All students are expected to read and understand this syllabus. Failure to adhere to the policies in this syllabus may have consequences, including a negative impact on student grades, failure of the course, or administrative action against the student. It is your responsibility to ask questions if anything in this document is unclear to you.

1 Course Description

This course is a special topics preview of the upcoming CSE 220 Systems Programming course. It will cover low-level systems programming in userspace at the userspace/kernel boundary. Students will learn about the C programming language, system calls, memory management, threads, processes, and concurrency.

2 Course Materials

The required text for this course is Computer Systems: A Programmer’s Perspective, Third Edition, by Bryant and O’Hallaron. Students are not required to purchase a copy of this text, but are required to have immediate access to a copy during the semester.

Lecture slides will be provided electronically throughout the course of the semester.

Various readings from external sources may be assigned, in which case they will be provided or available through University resources (e.g., the library or periodical subscriptions).

References to materials not required or assigned may be made, and students are encouraged to follow up on these references, but this will not be required for successful completion of the course.

3 Course Requirements

The following items are required of every student, and failure to complete them may affect student grades as described in Section 4, Grading Policy, below.

3.1 General

Attendance in this course is mandatory, but will not necessarily be tracked. Students are responsible for attending every lecture and every recitation. It will be assumed that students are familiar with all material presented in class, and any material presented in lecture or recitation may appear on any test, quiz, homework assignment, or other evaluation.

A quiz evaluating students’ understanding of the University and Department academic integrity policies must be completed by all students, and all students must achieve 100% accuracy on this quiz.
3.2 Assignments

Several programming assignments will be required of all students. Programming assignments are intended to improve student understanding of the course material as well as demonstrate student mastery of certain core concepts.

Recitation activities will be provided every week, which will range from small programming assignments to written activities to group discussions and beyond. Students are expected to participate fully in recitation and will be evaluated accordingly. Undergraduate Teaching Assistants will be available in recitation to assist students, guide tasks, and present additional course material.

Written Homework may be assigned, and students are expected to complete any such assignments in a timely fashion, although they will not be graded. These written assignments are intended to allow students to self-evaluate their level of preparedness and mastery of the course material, and students are encouraged to seek assistance from the instructor, teaching assistants, or each other in understanding and completing written assignments.

Readings may be assigned from time to time, and students are expected to complete these readings, although there may be no direct evaluation of any given reading. Readings are selected to improve student understanding of the course material and/or present auxiliary material that the instructor believes is relevant and important.

3.3 Tests and Quizzes

Quizzes may be introduced at any time by the instructor, covering any material previously covered in lectures, readings, or written homework assignments. These quizzes may or may not be announced in advance. (In particular, “pop quizzes” may be utilized to evaluate student attendance, engagement, and present understanding of course material.)

There will be one midterm and one final exam. The midterm exam will cover all material presented in the course to date, including: lectures, recitations, programming assignments, written homework assignments, and assigned readings. The final exam will cover all material covered in the course for the duration of the semester, including: lectures, recitations, programming assignments, written homework assignments, and assigned readings.

3.4 Submission Policy

Programming assignments will be assigned with a deadline. All assignments are to be submitted by this deadline. In the event of any ambiguity in the deadline, times are assumed to be in the current local time zone of the University. Penalties for missing this deadline are as follows.

- Projects submitted before the deadline will incur no penalty.
- Projects submitted after the deadline, but within 24 hours of the deadline (excluding Saturday, Sunday, and University holidays) will incur a 20% penalty.
- Projects submitted more than 24 hours after the deadline as described above will not be accepted and will receive no credit.

Neither the instructor nor the teaching assistants will provide assistance for programming assignments after the assigned deadline.
3.5 Programming Assignment Re-grading Policy

If you believe that a programming assignment has been graded incorrectly, you may submit it for re-grading. A request for a re-grade must be submitted within one calendar week of receiving the grade for a project, and must include:

- A copy of the score sheet for the assignment
- A description of the specific error in grading that is being contested
- Relevant code demonstrating the submitted code’s correctness or the grading script’s incorrectness, if available

Re-grading of programming assignments is intended only to address errors in grading. No grades will be improved for any other reason, although they may be reduced; in particular, note that your grade on any part of the assignment, not just the portion being re-graded, may be reduced if re-grading discovers additional errors. This includes automated evaluations that passed because they did not trigger bugs that were discovered in manual evaluation for the re-grade.

3.6 Exam and Quiz Re-grading Policy

If you believe that an exam or quiz has been graded incorrectly, you may submit it for re-grading. A request for a re-grade must be submitted within one calendar week of the exam or quiz being returned to you, must be submitted in writing to the instructor, and must include:

- The original, unmodified, exam or quiz
- A clear statement of the error on a separate sheet of paper

Re-grading of exams and quizzes is intended only to address errors in grading. No grades will be improved for any other reason, although they may be reduced if errors are found in any portion of the assignment, not just the portion being re-graded. Using re-grading as a bargaining tool to increase your score is likely to result in a lower grade, as the exam will be scrutinized in detail for errors that may have been missed the first time.

3.7 Make-up Policy

No deadline extensions or make-up work will be permitted except for approved University absences. Please see the University attendance policy for more information.

No make-up exams will be given whatsoever except for documented extreme circumstances. 24 hours of advance notice via e-mail or telephone contact (voice mail is permitted) must be provided if at all possible before missing an exam session. If advance notice is not possible, documentation supporting this must be provided. Absence from an exam session due to illness must be supported by a note from a physician specifying that the student was too ill and/or contagious to attend on the exam date.

You are responsible for remembering and attending exam sessions. Please use extra assistance to remind yourself if necessary.
4 Grading Policy

No “I” (Incomplete) grades will be given for this course except for documented extreme circumstances or situations required by University policy. Failure to complete work on time does not constitute an extreme circumstance.

Grades will not be changed at the end of the semester for any reason other than a documented error in grading according to the policies outlined in Section 3.5 and Section 3.6. No grade negotiation will be permitted. In particular, no grades will be changed to preserve scholarships, fellowships, University positions, immigration status, or any other outside factor. Grades reflect student performance and mastery of course material.

The credit breakdown for the course will be as follows:

<table>
<thead>
<tr>
<th>Course Requirement</th>
<th>Course Grade</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 100% on Academic Integrity quiz</td>
<td>F</td>
<td>N/A</td>
</tr>
<tr>
<td>Quizzes</td>
<td>1 Letter Grade</td>
<td>N/A</td>
</tr>
<tr>
<td>Programming Assignment 0</td>
<td></td>
<td>5%</td>
</tr>
<tr>
<td>Programming Assignment 1</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Programming Assignment 2</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Programming Assignment 3</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Programming Assignment 4</td>
<td></td>
<td>10%</td>
</tr>
<tr>
<td>Recitation Activities</td>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td></td>
<td>15%</td>
</tr>
<tr>
<td>Final Exam</td>
<td></td>
<td>25%</td>
</tr>
</tbody>
</table>

Note that a failure to complete the Academic Integrity quiz with complete correctness will result in failure of the course. You may submit the quiz as many times as required to achieve complete correctness.

Quizzes, if any, will not be assigned a percentage of the final grade, but poor performance may detriment your final grade by (at most) one full letter grade. (That is, an A- would become B-, a B- would become C-, etc.)

Final grades will be assigned from the above percentages as follows, although a curve of the instructor’s choice may be applied if the instructor deems it warranted. Lower percentages are inclusive, upper percentages (excepting 100%) are not; that is, a 90.0% would be an A-, not a B+.

<table>
<thead>
<tr>
<th>Course Grade</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>95-100%</td>
</tr>
<tr>
<td>A-</td>
<td>90-95%</td>
</tr>
<tr>
<td>B+</td>
<td>87-90%</td>
</tr>
<tr>
<td>B</td>
<td>83-87%</td>
</tr>
<tr>
<td>B-</td>
<td>80-83%</td>
</tr>
<tr>
<td>C+</td>
<td>77-80%</td>
</tr>
<tr>
<td>C</td>
<td>73-77%</td>
</tr>
<tr>
<td>C-</td>
<td>70-73%</td>
</tr>
<tr>
<td>D+</td>
<td>67-70%</td>
</tr>
<tr>
<td>D</td>
<td>63-67%</td>
</tr>
<tr>
<td>F</td>
<td>0-63%</td>
</tr>
</tbody>
</table>

5 Academic Integrity

Students will abide by the CSE Academic Integrity Policy, the University Academic Integrity Policy, and the Undergraduate or Graduate amendments thereof, as appropriate.
All resources used in completing assignments for this class must be given appropriate attribution, and the only resources allowed for the completion of programming assignments without specific permission are as follows.

- Lecture material from this course
- Code or examples from Android Developers with clear attribution

In particular, Stack Exchange, code from other students in the course or students who have completed this course or related courses at other universities in previous semesters, GitHub repositories, code or algorithms from other web sites or books, and other resources are not allowed without explicit permission from the instructor.

If there is any question about whether a resource is acceptable for use in completing a course assignment, students are encouraged to ask the instructor or a TA before making use of it. Asking about a resource is not a violation of academic integrity, even if the resource is not allowed for the course.

Violation of these policies will result in a failing grade for the course and referral upward for additional sanctions according to University policy.

### 5.1 Academic Integrity Amnesty

A student who has committed a violation of this academic integrity policy may receive limited amnesty for the violation by notifying me, in writing, of the violation before I have begun to assess the violating assignment. This notification must include the student’s name, person number, UBITname, and state the assignment in question and the nature of the violation. Upon submitting such a statement, the student will receive no credit for the violating assignment, but no further sanctions will be taken, and the violation will not be reported. Once I have begun assessing the assignment in question, no such statements will be permitted. Since it may not be obvious to students when assessment begins, such statements should be submitted as soon as possible after the violation occurs. While assessment may begin at any time, in general I will not look at student submissions until a project deadline has passed.

See my online Academic Integrity Policy for an example scenario and more information.

### 6 Accessibility Resources

From the UB Reasonable Accommodation Policy:

The University at Buffalo is committed to providing equal access to individuals with disabilities, including physical access to programs and reasonable accommodations for members of the university community.

The UB Accessibility Resources Office provides assistance for students who require reasonable accommodations due to disability. They may be found at 60 Capen Hall or contacted by phone at 716-645-2608. Students must register with their office to receive accommodations for physical or learning disabilities.
Acknowledgments

Some language in this syllabus is drawn from University policies (as noted), the UB Course Syllabi Requirements document, department guidelines, and other University resources. Some language and structure in this syllabus is drawn from Steve Ko's CSE 486/586 syllabus from Spring 2017.