PURDUE UNIVERSITY

CS 18000: Problem Solving and Object-Oriented Programming

Fall 2018

Class:
GLD: MWF 1:30 PM, Room WALC 1055
BLK: MWF 3:30 PM, Room PHYS 114

Course Web Page:
http://courses.cs.purdue.edu/cs18000:start

Course Newsgroup:
https://piazza.com/purdue/fall2018/cs18000

Instructor:
Prof. Buster Dunsmore, dunsmore@purdue.edu, LWSN 1189, 49-41996.
Prof. Jeff Turkstra, jeff@purdue.edu, HAAS 128, 49-63088.

Office Hours:
TBA

Teaching Assistants:
This course has twelve graduate teaching assistants as well as a number of undergraduate teaching assistants. TA office hours are generally held in **HAAS G050**. Some are held in **LWSN B134**. Office hours can be found on the course website.

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Text:
Optional
Start Concurrent: An Introduction to Problem Solving in Java with a Focus on Concurrency; Wittman, Mathur, and Korb; Purdue University Press, 2014
ISBN-13: 978-1626710092

Prerequisites:
One of MA 16100, 16300, 16500, 16700 or other approved math courses
(may be taken concurrently)

Course Outcomes:
A student who successfully fulfills the course requirements will:

1. understand how to solve problems through analysis and algorithm design
2. understand how to implement algorithms in a high-level programming language
3. understand basic programming concepts including data types and strings, selection, repetition, arrays, methods and classes, inheritance, exceptions, polymorphism, and recursion
4. understand how to implement simple graphical user interfaces
5. understand how to perform file I/O
6. understand how to debug programs

Class Attendance:
Attendance is mandatory. You are expected to attend *every* class. Attendance will be documented for each class in the form of iClicker quizzes. Please arrive in the classroom on time. You are expected to be quiet and pay attention in class. If you must miss a class, you are responsible for procuring any material, information, handouts, announcements, etc., that you missed.

Preparation for Class:
You should read the slides and relevant material in your selected course text before arrival. Additionally, you are expected to check your email, the course website, and Piazza regularly. Here is the *tentative* lecture schedule and corresponding chapters in the course text:

Wk	**Subject**	**Book**
1, 8/20	Introduction to computer science and programming	Chapters 1 and 2
2, 8/27	Primitive types and strings	Chapter 3
3, 9/3	Selection	Chapter 4
4, 9/10	Repetition	Chapter 5
5, 9/17	Arrays	Chapter 6
6, 9/24	Methods and classes	Chapters 8 and 9
7, 10/1	Interfaces	Chapter 10
	MIDTERM EXAM 1	
8, 10/8	Inheritance and exceptions	Chapters 11 and 12
9, 10/15	Concurrent programming and synchronization	Chapters 13 and 14

10, 10/22	File I/O, Network communication	Chapters 20 and 21
11, 10/29	Simple Graphical User Interfaces (GUIs)	Chapter 7
12, 11/5	**MIDTERM EXAM 2**	
	Constructing Graphical User Interfaces	Chapter 15
13, 11/12	Polymorphism	Chapter 17
14, 11/19	Thanksgiving Break	
15, 11/26	Dynamic data structures	Chapter 18
16, 12/3	Recursion and recursive data structures	Chapter 19

Quizzes:
There will be a one question, multiple choice quiz in each class. The lowest grade will be dropped at the end of the semester. A score of zero will be given in case of absence.

Homework:
Homework assignments are assigned usually one per week and are due the following week. These are programming assignments that are submitted electronically.

Other important notes on homework:

- ALL HOMEWORK ASSIGNMENTS ARE DUE AT 11:59 PM on the Friday following their assignment unless otherwise specified.
- Submissions beyond the deadline will incur a 5% penalty per hour
- If you feel you have a valid reason for not having your work done on time, then send the instructor an email **BEFORE** the assignment is due.
- Do not wait until the last minute. If the computer goes down so does your grade.
- Down time and crashes of the computer network are NOT valid excuses for late or missed assignments
- No credit will be given for programs that do not compile

Labs:
Attendance is mandatory. Students must attend their respective, registered lab session. Lab assignments are distributed at the beginning of the session and due at the end. There are no extensions. A well-prepared student should have no problem completing the assignment in the allotted time.

Projects:
There will be a number of individual and team projects. For team-based projects, you may collaborate and work closely *only* with your teammates. The standard academic honesty policies apply to any inter-team communication and sharing. The same policies set forth above regarding homework apply.

Examinations:
Exams will be closed book and closed notes. You must solve the exam problems yourself, without any help (knowing or unknowing) from any other student. You must not seek any knowledge in advance of the test questions (beyond that given in class) and must report any advance knowledge of the test questions by any student that you are aware of. You must not allow any other student access to your solutions during the exam. If the seating situation makes this difficult, please inform the instructor or TAs.

Midterm 1: Wednesday, October 3	8:00pm
Midterm 2: Wednesday, November 7	8:00pm

Final: TBD

Make-up Policy:

Labs, homeworks, and quizzes cannot be made up unless there is an excused absence. Excused absences are given only for university-approved reasons. These include serious illness, family emergency, and official university commitments. In all cases, some form of evidence or documentation *must* be provided. If the absence is planned (band trips, course field trips, etc), you must inform your instructor ahead of time. Failure to do so will result in the absence being unexcused.

Make-up Examination Policy:

Make-up exams will be given only in the **most extreme** circumstances and require certification for such circumstances. Eg, a medical doctor's statement certifying that the student is **unable** to attend the scheduled exam. Any travel (including interview trips), load from work or from other classes, failed alarm clocks, or simply not being able to make it to the exam will **not** be grounds for a make-up. If you have any recurring medical problems that may unexpectedly prevent you from making it to class or exams, please obtain a doctor's statement certifying your circumstance.

Regrades:

Problems regarding grading of projects, homeworks, labs, and exams must be resolved within **two weeks** after the grade has been published on Blackboard. You should contact the GTA in charge of your lab section. It is your responsibility to obtain the graded work on time. Grades will not be modified after the two week period.

Academic Integrity:

As a student at Purdue you are subject to the *Purdue University Student Code of Conduct*, which enjoins you to respect the highest standards of honesty and integrity. All work that you submit in this course must be your own; unauthorized group efforts are considered academic dishonesty. See the online brochure *Academic Integrity: A Guide for Students* for definitions and sanctions. Academic dishonesty is a serious offense which may result in suspension or expulsion from the University. In addition to any other action taken, such as suspension or expulsion, a **grade of F** will normally be recorded on the transcripts of students found responsible for acts of academic dishonesty. Students are encouraged to report academic dishonesty to the instructor directly, or to the Office of the Dean of Students.

You may discuss assignments in a general way with other students, but you may not consult anyone else's written work. Among other ways to get an F, you are guilty of academic dishonesty if:

- You examine another student's solution to an assignment
- You allow another student to examine your solution to an assignment
- You fail to take reasonable care to prevent another student from examining your solution to an assignment and that student does examine your solution. For example, if you allow another student to check his/her email from your terminal while you step out of the room, you have failed to take reasonable care to prevent him/her from accessing your files.
- You submit an assignment that is not completely your own work
- You share results or notes during quizzes or exams

All work is subject to computer-based comparison and analysis. Do not con yourself into thinking that you can hide any collaboration. The risk of getting caught is too high, and the standard penalty is way too high.

If we find reason to believe that a student has cheated on any assignment, we may inform the student promptly, or we may decide to silently accumulate evidence against the student on later assignments.

Grading:

Final grades will be assigned according to the following *approximate* weighting:
Programming assignments – 40%
Homework – 5%
Quizzes – 5%
Laboratory assignments – 10%
Exams – 40%

More detailed breakdowns are available on the course website.

Questions and Answers:

Questions of general interest should be posted on the course Piazza site. Answers will be posted as soon as possible. Questions involving code or specific implementation details should be directed to a staff member *instead of a classmate*. Answers will be sent to you directly. If you need to contact a specific TA or instructor, you may contact them via private message on Piazza, via email, or by visiting their office hours.

Modifications:

This syllabus may be modified at any time with notification.

**** As an interesting side note, a significant portion of this syllabus is copied from Dr. Adams, Dr. Dunsmore, Dr. Hosking's, Dr. Brylow's, and Dr. Hu's policy pages from previous semesters. One of the major differences between plagiarism and proper reuse is giving credit where credit is due. ****