

CS 10062 - Programming for Problem Solving in Sciences Syllabus

Instructor	Dale Haverstock																
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Term	Spring 2019																
Section	CS 10062-001, Course Number (CRN) 20626																
Meeting Info	Meeting times: <table> <tr> <td>Lecture:</td> <td>TR</td> <td>12:30 pm -</td> <td>Mathematical Sciences</td> </tr> <tr> <td></td> <td></td> <td>1:45 pm,</td> <td>Building 211</td> </tr> <tr> <td>Lab:</td> <td>T</td> <td>4:25 pm -</td> <td>Mathematical Sciences</td> </tr> <tr> <td></td> <td></td> <td>6:20 pm,</td> <td>Building 139</td> </tr> </table>	Lecture:	TR	12:30 pm -	Mathematical Sciences			1:45 pm,	Building 211	Lab:	T	4:25 pm -	Mathematical Sciences			6:20 pm,	Building 139
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Office	MSB 272																
Office hours	Tuesday, Thursday 4:15 p.m. - 5:15 p.m. By appointment, send email to arrange an appointment																
Instructor Web Page	web.cs.kent.edu/~whaverst																
Computer Science	Office: 241 MSB (Mathematical Sciences Building) URL: www.kent.edu/cs																
Text	There is no required text book.																
Reference Text	The reference text book is available online: Think Python (Book, 2nd edition, Python 3) On-line notes will be provided. On-line references will be pointed out.																
Course Learning	<ol style="list-style-type: none"> 1. Learn what a computer can do and the fundamental operations it can perform. 2. Learn what an algorithm is and learn to design simple algorithms. 3. Learn the fundamentals of two programming languages, Python and R. The fundamentals include: loops, if statements, strings, lists (arrays), using objects, files, functions, and an introduction to classes. 																
In-class Activities	Students listen to lectures, do assignments in lab, complete periodic quizzes/exercises, and engage in discussions. One midterm exam and a final exam are required.																
Outside Class Activities	Reading the online notes and completing assorted programming exercises are required.																
Course Topics	The course topics will include:																

Concepts:

- Algorithms, understanding and designing
- What a computer can do and the primitive operations it can perform.

Algorithms:

- Fundamental algorithms: Sequential search, find greatest, sort
- String algorithms: reverse, search, substring
- Other algorithms: Pattern matching, binary search

Programming:

- Variables, objects, assignment, type
- Control Structures:
 - Sequential execution
 - Conditional statements
 - Repetition
- Functions:
 - Using functions
 - Defining functions
- Objects, using objects
- Containers, arrays
- Strings
- File I/O
- Libraries

Grading

The final grade will be determined by the following components using the associated weights.

Midterm Exam:	25%
Final Exam:	30%
Lab:	40%
Quizzes:	5%

Use the following formula to compute your combined average and look up the result in the grading scale.

$$\text{combined_ave} = \text{midterm} * 0.25 + \text{final} * 0.3 + \text{lab_ave} * 0.4 + \text{quiz_ave} * 0.05$$

In the formula `midterm` and `final` mean the scores for the midterm and final exams.

Use estimated values for scores and averages you do not have at this point.

Grading note: Items turned in on time will usually be graded

promptly, often by the next class. Items turned in late will take longer as I will usually wait for other late items to be turned in so they may be graded together.

Midterm Exam

A midterm will be given.

A study guide for the midterm will be posted on my web page. The midterm will be announced one week in advance.

A make-up exam will only be given in the case of an excused absence or a documented, valid emergency. If you anticipate missing the exam see me and we will try to reschedule it.

Final exam

The final exam is comprehensive.

A study guide for the final exam will be posted on my web page.

Final exam time

The final exam will be at the time indicated in the [KSU exam schedule](#).

Friday, May 10, 12:45 - 3:00 p.m.

The final exam location is the usual lecture room.

Labs

There is a weekly lab.

Details for each lab are given at each lab meeting.

Labs are due on the specified day.

Written labs will be collected in class on the due date.

Programming assignments must have the program file in blackboard by the end of the day (11:59 PM) on the specified day.

It is the student's responsibility to make sure lab files are in blackboard. Files not in blackboard are not accessible by the instructor and thus are not turned in.

There will be a deduction of 5% per day (every day) for late labs.

Unless otherwise specified on the lab page or the main class web page **all labs and assignments must be turned in by the Friday before final exam week.**

Lab Attendance

5% of the final grade.

Lab attendance is required.

A student must be present for most of the lab to receive lab attendance credit.

Lab Note

The lab is an important part of the class. The lab can save you a lot of time. With computer programming a small problem can bring you to a standstill. This is especially true as you learn software development. Often a problem is easliy

fixed. You can spend time searching for the answer yourself but the lab provides the opportunity to get problems solved quickly so you can continue with what you were doing.

Quizzes

A quiz will be given almost every class.

There are no make-ups for missed quizzes.

Four of the lowest quiz scores will be dropped.

The quiz will be over material covered that day in class and will occur sometime during the class meeting. If you are present and involved in class proceedings you should have no trouble answering the quiz question.

Quizzes are closed book, closed notes, and no electronic devices.

Scoring on the quizzes will be:

- 10 Correct, substantially correct
- 9 Significant error
- 8 Something relevant to the question
- 7 Nothing correct
- 0 Not present

Grading Scale

Scale for combined average to class grade conversion:

90% <= A-	93%, 93% <= A	100%
<	<=	
80% <= B-	83%, 83% <= B	87%, 87% <= B+
<	<	<
70% <= C-	73%, 73% <= C	77%, 77% <= C+
<	<	<
	60% <= D	67%, 67% <= D+
	<	<
	0% <= F	60%
	<	

NF/SF Grading

The *NF* (Never Attended *F*) grade denotes that the student never attended one class session nor did the student formally withdraw from the course. The *NF* grade will count as an *F* (zero quality points) in computing grade point averages.

The *SF* (Stopped Attending *F*) grade denotes that the student stopped attending the course and did not formally withdraw from the course. A student who misses more than two consecutive classes without electronic or verbal communication to the faculty member will receive a grade of *SF* for the course. The grade of *SF* may be removed by the instructor. The *SF* grade will count as an *F* (zero quality

points) in computing grade point averages date of last attendance in the course.

Plagiarism - KSU

Copying or plagiarism of any type will not be tolerated and will be dealt with in accordance to Kent State University's policy on cheating and plagiarism described in the student handbook.

ADMINISTRATIVE POLICY AND PROCEDURES REGARDING STUDENT CHEATING AND PLAGIARISM (Condensed Version)

For complete policy and procedure go to the [KSU Policy Register, 3 - 01.8](#).

Cheating and plagiarism constitute fraudulent misrepresentation for which no credit can be given and for which appropriate sanctions are warranted and will be applied.

The university affirms that acts of cheating and plagiarism by students constitute a subversion of the goals of the institution, have no place in the university and are serious offenses to academic goals and objectives, as well as to the rights of fellow students.

"Cheat" means to intentionally misrepresent the source, nature, or other conditions of academic work so as to accrue undeserved credit, or to cooperate with someone else in such mis-representation. Cheating includes, but is not limited to:

1. Obtaining or retaining partial or whole copies of examinations, tests or quizzes before these are distributed for student use;
2. Using notes, textbooks or other information in examinations, tests and quizzes, except as expressly permitted;
3. Obtaining confidential information about examinations, tests or quizzes other than that released by the instructor;
4. Securing, giving or exchanging information during examinations;
5. Presenting data or other material gathered by another person or group as one's own;
6. Falsifying experimental data or information;
7. Having another person take one's place for any academic performance without the specific knowledge and permission of the instructor;
8. Cooperating with another to do one or more of the

above;

9. Using a substantial portion of a piece of work previously submitted for another course or program to meet the requirements of the present course or program without notifying the instructor to whom the work is presented; and
10. Presenting falsified information in order to postpone or avoid examinations, tests, quizzes, or other academic work.

"Plagiarize" means to take and present as one's own a material portion of the ideas or words of another or to present as one's own an idea or work derived from an existing source without full and proper credit to the source of the ideas, words, or works. As defined, plagiarize includes, but is not limited to:

- a. The copying of words, sentences and paragraphs directly from the work of another without proper credit;
- b. The copying of illustrations, figures, photographs, drawings, models, or other visual and nonverbal materials, including recordings of another without proper credit; and
- c. The presentation of work prepared by another in final or draft form as one's own without citing the source, such as the use of purchased research papers.

Academic Sanctions

The following academic sanctions are provided by this rule for offenses of cheating or plagiarism. Kent campus instructors shall notify the department chairperson and the student conduct office each time a sanction is imposed. Regional campus instructors shall notify the regional campus dean and the student conduct officer each time a sanction is imposed. Regional campus student conduct officer shall notify the Kent student conduct office each time a sanction is imposed by a regional campus Instructor. The following academic sanctions are provided by this rule for offenses of cheating or plagiarism. In those cases the instructor may:

1. Refuse to accept the work for credit; or
2. Assign a grade of "F" or zero for the project, test, paper, examination or other work in which the cheating or plagiarism took place; or
3. Assign a grade of "F" for the course in which the cheating or plagiarism took place; and/or;
4. Recommend to the department chair or regional campus dean that further action specified in the rule be taken.

The department chairperson or regional campus dean shall determine whether or not to forward to the academic dean or to the vice president for the extended university a recommendation for further sanction under this rule.

Academic Appeals

The general principle that applies to the following procedures is that an appeal is directed to the administrative level immediately above the unit from which the appeal emanates.

Appeals are limited to the following reasons:

- a. The decision is arbitrary or unreasonable,
- b. The decision resulted from a procedural error,
- c. The decision is not in accordance with the facts presented,
- d. New information is available which may suggest modification of the decision.

Plagiarism

IMPORTANT PLAGIARISM SPECIFICS FOR THIS COURSE

All homework and programs must be your own work. **Any violation means that the work will not be accepted and a score of 0 will be given.**

All sources of referenced material must be cited.

Students may discuss the programming assignments with each other.

Students may look at each other's code.

Each student must write her/his own program.

Group programming is **NOT** permitted.

Sharing files is not permitted. It is not permitted to copy, in any manner, assignment related material (except material provided by the instructor).

- You are not permitted to give a file to another student.
- You are not permitted to accept a file from another student.

It is each student's responsibility to not leave his/her files on public computers.

If shared files are discovered each person with a copy of the shared file will receive a 0 for the assignment. The student who created the original is responsible for not allowing

access to the file and the student with the copy should not be using another person's file.

Also:

- You are not permitted to use a file found on a public computer.
- You are not permitted to use solution files found on the Internet.
You may use Internet material to guide you to your own solution.

Copy and paste of more than a line or two from another source is NOT permitted.

You should understand and be able to explain any part of any assignment you turn in. The instructor may ask you to do this.

Disability

University policy 3342-3-01.3 requires that students with disabilities be provided reasonable accommodations to ensure their equal access to course content. If you have a documented disability and require accommodations, please contact the instructor at the beginning of the semester to make arrangements for necessary classroom adjustments. Please note, you must first verify your eligibility for these through Student Accessibility Services (contact 330-672-3391 or visit www.kent.edu/sas) for more information on registration procedures.

Registration

University policy requires all students to be officially registered in each class they are attending. Students who are not officially registered for a course by published deadlines should not be attending classes and will not receive credit or a grade for the course. Each student must confirm enrollment by checking his/her class schedule (using Student Tools in FlashLine) prior to the deadline indicated. Registration errors must be corrected prior to the deadline.

Registration dates may be found on the [registrar's calendar](#), [spring important dates](#).

See the registrar's calendar for the last day to withdraw from this course or to process a Complete Term Withdrawal.

Academic Presence Verification

I am required by the University (who is required by the government) to indicate for each student whether or not he/she has attended class. This is called *Academic Presence Verification*.

A student who has completed a quiz or signed the sign-in sheet will have fulfilled the Academic Presence requirement.

Students who have not fulfilled the Academic Presence requirement by the end of the third week of the semester will be marked as *never attended* on the class Academic Presence Verification web page and given a grade of NF (Never Attended F).

This can be undone if need be.

Policies

Attendance Policy: Attendance is necessary and expected. All students must be on time and engaged in classroom proceedings. Note that it is almost impossible to be successful in any class without regular attendance.

Absence Policy: It is the student's responsibility to promptly notify the instructor about an absence prior to the missed class session and discuss with the instructor how to fulfill academic responsibilities. Notification must be provided in writing or e-mail.

While classes are conducted on the premise that regular attendance is expected, the university recognizes certain activities and events as legitimate reasons for absence from class.

- *Illness or Injury* - In the event of an absence due to illness or injury, verification from the medical professional treating the illness or injury preventing the student from attendance during class time should be presented to the instructor when the student returns to class. Dates in which the student was diagnosed and may return to class should be present on the verification. Students should discuss with the faculty member how to fulfill their academic responsibilities while coping with their illness or injury. *University Health Services (UHS) does not provide excuses for students who miss a class, exam, presentation or other academic responsibility due to illness or injury. UHS Walk-Out Statements are not accepted as verification.
- *School Sponsored Event* - Students who anticipate absences due to a school sponsored event or participation in an approved concert or athletic event should present a "Class Absence Authorization Form" identifying absences and identifying the event sponsor's name and contact information to instructor before the end of the second week of the semester.
- *Other* - Other legitimate reasons for class absence include death in the immediate family, or religious observance. Students should provide legitimate verification of participation in/attendance at the

aforementioned events.

Missed Class Policy: It is up to the student to make up any missed material. If class is missed it is best to get notes from a fellow student (who has taken good notes). This will be the best record of what transpired during the class meeting. Sometimes, in response to questions or as seems beneficial, further explanation will spontaneously be created by the instructor and written on the board. The instructor may retain no written record of this.

Handwriting Policy: All **handwritten work must be legible** to the instructor and grader.

This includes not writing using tiny characters. Unreadable (by the instructor) work will not be graded and the points will be lost.

Score Change Policy: A score is final one week after the score has been given. After one week the score will not be changed. It is the student's responsibility to notify the instructor by email within this one week period if there is a score issue and the instructor will address the issue.

Assignment Regrading Policy: Assignments will not be regraded to allow students to improve their score. Fulfill the requirements so that there are no point deductions when the lab is graded. One exception, the *Program Run Policy*.

Program Run Policy:

Programs that partially complete when run will be graded at the instructor's discretion with a deduction for any problems and for the incomplete running.

Otherwise programs that don't run will be quickly looked over and if it seems like the program is mostly done a 50 deduction will be given. You may fix you program and resubmit it with a 6 point deduction for the first occurrence (one time only) and a 8 point deduction for all subsequent occurrences (these deductions will accumulate on a lab). The program must be fixed and resubmitted by end of the third day following the day the score was assigned.

An email must be sent to the instructor when the program has been fixed and resubmitted.

Grade Determination Policy: A student's grade will not be changed because the student needs a better grade. Grades are determined by the weights and grading scale specified above.

Extra Credit Policy: There is no extra credit.

Email Policy: All email to the instructor must be sent from

your *kent.edu* email account. Email from other accounts will be ignored by the instructor.

This requirement is so that the instructor is certain who he is communicating with.

Special Permission Policy: Special permission circumstances are rare.

If some circumstance arises that a student requires special permission for the student must make the request to the instructor in an email (after having talked to the instructor) and receive an email from the instructor granting the special permission. Without an email from the instructor allowing the special permission there is no special permission.

This prevents mis-understandings.

E-cigarette Policy: Using e-cigarettes in class is not permitted.

Final Exam Viewing Policy: A student may view her/his final exam after the semester is officially over (this includes after class grades are submitted to the University).

Syllabus Awareness Policy: It is the student's responsibility to be aware of the contents of the syllabus.

Requirements Awareness Policy: It is the student's responsibility to be aware of assignment requirements and other important information on the instructor's web site or in Blackboard. The instructor will go over requirements in class as they become relevant.

Syllabus Amendment Policy: The instructor may amend the syllabus. The syllabus may be amended for clarification. Any amendment that is made will only be made such that it is of possible benefit to every student at the time the amendment is made. Any amendment will be added in color with the date the amendment is made. Amendments are rare.

Miscellaneous

Do not talk to others during class.

It is very distracting to other students when someone talks to another person during class.

Even when whispering your voice carries further than you likely realize.

Read the online notes. The online notes contain the material that you will be expected to know.

Do not allow personal devices to make sounds during class, obviously it is a distraction to the rest of the class when a device begins making noise.

The instructor may occasionally address a student in class by her/his first name. If you do not want this for yourself notify the instructor in person AND by email.

This course will include computer programming. Computer programming is best learned by writing computer programs. You will need to spend time at the computer writing programs.

Start work on a programming lab as soon as possible after it is given. This will allow you to discover things that aren't clear to you and ask questions about them. It is hard to write a program quickly at the last minute, it is highly recommended to avoid this situation.

If you need to leave class early please inform the instructor before class begins and, if possible, sit near the door.

See my web pages (www address above) for additional information, labs, etc.

If you have any problems, including understanding the material that we cover in class or using the computer, please talk to me.

[Main](#)