Computer Science 111, Section 01
Introduction to Computer Science I

Course Outline, Spring 2016

Lecture, Discussion, Group Work session: Alden 101, Monday and Wednesday 9:00am to 9:50am
Laboratory session: Alden 101, Thursday 2:30pm to 4:20pm
Practical session: Alden 101, Friday 9:00am to 9:50am

Course Web page: http://csALLEHNY.edu/sites/jjumadinova/111
You can schedule a meeting with the instructor on the course web page.

Department Website: http://www.csALLEHNY.edu/teaching/teachingassistants/
You can view the office hours of teaching assistants and tutors on the department’s website.

Sakai page: https://sakai.csALLEHNY.edu/
The course page on Sakai will only be used for reporting student grades.

Bitbucket: https://bitbucket.org/
Bitbucket, a cloud based system, will be used for sharing course materials by the instructor and for submitting assignments by the students.

Slack channel: https://cmpsc111s2016.slack.com/
Slack will be used for discussion and communication outside of the classroom.

Instructor:
Janyl Jumadinova
Office: Alden Room 105
Office phone: 814-332-2881
Email: jjumadinova@allegheny.edu
Office hours:
Monday, Wednesday: 10am-12pm (15 minute slots)
Thursday: 12:00pm-1:00pm (10 minute slots)
Friday: 11am-12pm (10 minute slots)

To schedule a meeting with the instructor during the office hours, please go to http://csALLEHNY.edu/sites/jjumadinova/schedule.html, click on “schedule an appointment” link and select the desirable date and time. You can schedule an appointment outside of my office hours by email.

Textbook:

The course:
An introduction to the principles of computer science with an emphasis on algorithmic problem solving and the realization of algorithms using a modern object-oriented programming language. Topics include algorithms, problem solving, programming, classes, primitive data types and objects, control
structures, arrays and vectors, principles of object-oriented design and programming and an introduction to graphics and graphical user interfaces. The course also includes an overview of the discipline of computer science and a study of the social implications of computer use. May serve as the laboratory course in the Natural Science Division’s distribution requirement. One laboratory per week.
Prerequisite: Knowledge of elementary algebra.

The course follows three parallel tracks. In the lectures we will learn basic computer science fundamentals, in the practical sessions you will reinforce that knowledge with short practical exercises, while in the laboratory sessions you will have a larger hands on experience with problem solving and writing programs. The laboratory and practical sessions will be usually tied to the lectures.

Course Goals:

- Become familiar with computational thinking and algorithmic approaches to problem-solving; learn some of the terminology associated with computers and computing.
- Become acquainted with Linux operating system and the state-of-the-art software tools.
- Learn the fundamentals of object-oriented programming as expressed in the Java programming language; learn how to design, implement, and debug Java programs.
- Examine some application areas in computer science (graphics, bioinformatics, simulation, robotics, etc.) through programming exercises.

Grading:

This class will have two tests, two quizzes and a number of programming assignments. The first test will cover material from the beginning of the class and the second test will be cumulative. All percentages are approximate and, it is possible for the assigned percentages to be changed during the academic semester if the need presents itself to do so.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Class Participation</td>
<td>10%</td>
</tr>
<tr>
<td>Laboratory Assignments</td>
<td>30%</td>
</tr>
<tr>
<td>Practical Assignments</td>
<td>10%</td>
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<tr>
<td>Quizzes</td>
<td>10%</td>
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<tr>
<td>Midterm Exam</td>
<td>15%</td>
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<tr>
<td>Final Exam</td>
<td>15%</td>
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<tr>
<td>Final Project</td>
<td>10%</td>
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</tbody>
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These grading categories have the following definitions:

- **Class Participation**: All students are required to actively participate during all of the class sessions. Your participation will take forms of completing class exercises, answering questions about the required reading assignments, and asking constructive questions. You must also regularly participate in the discussions on the Slack channels for this course.

- **Laboratory Assignments**: Lab assignments invite students to explore different techniques for designing, implementing, evaluating, and documenting software solutions to challenging problems that often have a connection to real-world concerns. To best ensure that students are ready to develop software in both other classes at Allegheny College and after graduation, students will complete assignments both on an individual basis and in teams.

- **Practical Assignments**: Practical assignments are intended to give students a practice using the new concepts without being afraid to fail. These are short assignments to be completed by the end of the class period, and are graded only as ‘attempted’ or ‘not attempted’.
• **Quizzes:** The quizzes will cover all of the material in their associated module(s). The finalized date for each of the quizzes will be announced at least one week in advance of the scheduled date. Unless prior arrangements are made with the course instructor, all students will be expected to take these quizzes on the scheduled date and complete the quizzes in the stated period of time.

• **Midterm Examination:** The midterm is an hour-long cumulative test covering all of the material from the class, practical, and laboratory sessions. Unless prior arrangements are made with the course instructor, all students will be expected to take this test on the scheduled date. The finalized date for the midterm will be announced at least one week in advance of the scheduled date, tentatively it will be held a few days before the spring break.

• **Final Examination:** The final examination is a cumulative test. By enrolling in this course, students agree that, unless there are extenuating circumstances, they will take the final examination on **Thursday, May 5 at 9am.**

• **Final Project:** This project will present you with an opportunity to design and implement a correct and carefully evaluated solution for a particular problem. Completion of the final project will require you to apply all of the knowledge and skills that you have acquired during the course of the semester to solve a problem. The details for the final project will be given approximately one month before the finals week.

**Assignment Submission:**

All assignments will have a stated due date and are to be turned in electronically on that due date; all assignments must have headers with your name, date and the Honor Code pledge of the student(s) completing the work. You must follow proper procedures for submitting your completed programs in order for them to be graded. You will be given instructions on how to do that with your first programming assignment.

Late assignments will be accepted for up to one week past the assigned due date with a 15% penalty. All of the late assignments must be submitted at the beginning of the session that is scheduled one week after the due date. Unless special arrangements are made with the course instructor, no assignments will be accepted after the late deadline. For any assignment completed in a group, students must also turn in a one-page document that describes each group member’s contribution to the submitted deliverables.

**Use of Laboratory Facilities:**

Throughout the semester, we will investigate many different software tools that computer scientists use during the design, implementation, and evaluation of algorithms. The course instructor and the department’s systems administrator have invested a considerable amount of time to ensure that our laboratories support the completion of all of the assignments and projects. To this end, students are required to complete all of the laboratory and practical assignments and the final project while using the department’s laboratory facilities. The course instructor and the systems administrator normally do not assist students in configuring their personal computers.

**Attendance:**

It is mandatory for all students to attend all of the class, practical, and laboratory sessions. If you will not be able to attend a session, then please see me at least one week in advance to describe your situation. Students who miss more than five unexcused sessions will have their final grade in the course reduced by one letter grade. Frequent or prolonged absences due to illness should be documented by the student’s doctor, the Health Center, the Dean of Students’ Office, or the office of Student Disability Services. If you need to miss class due to a religious observance, please speak to me in advance to make appropriate arrangements.
Class Preparation:
In order to minimize confusion and maximize learning, students must invest time to prepare for the class discussions, lectures, and practical and laboratory sessions. During the class periods, the course instructor will often pose questions that could require group discussion, the creation of a program or data set, a vote on a thought-provoking issue, or a group presentation. In order to help students remain organized and effectively prepare for classes, the course instructor will maintain a class schedule with reading assignments and presentation slides.

Seeking Assistance:
Students who are struggling to understand the knowledge and skills developed in a class, laboratory, or practical session are encourage to seek assistance from the course instructor, the teaching assistants, or the departmental tutors. All teaching assistants and the tutors have office hours each week, which are available on the course’s website. Students who need the course instructor’s assistance should schedule a meeting through her Web site.

A Note on extenuating circumstances
If you should find yourself in difficult circumstances that significantly interfere with your ability to prepare for this class and to complete assignments, please inform me immediately so that we can work something out together! Do not wait until the last day of class to ask for exceptions to what is stated in this syllabus. In such a situation, you may also find it helpful to contact the campus Counseling Center (332-4368) in 304 Reis Hall, which is open from 8-5 but also has a 24 hour hotline.

Special Needs and Disability:
Students with disabilities who believe they may need accommodations in this class are encouraged to contact Disability Services at (814) 332-2898. Disability Services is part of the Learning Commons and is located in Pelletier Library. Please do this as soon as possible to ensure that approved accommodations are implemented in a timely fashion.

Honor Code:
All students enrolled at Allegheny College are bound by the Honor Code. It is expected that your behaviour will reflect that commitment. To this end, we expect that you will adhere to the following Department Policy:

Department of Computer Science Honor Code Policy
It is recognized that an important part of the learning process in any course, and particularly in computer science, derives from thoughtful discussions with teachers, student assistants, and fellow students. Such dialogue is encouraged. However, it is necessary to distinguish carefully between the student who discusses the principles underlying a problem with others, and the student who produces assignments that are identical to, or merely variations on, someone else’s work. It will therefore be understood that all assignments submitted to faculty of the Department of Computer Science are to be the original work of the student submitting the assignment, and should be signed in accordance with the provisions of the Honor Code. Appropriate action will be taken when assignments give evidence that they were derived from the work of others.

You are encouraged to periodically review the specifics of the Honor Code as stated in the College Catalogue, The Compass, and elsewhere.