ECE 60800 Computational Models and Methods
Fall 2021
Sections 001, EPE, EDX

Instructor:
Irith Pomeranz pomeranz@purdue.edu 765-494-3357

Meeting Times:
On-campus lectures TTh 12:00-1:15pm KNOY B033.
Recorded lectures are available on Brightspace.
Office hours on webex:
TTh 2:30-3:30pm
https://purdue.webex.com/join/pomeranz

Instructional Modality:
001 face-to-face
EPE, EDX asynchronous online

Credit Hours: 3

Prerequisites: Graduate Standing

Catalog Description:
Computation models and techniques for the analysis of algorithm complexity. The design and complexity analysis of recursive and non-recursive algorithms for searching, sorting, set operations, graph algorithms, matrix multiplication, polynomial evaluation and FFT calculations. NP-
complete problems.

**Textbook:**
Available online through the Purdue Libraries at: https://ebookcentral.proquest.com/lib/purdue/detail.action?docID=3339142&pq-origsite=primo
Lecture notes are available on Brightspace.

**Learning Outcomes:**
By the end of the course, you will be able to:
Analyze the computational complexity of algorithms for combinatorial problems.
Design polynomial time algorithms for combinatorial problems when they exist.
Identify NP-Hard combinatorial problems.
Provide efficient non-optimal solutions to HP-Hard combinatorial problems

**Assignments:**
Course grade will be based on 15 graded quizzes.
All quizzes are mandatory and necessary for passing the course.
Contact the instructor if you absolutely cannot complete the quiz in the time allowed.
Make-up quizzes will not be provided. Students will receive a zero for missed quizzes.
The plus/minus grading system will be used when assigning final grades.

**Approximate Grading Scale:**
Each quiz will be graded out of 10 points. The average of all the quizzes will be used for computing the final grade. All the quizzes have the same weight in the final grade.

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<td>A+</td>
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**Attendance Policy:**
On-campus students must take the quizzes in class. Attendance is not mandatory otherwise.

**Academic Guidance in the Event a Student is Quarantined/Isolated:**
If you must quarantine or isolate at any point in time during the semester, please reach out to me via email so that we can communicate about how you can continue to learn remotely. Work with the Protect Purdue Health Center (PPHC) to get documentation and support, including access to an Academic Case Manager who can provide you with general guidelines/resources around communicating with your instructors, be available for academic support, and offer suggestions for how to be successful when learning remotely. Your Academic Case Manager can be reached at acmq@purdue.edu. Importantly, if you find yourself too sick to progress in the course, notify your academic case manager and notify me via email or Brightspace. We will
make arrangements based on your particular situation.

**Classroom Guidance Regarding Protect Purdue:**
The Protect Purdue Plan, which includes the Protect Purdue Pledge, is campus policy and as such all members of the Purdue community must comply with the required health and safety guidelines. Required behaviors in this class include: staying home and contacting the Protect Purdue Health Center (496-INFO) if you feel ill or know you have been exposed to the virus, properly wearing a mask in classrooms and campus building, at all times (e.g., mask covers nose and mouth, no eating/drinking in the classroom), disinfecting desk/workspace before and after use, maintaining appropriate social distancing with peers and instructors (including when entering/exiting classrooms), refraining from moving furniture, avoiding shared use of personal items, maintaining robust hygiene (e.g., hand-washing, disposal of tissues) prior to, during and after class, and following all safety directions from the instructor.

Students who are not engaging in these behaviors (e.g., wearing a mask) will be offered the opportunity to comply. If non-compliance continues, possible results include instructors asking the student to leave class and instructors dismissing the whole class. Students who do not comply with the required health behaviors are violating the University Code of Conduct and will be reported to the Dean of Students Office with sanctions ranging from educational requirements to dismissal from the university.

Any student who has substantial reason to believe that another person in a campus room (e.g., classroom) is
threatening the safety of others by not complying (e.g., not properly wearing a mask) may leave the room without consequence. The student is encouraged to report the behavior to and discuss the next steps with their instructor. Students also have the option of reporting the behavior to the Office of the Student Rights and Responsibilities. See also Purdue University Bill of Student Rights.

**Academic Integrity:**
Purdue Honor Pledge: As a boilermaker pursuing academic excellence, I pledge to be honest and true in all that I do. Accountable together - we are Purdue.

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information is submitted the greater the opportunity for the university to investigate the concern. More details are available on our course Brightspace table of contents, under University Policies.

**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 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. A hyperlink to Purdue’s full Nondiscrimination Policy Statement is included in our course Brightspace under University Policies.

**Accessibility:**
Purdue University strives to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247.

**Mental Health/Wellness Statement:**
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 contact or see the Office of the Dean of Students. Call 765-494-1747. Hours of operation are M-F, 8 am- 5 pm.
If you find yourself struggling to find a healthy balance between academics, social life, stress, etc. sign up for free one-on-one virtual or in-person sessions with a Purdue Wellness Coach at RecWell. Student coaches can help you navigate through barriers and challenges toward your goals throughout the semester. Sign up is completely free and can
be done on BoilerConnect. If you have any questions, please contact Purdue Wellness at evans240@purdue.edu.
If you are 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 on the second floor of the Purdue University Student Health Center (PUSH) during business hours.

Emergency Preparation:
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 instructor via email or phone. You are expected to read your purdue.edu email on a frequent basis.