

Roanoke Valley Governor's School for Science and Technology

Python Coding

Syllabus 2023-2024

Mr. Divers

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I. Course Information

a. Course Description

Python Coding is an introduction to object-oriented software development using the Python programming language. The major themes include: decision making structures, functions, various looping structures, objects, and graphical user interface design. Each student will design, develop, and test a computer application as part of a research project. This research project will include a research paper and a class presentation.

b. Gifted education strategies

- 1) To gain familiarity with the Python programming language
- 2) To learn how to program conditional statements and loops
- 3) To learn how to write and use functions
- 4) To learn how to use Strings and lists
- 5) To utilize recursion as a technique for writing algorithms
- 6) To write classes and to use inheritance as a programming tool
- 7) To create graphics in Python

II. Grading Policy

a. Grading Scale

100-90%	A
89-80%	B
79-70%	C
69-60%	D
59-0%	F

b. Types of Evaluations

- i. Research Paper:** Students are expected to compose a rough draft, make all necessary revisions and submit a final draft of each part of the research paper. Since revision is an important part of the writing process, papers will be reviewed as needed. All students will be expected to make changes suggested by the instructor. All drafts of work will be graded for quality. If a student decides not to make changes suggested by the instructor, (s)he must make a notation in the margin and state why (s)he chose not to do so. All rough drafts must be turned in with final drafts. It is expected that the research paper will follow the VJAS guidelines and that a final copy of this paper be completed before the VJAS competition date. Time management will also be assessed with regards to the paper components.

Note: For second semester, the final, edited paper will comprise 20% of the research paper category grade. Failure to upload the final paper to the project Canvas site by deadline will result in a zero for the assignment and an overall “F” average for the research paper grading category.

- ii. **Research Process:** Students will be evaluated on how they complete assigned robot activities and how they execute their experiment during intersession. Students will be graded on all aspects of the experimental process from having all materials ready to begin experimentation the first day of intersession to making revisions to the experiment as needed. Lab safety and lab cleanup are also considered in this grading category. The lab notebook is included in this category. Time management will also be assessed with regards to the research process component.
- iii. **Homework:** Students will be assigned work outside of class that we graded or reviewed as part of homework category. The summer assignments will also be included in this homework category. Time management will also be assessed with each of the homework assignments.
- iv. **Presentation:** Each project will be presented at Project Forum using a display board and during class using PowerPoint. Both presentations will be graded using a rubric. It is expected that the PowerPoint presentation will follow the VJAS guidelines and that it will be completed by the VJAS competition date.

c. Semester Grade Determination

Category	First Semester	Second Semester
Research Paper	20%	20%
Research Process	30%	40%
Homework	50%	0%
Presentation	0%	40%

d. Final Grade Determination

The final grade is the average of the 2 semester grades. Students who fail to maintain a B average or above will be subject to the RVGS probationary policy.

III. Class Policies and Procedures

- a. **Absences and tardies:** The policy in the RVGS student handbook will be followed.
- b. **Make-up Work:** It is the student’s responsibility to check Canvas or ask the instructor about any missed assignments when absent.
- c. **Late-work policy:** Late work will be accepted only on homework. One day late will be half credit and there will be no credit after one day late.
- d. **Cheating:** The policy in the RVGS student handbook will be followed.

- e. **Technology Policy:** The RCPS Acceptable Use Policy and the RVGS student handbook policy will be followed.
- f. **Extra help:** Help is always available. The instructor will work out a time to meet with students who need extra assistance.
- g. **StudentVUE:** Grades are available at all times through StudentVUE. When viewing your grades, understand that:
 - i. A blank in the grade book means that the assignment has not yet been graded. Teachers will have all assignments graded within 5 school days of the due date (with the exception of very long assignments which will be graded within 10 school days). You may have a blank because the teacher has not graded the class set or because your assignment was turned in after the due date. Blanks do not count as zeros in your average.
 - ii. A zero in the grade book means that you have earned a zero on the assignment. Cases in which this might occur include submitting incorrect answers to an assignment or submitting an assignment past the due date.
 - iii. An excused (EX) in the grade book means that you are excused from the assignment without penalty.
- h. **Interim Reports:** A hard-copy of your current grade will be given to you to take home three times during each semester (see dates on the school calendar). The interim report is a snapshot of the current class average. Please feel free to discuss your report with your instructor.
- i. **Student Performance Strategy:** Interventions will be implemented at the teacher's discretion or in the event that the student's grade falls below an 80.
- j. **Cell Phones:** The policy in the RVGS student handbook for cell phones and electronics will be followed. If parents need to contact a student during class, they should call the front office.
- k. **SEC Notification:** Per Virginia Code (§ 22.1-16.8), parents must be aware of the use of any instructional materials with explicit content. No explicit materials are used in this course.