CS 1400: Fundamentals of Programming

Spring 2020 Syllabus

Introductory course for students in Computer Science and Computer and Information Technologies programs or having general interest in computer programming. This course will instruct students in structured programming techniques and teach the syntax of a suitable high level programming language. Students will be required to complete programming projects of increasing difficulty.

Prerequisites

None

Fees

Computer lab fee: $20, used to assist in maintaining computing infrastructure.

Instructors

- Bob Nielson
- Ren Quinn

Course learning outcomes

At the successful conclusion of this course, students will be able to:

- Read and write small computer programs
- Use variables and expressions
- Use conditional statements
- Use iterative structures
- Use list structures
- Decompose small problems

Resources

Texts

There is no required textbook for this course. There are good textbooks available, however, and you may find it helpful to consult one. We recommend:

- How to Think Like a Computer Scientist: Interactive Edition by Allen Downey available free online

Computers

You are required to bring a laptop to class every day with a charged, working battery. Any laptop is okay as long as it runs Windows 10, macOS, or Linux, and is connected to the university WiFi system. Chromebooks, iPads, and other tablets are NOT acceptable unless they run one of the three listed operating systems. You will be expected to complete work in class on a laptop that cannot be made up outside of class.

A limited number of laptops are available for students to check out for class in the event that your laptop is unavailable or you are unable to acquire a suitable machine. You should only rely on this option as a last resort.

You may use the computers in the Smith open computer lab. There will also be lab assistants in this lab. These computers require a valid CIT username and password. If you have not activated your CIT login, visit http://cit.dixie.edu/facilities/passwd/passwd.php to activate it, or ask a lab assistant to help you sign up for one.

Course Website
This course is managed through Canvas. You are responsible for announcements, the schedule, and other resources posted there.

**Assignments and Exams**

**Reading**

There is an optional textbook for this class. Reading this text will help you better understand the material taught. Use of this book is recommended. There are several other suggested reading materials on the course website.

**Assignments**

Most weeks will require a homework assignment to be completed. These will be programs that you create outside of class. You will either pass these off with a lab assistant or your instructor. This programs will be graded on correct functionality. Incorrect programs will not receive credit.

It is important that you start early and get each of your assignments done before its due date. Many problems will take much longer to solve in a single sitting than in many shorter sessions. Give yourself time to think; sleep on difficult problems. Finish early so you can go back and refine your initial approach.

Assignments are due on the date listed in the schedule, and must be passed off to the instructor or a lab assistant for the course. This means that you must reserve time to pass it off at a suitable time before the end of the day it is due.

**Drills**

A set of drills and quizzes will be required to be completed every week. These will be small programs that accomplish simple tasks. We will be using the Code Grinder system to complete these tasks. Most drills are quick, but each set will have many drills, so start early and complete them all. These will be graded automatically.

**Class Participations**

You will be required to actively participate in class lectures and discussions. Activities in class will contribute to your grade, and cannot be made up outside of class. Your instructor will explain how to be an active participant.

**Exams**

There will be a midterm exam and a comprehensive final exam. The exams will consist of questions similar to the quizzes.

**Grading**

Your course point total will be calculated using:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Contributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mastery quizzes</td>
<td>10%</td>
</tr>
<tr>
<td>Programming Problem Sets</td>
<td>20%</td>
</tr>
<tr>
<td>Supplementary Activities</td>
<td>15%</td>
</tr>
<tr>
<td>Projects</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm 1</td>
<td>10%</td>
</tr>
<tr>
<td>Midterm 2</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>15%</td>
</tr>
</tbody>
</table>

Your final grade will be calculated using this scale:

<table>
<thead>
<tr>
<th>Minimum Percentage</th>
<th>Letter Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>93</td>
<td>A</td>
</tr>
<tr>
<td>90</td>
<td>A-</td>
</tr>
<tr>
<td>87</td>
<td>B+</td>
</tr>
<tr>
<td>83</td>
<td>B</td>
</tr>
<tr>
<td>80</td>
<td>B-</td>
</tr>
</tbody>
</table>
Course Policies

Distractions in class

Electronics—including laptops—in class have been demonstrated to have a negative impact on student learning (see Shiram Krishnamurthi’s writeup for background). This class has a NO DISTRACTIONS policy, with a few exceptions:

1. When I ask you to use your laptop (or phone) for a specific activity in class. In this case you are permitted to use it for the duration of the activity, but not during the rest of the class.
2. If you need a laptop to accommodate a disability. If this is the case, please talk to me in advance and please visit the Disability Resource Center to document your need. To help other students in the class, please sit near one of the edges so your laptop does not distract other students more than necessary.

This policy extends to phones, tablets, and other electronic devices. I encourage you to pay full attention to class and take notes on paper.

Attendance

Students are responsible for material covered and announcements made in class. School-related absences may be made up only if prior arrangements are made. The schedule in Canvas is approximate. The instructor reserves the right to modify the schedule according to class needs. Changes will be announced in class and posted to Canvas. Exams and quizzes cannot be made up unless arrangements are made prior to the scheduled time.

Time Commitment

Courses should require about 3 hours of work per credit hour of class. This class will require about 135 hours of work on the part of the student to achieve a passing grade, which is approximately 9 hours per week. If you do not have the time to spend on this course, you should probably rethink your schedule.

Late work

Assignments and drills are due on the date specified in the schedule.

Late work will be subject to penalties as determined by the individual instructor. This may include receiving zero credit.

Work including quizzes can only be made up if arrangements are made in advance.

Cheating and Collaboration

Limited collaboration with other students in the course is permitted. Students may seek help learning concepts and developing programming skills from whatever sources they have available, and are encouraged to do so. Collaboration on assignments, however, must be confined to course instructors, lab assistants, and other students in the course. Students are free to discuss strategies for solving programming assignments with each other, but this must not extend to the level of programming code. Each student must code his/her own solution to each assignment. See the section on cheating.

Cheating will not be tolerated, and will result in a failing grade for the students involved as well as possible disciplinary action from the college. Cheating includes, but is not limited to, turning in homework assignments that are not the student’s own work. It is okay to seek help from others and from reference materials, but only if you learn the material. As a general rule, if you cannot delete your assignment, start over, and re-create it successfully without further help, then your homework is not considered your own work.
You are encouraged to work in groups while studying for tests, discussing class lectures, discussing algorithms for homework solutions, and helping each other identify errors in your homework solutions. If you are unsure if collaboration is appropriate, contact the instructor. Also, note exactly what you did. If your actions are determined to be inappropriate, the response will be much more favorable if you are honest and complete in your disclosure.

Where collaboration is permitted, each student must still create and type in his/her own solution. Any kind of copying and pasting is not okay. If you need help understanding concepts, get it from the instructor or fellow classmates, but never copy another’s code or written work, either electronically or visually. The line between collaborating and cheating is generally one of language: talking about solutions in English or other natural languages is usually okay, while discussions that take place in programming languages are usually not okay. It is a good idea to wait at least 30 minutes after any discussion to start your independent write-up. This will help you commit what you have learned to long-term memory as well as help to avoid crossing the line to cheating.

College Policies

Click on this link: https://academics.dixie.edu/syllabus/ for comprehensive information on the Semester Dates, the Final Exam Schedule, University resources such as the library, Disability Resource Center, IT Student Help Desk, Online Writing Lab, Testing Center, Tutoring Center, Wellness Center and Writing Center. In addition, please review DSU policies and statements with regards to Academic Integrity, Disruptive Behavior and Absences related to university functions.

If you are a student with a medical, psychological, or learning disability or think you might have a disability and would like accommodations, contact the Disability Resource Center (652-7516) in the North Plaza. The Disability Resource Center (http://dixie.edu/drcenter/) will determine eligibility of the student requesting special services and determine the appropriate accommodations related to their disability.

Title IX

DSU seeks to provide an environment that is free of bias, discrimination, and harassment. If you have been the victim of sexual harassment/misconduct/assault we encourage you to report this to the college’s Title IX Director, Cindy Cole, (435) 652-7731, cindy.cole@dixie.edu. If you report to a faculty member, she or he must notify the Title IX Director about the basic facts of the incident.