedes such goals. Therefore, Violent Behavior is prohibited in or on any University Facility or while participating in any university activity.

Students are referred to the University's [website for additional information](#).

Emergency Statement

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted onto the course website or can be obtained by contacting the instructors or TAs via email or phone. ***You are expected to read your @purdue.edu email on a frequent basis.***

Accessibility and Accommodations

Purdue University strives to make learning experiences as accessible as possible. If students anticipate or experience physical or academic barriers based on disability, the students are encouraged to contact the Disability Resource Center via [email](#) or by phone: 765-494-1247.

Nondiscrimination Statement

Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life.

Purdue University views, evaluates, and treats all persons in any University related activity or circumstance in which they may be involved, solely as individuals on the basis of their own personal abilities, qualifications, and other relevant characteristics.

Purdue University prohibits discrimination against any member of the University community on the basis of race, religion, color, sex, age, national origin or ancestry, genetic information, marital status, parental status, sexual orientation, gender identity and expression, disability, or status as a veteran. The University will conduct its programs, services and activities consistent with applicable federal, state and local laws, regulations and orders and in conformance with the procedures and limitations as set forth in Purdue's Equal Opportunity, Equal Access and Affirmative Action policy which provides specific contractual rights and remedies. Additionally, the University promotes the full realization of equal employment opportunity for women, minorities, persons with disabilities and veterans through its affirmative action program.

Any question of interpretation regarding this Nondiscrimination Policy Statement shall be referred to the Vice President for Ethics and Compliance for final determination.

Students are referred to [Purdue's nondiscrimination statement](#) for additional information.

Mental Health Statement

On the recommendation of the University Senate, CAPS and the Dean of Students, students should be advised with the availability of the following resources.

- **If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try WellTrack.** Sign in and find information and tools at your fingertips, available to you at any time.
- **If you need support and information about options and resources**, please see the Office of the Dean of Students, http://www.purdue.edu/odos, for drop-in hours (M-F, 8 am- 5 pm).
- **If you're struggling and need mental health services**: Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact Counseling and Psychological Services (CAPS) at (765)494-6995 during and after hours, on weekends and holidays, or by going to the CAPS office of the second floor of the Purdue University Student Health Center (PUSH) during business hours.

Disclaimer

This syllabus is designed on the basis of Purdue Syllabus Template authored by Center for Instructional Excellence.

The syllabus is subject to change. The instructors reserver the right to make changes in order to ensure the integrity of the course and fairness among students, or for other purposes that the instructors deemed necessary.