GEORGIA | PEACH STATE PATHWAYS

Career, Technical, & Agricultural Education

BUSINESS & COMPUTER SCIENCE

PATHWAY: Computing

COURSE: Beginning Programming

UNIT: 1.1 Careers in Computer Science

INTRODUCTION

Annotation:

This unit provides an introduction to the various careers in Computer Science. Students will explore a career in Computer Science and then develop a Career Card in Microsoft PowerPoint that will summarize the career they have chosen.

Grade(s):

X	9th
X	10th
X	11th
X	12th

Time: 5 hours

Author: Jason Naile

Additional Author(s):

Students with Disabilities:

For students with disabilities, the instructor should refer to the student's IEP to be sure that the accommodations specified are being provided. Instructors should also familiarize themselves with the provisions of Behavior Intervention Plans that may be part of a student's IEP. Frequent consultation with a student's special education instructor will be beneficial in providing appropriate differentiation.

FOCUS STANDARDS

GPS Focus Standards: Please list the standard and elements covered.

BCS-BP-1 Students will explore the different careers in computing.

a. describe the daily tasks and responsibilities of a professional in the field of computing

b. compare and contrast the top jobs in computing

c. explore the careers that combine computing with another field.

GPS Academic Standards:

ELA11W2 The student demonstrates competence in a variety of genres.

ELA11W3 The student uses research and technology to support writing

ELA11LSV1 The student participates in student-to-teacher, student-to-student, and group verbal interactions.

National / Local Standards / Industry / ISTE:

UNDERSTANDINGS & GOALS

Enduring Understandings:

Students will develop a sense of the different careers available in Computer Science. Students will also develop an understanding of the coursework, qualifications, and certifications needed to be a professional in the career. Finally, students will understand the daily work required in the chosen field.

Essential Questions:

- What career opportunities are available in the field of Computer Science?
- What credentials are needed to work in Computer Science?
- What are the characteristics of Computer Science occupations?

Knowledge from this Unit:

- Students will be able to name at least three careers in Computer Science.
- Students will identify the credentials needed to be a professional in the field of Computer Science.
- Students will create a profile of a chosen career field in Computer Science.

Skills from this Unit: Performance.

- Students will use Microsoft PowerPoint to effectively profile a career in Computer Science.
- Students will organize files effectively.

ASSESSMENT(S)

Assessment Method Type: Select one or more of the following. Please consider the type(s) of differentiated instruction you will be using in the classroom.

_____ Pre-test
_____ Objective assessment - multiple-choice, true- false, etc.
__ Quizzes/Tests
__ Unit test
_____ Group project
_____ Individual project
_____ Self-assessment - May include practice quizzes, games, simulations, checklists, etc.
__ Self-check rubrics
__ Self-check during writing/planning process
__ Journal reflections on concepts, personal experiences and impact on one's life
__ Reflect on evaluations of work from teachers, business partners, and competition judges
__ Academic prompts
__ Practice quizzes/tests
_x___ Subjective assessment/Informal observations
__ Essay tests
_x_ Observe students working with partners
__ Observe students role playing
_____ Peer-assessment
__ Peer editing & commentary of products/projects/presentations using rubrics
__ Peer editing and/or critiquing
_____ Dialogue and Discussion
__ Student/teacher conferences
__ Partner and small group discussions
__ Whole group discussions
__ Interaction with/feedback from community members/speakers and business partners
_____ Constructed Responses
__ Chart good reading/writing/listening/speaking habits
__ Application of skills to real-life situations/scenarios
_____ Post-test

Assessment(s) Title:

Teacher Informal Observation and Project check-in Meetings.

Assessment(s) Description/Directions:

Teacher should meet once a day with each student to discuss progress on the career unit. Feedback should be provided.

Attachments for Assessment(s):

Web Resource Title: Association for Computing Machinery Career Center

Web Resource Description: Web site with information about careers in Computer Science from a leading professional organization in the industry.

Web Resource: http://computingcareers.acm.org/

LEARNING EXPERIENCES

Instructional planning: Include lessons, activities and other learning experiences in this section with a brief description of the activities to ensure student acquisition of the knowledge and skills addressed in the standards. Complete the sequence of instruction for each lesson/task in the unit.

Sequence of Instruction

Lesson 1

1. Identify the Standards. Standards should be posted in the classroom for each lesson.

BCS-BP-1 Students will explore the different careers in computing.

a. describe the daily tasks and responsibilities of a professional in the field of computing

b. compare and contrast the top jobs in computing

c. explore the careers that combine computing with another field.

2. Review Essential Questions.

- What career opportunities are available in the field of Computer Science?
- What credentials are needed to work in Computer Science?
- What are the characteristics of Computer Science occupations?

3. Identify and review the unit vocabulary.

Sequence of Instruction and Learning:

(Based on a 50 minute period)

Day 1: Introduction of Careers in Computer Science

Day 2-3: Career Card creation

Day 4: Career Card class presentations

Day 5: Discussion of women and minorities in Computer Science

Attachments for Learning Experiences:

Notes & Reflections:

Students will use technology to research and then create a profile of a chosen career. Teachers will assist students in using Microsoft PowerPoint, Windows MovieMaker and PhotoStory 3 to create a Career Card or Movie Profile.

CULMINATING PERFORMANCE TASK (Optional)

Culminating Unit Performance Task Title: **Career Card creation**

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

Students will create a PowerPoint presentation (1-2 slides) that profiles a career in Computer Science.

Attachments for Culminating Performance Task:

Rubric for Performance Task:

Lesson Plan • AP Computer Science • Jason Naile • Parkview High School

Lesson Title: Career Cards
Annotation: Students will create a career card for a technology career that interests him/her.
Primary Learning Objectives: Students will demonstrate an understanding and create a profile of a technology career.
Additional Learning Outcome: Students will use technology to profile a career.

Assessed QCCs
Non-assessed QCC's

Local and/or National Standards:

Materials:

- Internet (http://www.careercornerstone.org/)
- Microsoft Word
- Microsoft PowerPoint

Total Duration: 2 hours

Technology Connection: Students will use the Internet to conduct their research and complete the career card using Microsoft Word.

Procedures:
Step 1: Teacher presents PowerPoint presentation on the Sloan Career Cornerstone Center.
Step 2: Student will work individually and research a career in technology of their choice.
Step 3: Students will complete a career card.
Step 4: The students will present their career cards to the class.
Step 5: Career cards are copied and distributed to all students.

Assessment: Students will receive a grade based on their career card and their presentation.

Extension: Students can research more colleges/universities that offer the career program.

Remediation: Accommodations and/or modification will be made according to the student's Individual Education Plan on file. If needed, Special Education teachers will be consulted for additional assistance.

Career Card Rubric

Attribute/Trait	Student Points	Possible Points
Computer Science career identified		1
Three traits of that individuals in that career field		3
Two specialty areas in field		2
Two college /universities for this career field		1
Middle 50% salary range		1
Career outlook (in terms of growth)		1
Two professional organizations		1
Total		

UNIT RESOURCES

Web Resources:

Web Resource Title: Sloan Career Cornerstone Center

Web Resource Description: Web site with information about careers in Computer Science

Web Resource: http://www.careercornerstone.org/computing/computing.htm

Attachment(s):

Materials & Equipment:

Computer

Microsoft PowerPoint

Internet

What 21st Century Technology was used in this unit:

X	Slide Show Software		Graphing Software		Audio File(s)
	Interactive Whiteboard		Calculator		Graphic Organizer
	Student Response System		Desktop Publishing	X	Image File(s)
	Web Design Software		Blog		Video
	Animation Software		Wiki		Electronic Game or Puzzle Maker
	Email	x	Website		