PURDUE UNIVERSITY

CS18000 – Problem Solving and Object-Oriented Programming
Fall 2019

Class:
GLD: MWF, 4:30pm – 5:20pm, LILY 1105
BLK: MWF, 10:30am – 11:20am, CL50 224

Course Webpage:
courses.cs.purdue.edu/cs18000:fall19:start

Course Newsgroup:
http://piazza.com/purdue/fall2019/cs18000

Instructor:
Professor Buster Dunsmore, dunsmore@purdue.edu, LWSN 1189
Professor Tony Bergstrom, bgstm@purdue.edu, HAAS 102

Office Hours:
TBA

Teaching Assistants:
This course has twelve graduate teaching assistants, as well as a number of undergraduate teaching assistants. Office hours can be found on the course webpage.

TA Contact Information:

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

Online version: http://start-concurrent.github.io/
Note: The course slides are based on this book.

Prerequisites:
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 understand:

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

GLD Class Attendance:
You are expected to attend every class, either in person or on BoilerCast. Attendance will be documented for each class in the form of Blackboard quizzes. A quiz will be released after each class, and it will be due the following day at 4:30pm.

If attending in person, 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.

BLK Class Attendance:
You are expected to attend every class in person. Attendance will be documented for each class in the form of peer instruction. It is okay to miss out on some of the questions, but please make an effort to be at every lecture 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 class. Additionally, you are expected to check your email, the course website, and Piazza regularly.

Tentative Lecture Schedule:

Week # (start, end)	Concept	Chapter(s)
01 (08/19, 08/23)	Computer Basics, Problem Solving and OOP	1, 2
02 (08/26, 08/30)	Primitive Types and Strings	3
03 (09/04, 09/06)	Selection	4
04 (09/09, 09/13)	Repetition	5
05 (09/16, 09/20)	Methods and Classes	8, 9
06 (09/23, 09/27)	Arrays	6
07 (09/30, 10/02)	File I/O, Exception Handling	20, 12
08 (10/09, 10/11)	Interfaces, Inheritance	10, 11
09 (10/14, 10/18)	Polymorphism	17
10 (10/21, 10/25)	Concurrency	13, 14
11 (10/28, 11/01)	Network I/O	21
12 (11/04, 11/08)	Simple GUIs	7
13 (11/11, 11/15)	Complex GUIs	15
14 (11/18, 11/20)	Dynamic Data Structures	18
15 (12/02, 12/06)	Recursion	19

Quizzes:
Two types of quizzes will be given throughout the semester. The first are lecture quizzes, which will differ in style between GLD and BLK. The second are lab quizzes. These will consist of a few multiple-choice questions, which will help you prepare for the final exam.

Labs:
Attendance is mandatory. Students must attend their respective, registered lab session. Lab assignments are distributed at the beginning of the session, and are due at the end. There are no extensions. A well-prepared student should have no problem completing the assignment in the allotted time. If a pre-lab is released that following week, we encourage you to look it over.

Homework:
One homework assignment will be released every Monday at 6pm and will be due a week later. They will consist of programming assignments and must be submitted to Vocareum through Blackboard.

Other important notes on homework:

- All homework assignments are due at 11:59pm on the Monday following their release, unless otherwise specified.
- If you feel you have a valid reason for not having your work done on time, then send Head TA Andrew Groenewold <agroene@purdue.edu> 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.

Projects:
Five projects will be released throughout the session – four individual, and one team. For team projects, you may collaborate with only your teammates. The standard academic honesty policies apply to any inter-team communication and sharing. You will be given two weeks to complete a project once it has been released.

Other important notes on projects:

- All projects are due at 11:59pm on the Friday that is two weeks after their release, unless otherwise specified.
- 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.

Examinations:
Exams will be closed book and closed notes, but you will have access to the JDK 10 API during the midterm.

Other important notes on exams:

- You must solve the exam problems by yourself, without any help (knowing or unknowing) from another 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 Exam 1: Monday, September 30th
Midterm Exam 2: Monday, November 4th
Final Exam: TBA

Makeup Policy:
Labs, homework, 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.

Makeup Examination Policy:
Makeup exams will be given only in the most extreme circumstances and require certification for such circumstances. E.g., 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, homework, 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
- Allow another student to examine your solution to an assignment
- 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.
- Submit an assignment that is not completely your own work
- 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 (approximate weighting):

Projects	40%
Homework	5%
Quizzes	5%
Labs	10%
Exams	40%

More detailed breakdowns are available on the course webpage.

Questions and Answers:
Questions of general interest should be posted on Piazza. 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. These types of posts should be made *private* if posted on Piazza. 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.

As an interesting side note, a significant portion of this syllabus is copied from Dr. Adams', Dr. Dunsmore's, 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 it is due.