

WARREN COUNTY SCHOOL DISTRICT

VIRTUAL PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: Python Multiplayer Adventures

Course Number: 10764

Course Prerequisites: None

Course Description: See Attachment

Suggested Grade Level: Grades 9-12

Length of Course: One Semester

Units of Credit: .5

PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:
CSPG 33

To find the CSPG information, go to <https://www.education.pa.gov/Educators/Certification/Staffing%20Guidelines/Pages/default.aspx>

Certification verified by the WCSD Human Resources Department: ☒ Yes ☐ No

WCSD STUDENT DATA SYSTEM INFORMATION

Course Level: Academic

Mark Types: Check all that apply.

☒ F – Final Average ☒ MP – Marking Period ☐ EXM – Final Exam

GPA Type: ☐ GPAEL-GPA Elementary ☐ GPAML-GPA for Middle Level ☒ NHS-National Honor Society

☒ UGPA-Non-Weighted Grade Point Average ☒ GPA-Weighted Grade Point Average

State Course Code:

To find the State Course Code, go to <https://nces.ed.gov/forum/sced.asp>, download the Excel file for SCED, click on SCED 6.0 tab, and chose the correct code that corresponds with the course.

TEXTBOOKS AND SUPPLEMENTAL MATERIALS

Supplemental Materials: Accelerate Education (Virtual Academy)

Curriculum Document

WCSD Board Approval:

Date Finalized: 9/19/2019

Date Approved: 11/4/2019

Implementation Year: 19-20

WARREN COUNTY SCHOOL DISTRICT

VIRTUAL PLANNED INSTRUCTION

SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS

The teacher shall make appropriate modifications to instruction and assessment based on a student's Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

ASSESSMENTS

PSSA Academic Standards, Assessment Anchors, and Eligible Content: The teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

Formative Assessments: The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

Effective formative assessments for this course include: Lesson quizzes, projects, discussion boards, and module exams

Summative Assessments: The teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

Effective summative assessments for this course include: Semester exams

Python Multiplayer Adventures

Course Syllabus and Lesson Planner

Description:

In this course there are six modules teaching students the Python language. This course assumes no prior coding knowledge as students follow the lessons to program multiple complete programs in Python.

Course Prerequisites (if applicable):

This course does not require any pre-requisite courses.

Course Requirements:

Computer – Students must have access to a computer with internet access and an internet browser. The Computer may run Windows or Mac OS, no chromebooks.

Course Grading:

Grading will be based on quizzes, project uploads, and teacher requirements.

Lesson Plan: Each individual lesson is made up of multiple lesson pages to teach a coding concept with text and visuals, provide in lesson practice and a step by step activity for student to add newly learned code to their existing game file.

Module 1 –Python Choose Your Own Adventure	
1.1 – Getting Started	Where Python is used, variables, strings and integers
Getting Started Quiz	
1.2 – User Input and Tabs	Correct tab spacing and getting user input to print to the console
User Input and Tabs Quiz	
1.3 – Text Adventure Game	raw_input to get players name and practice asking questions and storing response
Text Adventure Game Quiz	
1.4 – Weapons and Gold	If statements and Dictionaries
Weapons and Gold Quiz	

1.5 – Opposition	Random numbers for simulated battle using if statements and while loops
Opposition Quiz	
1.6 – Random Events	Random numbers, updating variables and printing results to the user
Random Events Quiz	
1.7 – Win and Customize	Calling methods and logic to move beyond while loops
Text Adventure Game Assignment Upload	
Module 2 – Multiplayer Escape	
2.1 – Server	HTTP and passing data to browser
Server Quiz	
2.2 – Infinite Loop	While loop to run server and listen for communication
Infinite Loop Quiz	
2.3 – Decoding the Message	Decode library to display text in readable format
Decoding the Message Quiz	
2.4 – Creating Commands	Using lists to define text commands
Creating Commands Quiz	
2.5 – Store	If statements and displaying items from a dictionary for purchase. Editing items based on user decisions
Store Quiz	
Module 3 - Multiplayer Escape	
3.1 – Room to Room	Keeping dictionary of rooms and using list of commands to change display as if moving rooms
Room to Room Quiz	
3.2 – Winning Items	Create dictionary of inventory. Check inventory for existing items

Winning Items Quiz	
3.3 – Designing Your Multiplayer Escape	JSON file of complete list of dictionaries
Designing Your Multiplayer Escape Quiz	
3.4 – Saving and Loading	Import for reading in JSON file and loading into user dictionary
Saving and Loading Quiz	
3.4 – Make it Live	How to connect locally with multiple users
Make it Live Quiz	
Multiplayer Escape Assignment Upload	
Module 4 – Kivy Paint App	
4.1 – Kivy Library	Using the Kivy Graphics library
Kivy Quiz	
4.2 – Paint App	UI Window
Paint App Quiz	
4.3 – Drawing	Click to create colors
Drawing Quiz	
4.4 – Clear	UI Button to clear the paint app
Clear Quiz	
Paint App Assignment Upload	
Module 5 – Multiplayer Space Adventure	
5.1 – Space Adventure	Kivy
Space Adventure Quiz	
5.2 – Lag	Updating variables using delta time
Lag Quiz	
5.3 – Health	Display a progress bar using a dictionary of it's attributes
Health Quiz	

5.4 – Key Release	Keyboard listening
Key Release Quiz	
5.5 – Spaceship	Displaying an image on the screen
Spaceship Quiz	
5.6 – More Objects	Adding planets and background of stars
More Objects Quiz	
Module 6 – Completing the Platform Game	
6.1 – Object Types	Dictionary for each object: player, planet, bullet
Object Types Quiz	
6.2 – Follow the Player	Center the player and have screen scroll based on his movements
Follow the Player Quiz	
6.3 – Keyboard Controls	Updating keyboard to respond to w,a,s,d
Keyboard Controls Quiz	
6.4 – Player Movements	Updating keyboard to move player in various directions
Player Movements Quiz	
6.5 – Server	Set HOST and PORT for local server connections. Connect to hosted server
Server Quiz	
Spaceship Assignment Upload	
Semester Exam	