# **Syllabus**

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Rappahannock Community College’s (RCC) Quality Enhancement Plan (QEP), aims to equip students with technology skills needed to navigate the college experience, to succeed academically, and to compete in a 21st century workplace. **https://www.rappahannock.edu/qep**

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| Discipline Prefix: | | | CSC | Course Number: | | 200 | | Course Section: | | 711 |
| Course Title: | Introduction to Computer Science | | | | | | | | | |
| Credit Hours: | | 3 credits | | | Contact Hours: | | 3 | Semester: | Spring 2020 | |
| Meeting Days/Time/Location: | | | | | Asynchronous assignment Tuesdays  Lecture Thursday 5:00pm – 7:15pm | | | | | |

**Instructor Information:**

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| Name: | Brian Dillon | | | Office Location: | NA – Office hours will be held online | | |
| Office Hours: | | Tuesday at 6:00pm. | | | | | |
| Email: | [bdillon@rappahannock.edu](mailto:bdillon@rappahannock.edu) | | | | | Phone: | NA |
| Instructor Response Time to Email: | | | The instructor will be reviewing email each evening. In general, students will receive responses the same evening. | | | | |

**Course Information:**

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| VCCS Course Description: | Provides broad introduction to computer science. Discusses architecture and function of computer hardware, including networks and operating systems, data and instruction representation and data organization. Covers software, algorithms, programming languages and software engineering. Discusses artificial intelligence and theory of computation. Includes a hand-on component. Lecture 3-4 hours per week. | | | |
| This course will fulfill the requirement for: | The course will fulfill a transfer elective in the Arts and Science for transfer degree. | | | |
| Prerequisites: | Prerequisite: Placement into [ENG 111](https://courses.vccs.edu/colleges/nova/courses/ENG111?filter=WW-ER) and placement into [MTH 161](https://courses.vccs.edu/colleges/nova/courses/MTH161?filter=WW-ER) or [MTH 167](https://courses.vccs.edu/colleges/nova/courses/MTH167?filter=WW-ER) or equivalent. | | | |
| Exam Date: | The exam will be available at one of the testing centers from April 29 to May 1. You must complete it during normal testing hours on one of these days. | | Last day to drop (with refund): | Jan 29, 2020 |
| Last day to withdraw (no refund): | Mar 23, 2020 |
| NOTE:  Students who do not participate in a course by the drop date will be dropped from the course.  If a student drops by the drop date a refund will be issued. After this date, students will not receive a refund for any reason. Students have the option to withdraw themselves before 60% of the course is completed (withdrawal date) and will receive a grade of “W”. Students who stop attending and/or participating and who do not complete course requirements after the last day to withdraw will receive a grade of “F” in the course with no refund. | | | | |
| Method of Instruction: | Mixed modality (in person/distance) lecture over Zoom.       Asynchronous assignments on Tuesday | | | |
| Instructional Materials: | | There is no required text for this class. The class will refer to various online sources in the materials. These will serve as our reference materials in addition to lecture slides which will be available to the students.  Students are encouraged to use online resources from W3schools.com and StackOverflow.com  Students will need to publish programming assignments to the web and should obtain a publically accessible website for the duration of this course. Name.com, in cooperation with GitHub.com, offers this service freely to all students. | | |
| Course Objectives: | Upon completion of this course, the student will be able to: • Define basic concepts of computer system architecture, networks, operating systems and data representation and organization. • Define basic concepts of software engineering, theory of computations, programming languages and artificial intelligence. • Use a GUI programming environment and console to edit and test computer programs. • Analyze a simple problem and develop an algorithm for its solution. • Implement an algorithm in a high-level computer language, demonstrating good style and appropriate documentation using simple control structures, subprograms, and parameter passing. | | | |
| RCC General Education Goals: | This course may assess general education goals and student learning outcomes as stated in the VCCS policy manual 5.0.2.2. and listed on the RCC website at https://www.rappahannock.edu/catalog/academic-programs/general-education-goals/ | | | |
| Grading and Evaluation: | Each letter grade is assigned on a 10 point scale. 90+ (A), 80-89 (B), 70-79 (C), 60-69 (D), <59 (F).  Daily grades are taken for practicum, lab, and homework.  Assignment:1pt **x 14 = 14pts**  Lab: **1pt x 7 = 7pts**  **Homework: 1pt x 14 = 14pts**  Tests: **20pts x 3 = 60pts**  **Programming project = 15pts**  **Note that the total of graded material is 110 points, which leaves 10 points of extra credit, equivalent to a whole letter grade.** | | | |

**Honor Code:**

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| RCC does not condone academic dishonesty. The complete policy may be reviewed at <http://www.rappahannock.edu/catalog/student-handbook/academic-honesty/> Faculty are required to report violations of the policy and include clearly in the Syllabus how the violation will be handled. |
| Consequences for academic dishonesty: \*\*Special Note\*\* - If any unauthorized materials, cheating devices, or collusion is detected during quizzes or the final exam the student(s) in question will receive a zero for that assignment. |
| Students have the right to due process and to appeal as defined in the sections on Student Disciplinary Procedure and Student Grievance and Academic Due Process in the student handbook. |

**ADA Accommodations:**

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| If you require some type of accommodation in this course, please see a Counselor or New Student Advisor for information about applying for services and accommodations.    You will need to provide current documentation of your disability and recommended accommodation for that disability.  For additional information refer to “Student Services” on the RCC website and look for: <http://www.rappahannock.edu/studentservices/counseling-services/students-with-disabilities/> |

**Course Policies and Other Information:**

**Late work policy**:

All assignments and homework have due dates laid out in the schedule. Any submission submitted after 11:59pm on that date may not be graded for credit. As the majority of these assignments are published on the web, the instructor will review the content at will. ANYTHING A STUDENT PUBLISHES AFTER THE DUE DATE **MAY** BE GRADED, BUT THE STUDENT IS NOT GUARANTEED ANY LENIENCY. In other words if you are asked to publish your homework by 11:59 on January 15th, you should do so. If I don’t get to your website until 8am the next morning, you could publish later, but you will not know when I will be grading. It is always best to finish your work by the required deadline. No late work will be accepted for a grade, although the professor may give feedback on any ungraded assignment at his discretion. The professor realizes the burden this places on students, especially should a personal problem (e.g. illness, accident, etc.) prevent him or her from receiving credit for work. The coursework carries enough points to compensate for more than any single assignment and should be undertaken by all the students in view of this policy.

**Extra credit policy:**

This is a college course, but it is also an introductory course and your focus should be in learning the material rather than stressing over a grade. To ease the burden on the student the total graded material already includes 10% extra credit. This means that you are automatically elevated by a letter grade. Given this concesion, no additional extra credit will be allowed/assigned for this class.

**Group work policy**:

In this class you are encouraged to work with each other and discuss the material. In class practicum, lab work, homework, projects, and video may be discussed and you are encouraged to work with each other to understand the material. Students are reminded that they should cite all help received and sources for your ideas taken from books or other materials.

Nevertheless, you are responsible for your own mastery of the material. 60% of your final grade will depend on projects and the exam which are assigned individually. It is impossible to get a passing grade in this course by copying the work of someone else.

**Title IX:**

Rappahannock Community College is committed to providing an environment that is free from harassment and discrimination based on any status protected by law. This institution promotes and maintains educational opportunities without regard to race, color, sex, ethnicity, religion, gender, age (except when age is a bona fide occupational qualification), disability, national origin, or other non- merit factors. More information on Title IX can be found at [www.rappahannock.edu](http://www.rappahannock.edu/) by searching for “Title IX.” For questions related to Title IX, please contact RCC Title IX Coordinator, Lorraine A. Justice, at 804-333-6737 or [titleix@rappahannock.edu](mailto:titleix@rappahannock.edu). To ensure that all members of our campus community are educated about Title IX, you will receive an email to complete the complete Title IX training.  Each member of the RCC community to include students, faculty, and staff will receive a personalized email to complete the training provided by Campus Answers.  If you do not receive the email or have questions, please contact your Title IX Coordinator, Lorraine Justice at 804-333-6737 or by email at [titleix@rappahannock.edu](mailto:ljustice@rappahannock.edu) or Dr. David Keel, Dean of Student Development at 804-758-6730 or by email at [dkeel@rappahannock.edu](mailto:dkeel@rappahannock.edu).

**Learning Sequence:**

Classes on Thursdays will typically have a combination of lecture and lab time. Students are free to leave the classroom as needed and a break will be given for 15 minutes in the middle of the class. No attendance will be taken, however, some in-class work will be graded.

Students will spend some of their class time preparing for the asynchronous assignment that is due every Tuesday at 11:59pm. Office hours will be held online on Tuesday from 6:00pm to 7:00pm and typically used to discuss the current assignment. Students are encouraged, but not required, to attend office hours.

Class Schedule – All due dates are by 11:59pm on the day indicated

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| January | | | | |
| 13 | 14  Assignment 1 | 15 | 16  Lecture 1  Lab 1 | 17 |
| 20  Homework 1 | 21  Assignment 2 | 22 | 23  Lecture 2  Lab 2 | 24 |
| 27  Homework 2 | 28  Assignment 3 | 29  **Last day to drop with refund** | 30  Lecture 3  Lab 3 | 31 |
| February | | | | |
| 3  Homework 3 | 4  Assignment 4 | 5 | 6  Lecture 4  Lab 4 | 7 |
| 10  Homework 4 | 11  Assignment 5 | 12 | 13  **Test 1** | 14 |
| 17  Homework 5 | 18  Assignment 6 | 19 | 20  Lecture 6  Lab 6 | 21 |
| 24  Homework 6 | 25  Assignment 7 | 26 | 27  Lecture 7  Lab 7 | 28 |
| March | | | | |
| 2  Spring Break | 3  Spring Break | 4  Spring Break | 5  Spring Break | 6  Spring Break |
| 9  Homework 7 | 10  Assignment 8 | 11 | 12  Lecture 8  Lab 8 | 13 |
| 16  Homework 8 | 17  Assignment 9 | 18 | 19  **Test 2** | 20 |
| 23  Homework 9  **Last drop with W** | 24  Assignment 10 | 25 | 26  Lecture 10 | 27 |
| 30  Homework 10 | 31  Assignment 11 |  |  |  |
| April | | | | |
|  |  | 1 | 2  Lecture 11 | 3 |
| 6  Homework 11 | 7  Assignment 12 | 8 | 9  Lecture 12 | 10 |
| 13  Homework 12 | 14  Assignment 13 | 15 | 16  Lecture 13 | 17 |
| 20  Homework 13 | 21  Assignment 14 | 22 | 23  Lecture 14 | 24 |
| 27  Homework 14  **Final project Due** | 28  Reading Day | 29  **PICK ANY EXAM DATE @ Testing Center** | 30  **PICK ANY EXAM DATE @ Testing Center** | **PICK ANY EXAM DATE @ Testing Center** |

Class Content

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| Assignment 1 | Get access to all systems; create ‘Hello World’ page |
| Lecture 1 | HTML/CSS/JS introduction, standard format, conventions |
| Lab 1 | Experimenting with style |
| Homework 1 | Personal biography page |
| Assignment 2 | Active style change page |
| Lecture 2 | Fields, Functions, and Events |
| Lab 2 | Father-son “catch” game |
| Homework 2 | Developer tools and code walkthrough |
| Assignment 3 | Multiple catch games |
| Lecture 3 | GUI Geometry |
| Lab 3 | Using the canvas tag; boundary checking |
| Homework 3 | Locate items on GUI |
| Assignment 4 | Tic-Tac-Toe |
| Lecture 4 | Introduction to Objects |
| Lab 4 | Wack-a-mole |
| Homework 4 | Create a clock |
| Assignment 5 | Heartbeat and motion |
| Homework 5 | Inheritance |
| Assignment 6 | Inheritance vs Composition |
| Lecture 6 | Digital data |
| Lab 6 | GoldField: Mover inheritance tree |
| Homework 6 | GoldField: Looking at locations |
| Assignment 7 | GoldField: Button and Mouse Events |
| Lecture 7 | Computer Architecture |
| Lab 7 | GoldField: Mover Control |
| Homework 7 | GoldField: Search for Mover |
| Assignment 8 | GoldField: Collision checking |
| Lecture 8 | Computer Stack |
| Lab 8 | GoldField: Reacting to Movers |
| Homework 8 | GoldField: Look-plan algorithms |
| Assignment 9 | GoldField: Mover chase scenes |
| Homework 9 | Digital representation of data |
| Assignment 10 | Moore’s Law |
| Lecture 10 | Theory of computation; computer scaling |
| Homework 10 | Computer Specification |
| Assignment 11 | Personal Security Audit |
| Lecture 11 | Security |
| Homework 11 | Personal Security Improvement |
| Assignment 12 | AI Questions |
| Lecture 12 | AI and Software Engineering |
| Homework 12 | Software Engineering Processes |
| Assignment 13 | Algorithm Examples |
| Lecture 13 | Algorithm Efficiency |
| Homework 13 | Sorting Algorithm Efficiency |
| Assignment 14 | Language of Choice: Hello World |
| Lecture 14 | Languages |
| Homework 14 | Semester Reivew Questions |

Rappahannock Community College Course Policies and Procedures can be found at <http://www.rappahannock.edu/policy/course-policiesrcc/>.  
  
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