



GEORGIA

PEACH STATE PATHWAYS

Career, Technical, & Agricultural Education

BUSINESS & COMPUTER SCIENCE

PATHWAY: Computing

COURSE: Beginning Programming

UNIT: 1.1 Careers in Computer Science (Option B)



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, Windows MovieMaker or PhotoStory that will summarize the career they have chosen.

Grade(s):

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

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.

Skills from this Unit: Performance.

- Students will create a profile of a chosen career field in Computer Science.
- Students will use Microsoft PowerPoint or Movie Making Software 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
- ☒ Subjective assessment/Informal observations
 - ☐ Essay tests
 - ☐ 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):

<http://computingcareers.acm.org/> Association for Computing Machinery Career Center

(Web site with information about careers in Computer Science from a leading professional organization in the industry.)



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.

Day 1: Introduction of Careers in Computer Science

Day 2: Career Research

Day 3-4: Career Card/Movie creation

Day 5: Career Card class presentations or movie presentations.

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 or Movie Profile Creation

Culminating Unit Performance Task Description/Directions/Differentiated Instruction:

Students will create a PowerPoint presentation (1-2 slides) or Movie (2-3 minutes) that profiles a career in Computer Science.

Attachments for Culminating Performance Task:

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.

Materials:

1. Internet (<http://www.careercornerstone.org/>)
2. Microsoft Word
3. Microsoft PowerPoint or Windows MovieMaker or PhotoStory 3

Total Duration: 5 hours

Technology Connection: Students will use the Internet to conduct their research and complete the career card using Microsoft PowerPoint, Windows MovieMaker or PhotoStory 3.

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 or movie. Movie must contain all required components included in rubric.

Step 4: The students will present their career cards or movies to the class.

Step 5: Career cards are copied and distributed to all students. Movies are posted on a website or TeacherTube.com.

Assessment: Students will receive a grade based on their career card/movie. If students choose a Career Card they must present it to the class. Movies will be shown to the class.

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
Required Items Included • Computer Science career identified • Three traits of that individuals in that career field • Two specialty areas in field • Two college /universities for this career field • Middle 50% salary range • Career outlook (in terms of growth) • Two professional organizations		1 3 2 1 1 1 1
Presentation/Movie		5
Sources		3
Grammar/Spelling		2
Total		20

Web Resource Titles: Sloan Career Cornerstone Center, PhotoStory Tutorial, MovieMaker Tutorial.

Web Resource Description: Web site with information about careers in Computer Science. Tutorials with directions on how to use Windows MovieMaker and PhotoStory 3

Web Resource (Career Cornerstone): <http://www.careercornerstone.org/computing/computing.htm>

Web Resource (PhotoStory): <http://eduscapes.com/sessions/fiesta/photostorydirections.pdf>

Web Resource (MovieMaker):
<http://www.microsoft.com/windowsxp/using/moviemaker/getstarted/default.mspx>

Student Work Sample with Teacher Commentary

Example 1:

Title of Student Work: Career Card for Computer Software Engineering

Student Work Sample Description: A career card with all the required components.

Student Work Sample: Computer Software Engineering PowerPoint

Example 2:

Title of Student Work: Movie Profiling Career

Student Work Sample Description: A movie with the required components.

Student Work Sample: Computer Software Engineering Movie



UNIT RESOURCES

Web Resources:

Attachment(s):

Materials & Equipment:

Computers
Internet
Research resources
Microsoft PowerPoint
Windows MovieMaker and PhotoStory 3

What 21st Century Technology was used in this unit:

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