CS 1510-03: Introduction to Computing
Fall 2017

Lecture: Tuesday/Thursday 12:30 - 1:45 p.m., 28 ITTC
Lab: Wednesday 1:00 - 2:50 p.m., 112 Write

Instructor:
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Office hours:
Tuesday: 2:30 - 4:00 p.m.
Wednesday: 9:00 - 12:45 p.m.

Course websites: http://sergey.cs.uni.edu/cs1510 and UNI eLearning

Course mailing list: cs-1510-03-fall@uni.edu

Textbook
We will use the zyBooks online textbook 'Programming in Python 3'. To get the textbook, you can sign in or create an account at https://learn.zybooks.com and enter the zyBook code:

UNICS1510GolitsynskiyFall2017

A subscription is $67 and gives you access to the book until December 28, 2017. Please see me as soon as possible if you are not able to get the textbook as we will use some of its features to determine your course grade.

Course Description
As the name implies, CS 1510 is the computer science department's introductory course. While it is the first course in the programming sequence for majors it is appropriate for non-majors and it does NOT assume that you have programming experience.

This course has two primary goals:
- First, to introduce the general field of computer science. We hope that you will leave this course with a sense of what computer science is and what computer scientists do.
- Second, to introduce the concept of programming. Programming is the way that computer scientists express their ideas and implement solutions to problems. Even if you never "program for a living", you will need to know how to program in order to appreciate the ideas you learn and to work in the industry.

Official course catalog description of the course: Introduction to software development through algorithmic problem solving and procedural abstraction. Programming in the small. Fundamental control structures, data modeling, and file processing. Significant emphasis on program design and style.

Tentative Schedule

The schedule in this syllabus is tentative and may be updated in the course of the semester. A detailed up-to-date schedule that includes specific topics and assigned readings is available on the course web site: http://sergey.cs.uni.edu/cs1510

1	Tue, 08/22	Intro to the course and computer science
1	Wed, 08/23	Lab 01: Getting started in the lab
1	Thu, 08/24	Intro to programming
2	Tue, 08/29	Variables and expressions
2	Wed, 08/30	Lab 02: Getting started with Python
2	Thu, 08/31	Data types
3	Tue, 09/05	Introducing conditionals and selection statements
3	Wed, 09/06	Lab 03: Conditionals and selection statements
3	Thu, 09/07	Multiway conditionals; compound expressions
4	Tue, 09/12	Introducing repetition
4	Wed, 09/13	Lab 04: Loops
4	Thu, 09/14	Loops (continued)
5	Tue, 09/19	Nested loops
5	Wed, 09/20	Lab 05: Loops-2
5	Thu, 09/21	Review and exam prep
6	Tue, 09/26	Exam - 1a (concepts)
6	Wed, 09/27	Exam - 1b (programing)
6	Thu, 09/28	Algorithms and Program Development
7	Tue, 10/03	Introducing strings
7	Wed, 10/04	Lab 06: Strings
7	Thu, 10/05	String methods
8	Tue, 10/10	String methods (continued)
8	Wed, 10/11	Lab 07: Strings-2
8	Thu, 10/12	Introducing functions
9	Tue, 10/17	Functions (continued)
9	Wed, 10/18	Lab 08: Functions
9	Thu, 10/19	Reading and writing files
10	Tue, 10/24	Introducing lists
10	Wed, 10/25	Lab 09: Lists
10	Thu, 10/26	Lists (continued)
11	Tue, 10/31	Introducing dictionaries
11	Wed, 11/01	Lab 10: Dictionaries
11	Thu, 11/02	Review and exam prep

12	Tue, 11/07	Exam - 2a (concepts)
12	Wed, 11/08	Exam - 2b (programing)
12	Thu, 11/09	Namespaces and Memory
13	Tue, 11/14	Functional decomposition
13	Wed, 11/15	Lab 11: Program design
13	Thu, 11/16	Program design (continued)
14	Tue, 11/28	Introducing sets
14	Wed, 11/29	Lab 12: Sets
14	Thu, 11/30	Intro to searching
15	Tue, 12/05	Intro to sorting
15	Wed, 12/06	Lab 13: tbd
15	Thu, 12/07	Wrap-up and final review
16	Thu, 12/14	Final exam

Computing Environment

Computer Labs: The following labs have pre-configured software for this class:

- **Wright 112** – This is where you will meet for your lab sessions. This is a public lab part of the week but it also used by other classes at other times of the day/week and may not always be available. It generally closes at 5pm on weekdays.
- **Wright 339** – This lab is open the latest on weekdays (until 9:00pm or so).
- **ITTC 335** – This is a small general purpose lounge available to students in the CS department. This is a good place to get a quick printout or check your email between classes. It generally closes at 5pm on weekdays (or when the last faculty member leaves).

We *highly* suggest using your own desktop or laptop to complete your assignments so you aren't constrained by the open hours of the labs.

Working on your own laptop/computer: You are actually encouraged to work on your own laptop or computer. Having your own computer will greatly aid you in the computer science major, and the computer/laptop itself does not have to be very expensive. The class software is free and will work with Windows, OSX, and Linux. Python and IDLE are easily downloaded from www.python.org. You should download the latest edition of version 3 (NOT version 2).

Whether you work in the labs or from home, you will need to have Internet access to submit your assignments.

Course Structure and Grading Policies

Grade Determination
Final grades will be computed according to the following weights:

Participation activities (zybooks)	10%
In-class labs	10%
Assignments	20%
Exam-1a (concept)	10%
Exam-1b (programming)	10%
Exam-2a (concept)	10%
Exam-2b (programming)	10%
Final exam	20%

To continue on to the next class in the computer science major, you must earn at least a C.
The grading scale is as follows:

92+	A
90 - 91.9	A-
88 - 89.9	B+
82 - 87.9	B
80 - 81.9	B-
78 - 79.9	C+
72 - 77.9	C
70 - 71.9	C-
68 - 69.9	D+
62 - 67.9	D
60 - 61.9	D-
59.9-	F

Class Attendance and Participation
Class meetings will consist of a mixture of lecture, discussion, and in class activities. I expect you to 1) read assigned readings and 2) complete the online participation activities prior to each class session. Since we will frequently discuss material that is beyond what you read in your textbook, attendance is essential.

Textbook Participation Activities
Each assigned reading in your textbook should contain one or more sections labeled Participation Activities. These sections give you a chance to interact with the concepts you are learning about. They are to be completed ***before the class period starts*** on the day that they are due. Failure to complete the activities by that time will result in a score of zero for that day's activities.

In-lab work
Lab is designed to be a time to allow you to learn new skills, apply and practice existing skills, and prepare yourself for the upcoming lectures and programming assignment. Points for these activities will be assigned based on level of difficulty for each activity and will be awarded for successful completion and/or effort.

Attendance to lab sessions is required - you will receive credit only for labs you attend. In general, students who do not show up at all will not receive credit for making up the lab (although you should still complete the activities so you do not fall behind).

Programming Assignments
Programming assignments are designed to take what you have learned in lab and during lecture, and apply these skills to a program on a scale larger than that explored in-lab. It is expected that you will complete all assignments ***as an individual*** unless otherwise instructed (see section on scholastic conduct). If you have questions concerning an assignment, feel free to consult an instructor, come to office hours, or consult a class TA.

All assignments are due at their assigned date and time. In order to receive partial credit, always submit your best effort by the assignment due date. **Late work will not be accepted.**

Exams
There are a total of four exams this semester: three midterms and one final.

All exams are closed-book/closed-notes exams. The dates of these exams are listed on the class schedule. You are expected to be present for these exams unless you have made prior arrangements. Make-up exams will be offered under very limited circumstances. If you are aware of conflicts prior to the exam, please bring these to my attention as early as possible.

Missing Labs or Exams
If you need to miss a lab or exam, it is YOUR RESPONSIBILITY to let me know BEFORE the time of the lab or exam. Example: Student A is sick and emails me the morning of the lab that he or she cannot make it. Student B just skips lab, and emails me a week later that he or she was sick and needs to make up the lab. Since student B did not follow the rule and show responsibility, student B cannot make up the lab.

Incompletes
Incompletes are awarded only in very rare instances when an unforeseeable event causes a student who has completed all the coursework to date to be unable to complete a small portion of the work in the last week or two of the semester (typically the final project or exam). Incompletes will not be awarded for foreseeable events including a heavy course load or a poorer-than- expected performance. Verifiable documentation must be provided for the incomplete to be granted.

Scholastic Conduct
Since cheating definitions and academic ethics policies are often written for other types of classes, you might tend to wonder how those translate to a computer science course. You may be surprised to hear there are many ways to write a program to solve a specific problem. This is very similar to how there are many different ways to write an essay addressing a particular topic. After a certain point in the course, I will be using plagiarism-detection software to detect similarities that are very unlikely to occur if students were working alone.

Additionally, you need to cite your source if you seek and use help found on the Internet (much like citing a source in an essay course). To do this, you need to put the URL and a brief description of the help you found in a comment directly above the affected block of code. I will show you how this is done further along in the class. However, if you do use code from the Internet, I reserve the right to ask you how it works line-by-line. If you cannot explain it to me, I will not give you credit for that part of the assignment. In other words, ***if you use help or code found on the Internet, you must cite it and fully understand it***. It is always better to try to figure things out on your own than to use something you don't understand.

In this class, homework assignments must be done on your own as your own individual work. However, this does not mean that you cannot ask for help. Here are some general guidelines for keeping out of trouble.

If you are seeking help from a classmate:

- DO NOT ask to see their code or look at their code.
- DO explain your thought process and where you are stuck in words.
- DO draw diagrams on the board.

If you are helping another classmate:

- DO NOT show them your code.
- DO NOT directly modify their code.
- DO try to help them in words, similar examples from lectures and labs, and diagrams.

If I suspect a case of plagiarism or cheating, I will notify the student via email and allow the student to come in and explain what happened. If I determine that plagiarism or cheating has taken place, the following possible sanctions will occur (in accordance with UNI Academics Ethics Policies found at http://www.uni.edu/policies/301). The following list does not list all possible academic ethics violations, and it is your responsibility to be familiar with the full list (again, http://www.uni.edu/policies/301).

Remember: Discussing assignments is good. Copying code or answers is not.

General Policies

Disabilities and Special Needs
The University of Northern Iowa is an Affirmative Action Equal Opportunity Institution. The Americans with Disabilities Act of 1990 (ADA) provides protection from illegal discrimination for qualified individuals with disabilities.

Please address any special needs or special accommodations with me at the beginning of the semester or as soon as you become aware of your needs. Those seeking accommodations based on disabilities should obtain a Student Academic Accommodation Request (SAAR) form from Student Disability Services (SDS) (phone 319-273-2677, for deaf or hard of hearing, use Relay 711). SDS is located on the top floor of the Student Health Center, Room 103.

One Last Resource
I encourage you to use the Academic Learning Center's free assistance with writing, math, science, and college reading and learning strategies. UNI's Academic Learning Center tutoring services are located in 008 Innovative Teaching and Technology Center (ITTC). For more information, go to unialc.uni.edu/tutor-services or call 319-273-6023 to set up an appointment.

Privacy
The Family Educational Right to Privacy Act, also known as the Buckley Amendment, is a federal law designed to protect student privacy. This means that only you have legal access to your grades. Your parents, friends or significant others have no right to discuss with us your course performance. You have the option to sign a waiver of these rights, but if you have not signed such a waiver, we are not allowed by federal law to discuss your grades with anyone but you. Please realize: if your parents contact us to talk about your grades, federal law prohibits us from doing so.