CSCE 155T: Computer Science I: Informatics Focus (3 Credit Hrs; Fall 2022)
University of Nebraska-Lincoln

SYLLABUS OVERVIEW – UPDATED 11-8-22

LECTURE
Location: AVH-112 **Time:** Tues. & Thurs. 8:00am-9:15am

LAB
Location: AVH-21 **Time:** Thurs. 11:00am-12:15pm

COURSE DESCRIPTION

This course introduces students to fundamental computer science principles, computational problem solving, and data science. Through lecture, labs, and assignments, students will have the opportunity to explore and gain a familiarity of a range of topics in the context of Python, including basics of python, functions, recursion, data structures, OOP, data processing, analysis, and visualization. This course is designed for students who do not have prior programming experience and welcomes students who want to refine their basic programming skills.

Instructor	**Colton Harper** – Instructor, Graduate Research Assistant, Ph.D. Student CS
Email	colton.harper@huskers.unl.edu
Office Hours	Tuesdays @ 9:15-10:15 Thursdays @ 12:15-1:15
Office Location	Schorr Center Room 114AB

Teaching Assistant	**Ethan Wood** – Undergraduate Teaching Assistant
Email	ewood17@huskers.unl.edu
Office Hours	Tuesdays @ 3:00-4:00pm Fridays @ 11:30-1:00pm
Office Hours Location	AVH-15 (Avery Hall Computer Lab, across from Math Library)

PREREQUISITES:
- MATH 102 or a Math Placement Test score for MATH 103 or higher
- No prior programming knowledge or skills are required

TEXTBOOK: Introduction to Computation & Programming Using Python, 2nd or 3rd Edition

GRADE DISTRIBUTION

Type	Percent of Grade
Attendance	**10%**
Assignments	**30%** (~4 x assignments)
Labs	**20%** (12-14 labs)
Quizzes	**10%** (~4-5 x quizzes)
Exams	**30%** (2 x in-class midterms)
Extra Credit	**5%**

GRADING SCALE

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A	$100 - 97\%$	$96.\bar{9} - 93\%$	$92.\bar{9} - 90\%$
B	$89.\bar{9} - 87\%$	$86.\bar{9} - 83\%$	$82.\bar{9} - 80\%$
C	$79.\bar{9} - 77\%$	$76.\bar{9} - 73\%$	$72.\bar{9} - 70\%$
D	$69.\bar{9} - 67\%$	$66.\bar{9} - 63\%$	$62.\bar{9} - 60\%$
F		$59.\bar{9} - 0\%$	

DATES TO REMEMBER

https://registrar.unl.edu/academic-calendar/
- Aug 22, 2022 -- First Day of Classes
- September 5th -- Labor Day
- October 14th -- Last day for pass/no-pass
- October 17th & 18th -- Fall Semester Break
- November 23rd – 27th -- Thanksgiving Vacation
- December 12th-16th -- Finals Week

Lecture/Lab Breaks
- Tuesday, October 18th -- No Lecture (Last Day of Fall Break)
- Tuesday, October 24th -- No Lecture & No Lab (Thanksgiving Break)

COURSE DETAILS

COURSE COMPONENTS

Attendance Policy (10% of final grade): Attendance for both the lecture and lab for course is mandatory and worth 10% of your grade. If you are unable to attend lecture or lab due to an illness, emergency, or for an academic conference, please let me know with documentation in advance or soon thereafter, so it can be considered an excused absence. The lecture is, unfortunately, very early and things happen (e.g., oversleep), so everyone will have one unexcused freebie. After that, however, each unexcused lecture or lab absence will be 1% off your attendance grade. Unexcused late arrivals or early departures of 30 minutes or more will be considered an absence. Lectures will have required individual and group activities. Lack of participation in these activities will also be 1% off of your attendance grade. So, to earn your attendance points, you must both attend lecture and participate.

Assignments (30% of final grade): There will be about four assignments in this course. Each assignment will usually have both a written problem portion and a programming problem portion. All assignments are subject to the course late policy.

Lab (20% of final grade): There will be 12-14 labs throughout the semester that will provide you with an opportunity to more deeply engage with course concepts. Most labs will be conducted in assigned groups. At the end of the semester, your lowest non-zero lab score will be averaged with your highest quiz score. For example, if you have a lowest lab score of 0% and a second lowest lab score of 50%, and a 100% on another lab, your second lowest lab score will be replaced with $\frac{50\%+100\%}{2} = 75\%$.

Quiz (10% of final grade): There will be 4-5 in-class quizzes given throughout the semester on topics covered in the course. I will provide at least one class period clear notice of when a quiz may be given. Quizzes are closed book and closed notes. At the end of the semester, your lowest non-zero quiz score will be averaged with your highest quiz score. For example, if you have a lowest quiz score of 0% and a second lowest quiz score of 50%, but a 100% on another quiz, your second lowest quiz score will be replaced with $\frac{50\%+100\%}{2} = 75\%$.

Exams (30% of final grade): There will be no final exam for this course. There will be two in-person midterm exams administered during the regular lecture or lab times. Each exam is worth 15% of your final grade. You will be permitted to bring/use a standard 1-page (front and back) crib sheet for each exam consisting of anything you prefer. Both exams will be comprehensive and may cover any topic covered up to that point in the course. Review sessions will be given during the preceding lecture.

Extra Credit (5% of final grade): You may earn up to around 5% extra credit in this course. Extra credit may be earned in different ways. Some assignments may offer an extra-credit challenge problem. Additionally, attending extra-curricular computing-related events (e.g., hackathons, computing conferences, etc.) may earn you extra-credit, assuming you provide some clear documentation of what you contributed/learned. Please, check with me in advance if an extra-curricular activity is eligible for extra-credit.

COURSE POLICIES

Grade Change Policy: If you identify a mistake in calculating the grade to any assignment in the course, you may have your grade updated. You must, however, resolve this issue within 7 regular school days beginning when your grader's comments were made available to you.

Communication Policy: You may email me at any time day or night. I will do my best to get back to all student emails within two business days. If you have not heard from me by then, please feel free to resend your email/request. Please respond to emails in a timely manner.

Late Submission Policy: When you finish up an assignment at the last minute (which certainly happens), hurdles are prone to pop up (e.g., saving files in the correct format, internet connection issues, finding a new bug in your code, or simply wanting more time to complete the remaining problem(s)). To account for this, we will use a grading policy that applies a very small penalty to you when your submission is marginally late (e.g., an hour or so), however, the penalty will be stronger for later submissions (e.g., 3 days). In this course, we will follow the late submission penalty described below.

Late Submission Penalty

Late homework submissions will be penalized exponentially according to $\left(\frac{h}{120}\right)^{1.5}$, where h is the number of hours late. The late penalty will be used to scale down your score to get your final score. Here are examples of how that works.

Calculation Example #1: If your submission is 2 hours and 18 minutes late, then you have a penalty of $\left(\frac{2.3\ hrs}{120\ hrs}\right)^{1.5} = 0.0027$. So, your penalty is 0.0027. Let's say you earned a 75% on your submission without the late penalty. With the late penalty, your grade would be $(1 - 0.0027) * 75\% = 72.80\%$. You only lost .2% total!

Calculation Example #2: If your submission is two days late, then you have a penalty of $\left(\frac{48\ hrs}{120\ hrs}\right)^{1.5} = 0.2530$. So, your penalty is 0.2530. Let's say you earned a 75% on your submission without the late penalty. With the late penalty, your grade would be $(1 - 0.2530) * 75\% = 56.03\%$. You would have lost 18.97% total.

Calculation Example #3: If your submission is five full days late, then you have a penalty of $\left(\frac{120\ hrs}{120\ hrs}\right)^{1.5} = 1$. So, your penalty is 1. Let's say you earned a 75% on your submission without the late penalty. With the late penalty, your grade would be $(1 - 1) * 75\% = 0\%$. You would have lost all of the points.
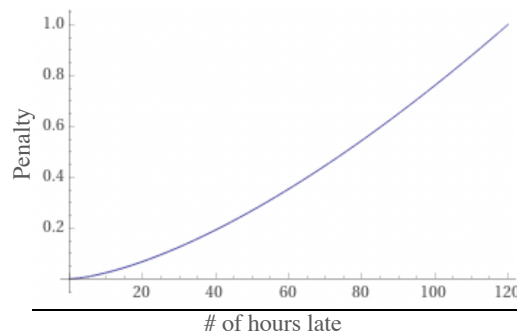
UNIVERSITY POLICIES

UNL Academic Integrity Policy: <u>UNL Student Code of Conduct</u>: https://stuafs.unl.edu/ja/code/three.shtml
Academic honesty is essential to the existence and integrity of an academic institution. The responsibility for maintaining that integrity is shared by all members of the academic community. To further serve this end, the University supports a Student Code of Conduct which addresses the issue of academic dishonesty.

School of Computing Academic Integrity Policy: http://cse.unl.edu/ugrad/resources/academic_integrity.php
All students enrolled in any computer science course are bound by this policy. You are expected to read, understand, and follow this policy. Violations will be dealt with on a case-by-case basis and may result in a failing assignment or a failing grade for the course itself.

Accommodations for Students with Disabilities Policy: https://www.unl.edu/ssd/content/syllabus-statement-faculty The University strives to make all learning experiences as accessible as possible. If you anticipate or experience barriers based on your disability (including mental health, chronic or temporary medical conditions), please let me know immediately so that we can discuss options privately. To establish reasonable accommodations, I may request that you register with Services for Students with Disabilities (SSD). If you are eligible for services and register with their office, make arrangements with me as soon as possible to discuss your accommodations so they can be implemented in a timely manner. SSD contact information: 117 Louise Pound Hall.; 402-472-3787

Resources for Students Seeking Mental Health Help: https://executivevc.unl.edu/faculty/leadership-development/tipsheets/student-mental-health-resources Counseling and Psychological Services (CAPS) has psychologists and licensed mental health counselors who provide programs and services to UNL students as well as outreach and education for faculty and staff. If a student tells you that they are struggling or you notice a student is having problems, encourage them to call CAPS at 402-472-7450 (even after hours). If the situation is more urgent, you might decide to accompany the student to CAPS (located inside the University Health Center). If the situation is an emergency, call the UNL police at 402-472-2222. If you're not sure what to do, call CAPS directly and ask to talk to the Director, Dr. Tricia Besett-Alesch, about your concerns.

Title IX Policy: UNL is dedicated to the prevention of sexual misconduct, and providing a safe campus for students, faculty, and staff. UNL has established procedures and policies to investigate complaints and address identified concerns. UNL has a designated Title IX Coordinator to ensure the institution's compliance with Title IX. UNL's Title IX Coordinator is Meagan Counley. For further information regarding Title IX or any other nondiscrimination complaint policy/procedure, please contact the Office of Institutional Equity and Compliance at 402-472-3417.

UNL Course Policies and Resources: Students are responsible for knowing the university policies and resources found on this page (https://go.unl.edu/coursepolicies)

COURSE TOPICS

Intro to Computing	Structured Types	Simple Data Structures	Data Visualization
Intro to Programming / Python	Searching & Sorting Algorithms	Libraries	Society/Tech Intersection & Ethical Reasoning
Simple Programming	Testing & Debugging	Intro to Object Oriented Programming	Basics of Interpolation
Function, Scoping, & Abstraction	Exception Handling	Data Processing/Analysis	Advanced Topics