**COURSE DESCRIPTION**

**Course Title:** STEM 9

**Course Number:** 00767

**Course Prerequisites:** NONE

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| --- | --- |
| **Course Description:** | This basic/introductory STEM course is an interdisciplinary class that integrates the four specific disciplines of Science, Technology, Engineering and Math into a cohesive real-world learning model. Students will explore hands on and experience project based learning on real world problems guided by the Engineering Design Process. This program allows hands-on inquiry and open ended exploration in STEM content areas. |

**Suggested Grade Level**: Grade 9

**Length of Course:** One Semester

**Units of Credit:** .5

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

Required Teacher Certification: CSPG65 K-12 Technology Education

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 [x] No

**WCSD STUDENT DATA SYSTEM INFORMATION**

**Course Level:** Academic

**Mark Types:** Check all that apply.

[x] F – Final Average [x] MP – Marking Period [x] EXM – Final Exam

**GPA Type**: [ ]  GPAEL-GPA Elementary [ ]  GPAML-GPA for Middle Level [x]  NHS-National Honor Society

[x]  UGPA-Non-Weighted Grade Point Average [x]  GPA-Weighted Grade Point Average

**State Course Code**: Audio/Visual Production 11051, Computer Science Principles 10011

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**

**Board Approved Textbooks, Software, and Materials:**

**Title:**  NA

**Publisher:** NA

**ISBN #:**  NA

**Copyright Date:** NA

**WCSD Board Approval Date:** NA

**Supplemental Materials:** Video Camera, Video Production Software (Adobe Premiere, Adobe Animate), Animation Software, Green Screening, Drones, Hummingbirds

**Curriculum Document**

**WCSD Board Approval:**

**Date Finalized:** 5/19/2020

**Date Approved:**  6/8/2020

**Implementation Year:** 2020-2021

**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).

**SCOPE AND SEQUENCE OF CONTENT, CONCEPTS, AND SKILLS**

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| --- | --- | --- |
| **Performance Indicator** | **PA Core Standard and/or Eligible Content** | **Month Taught and Assessed for Mastery**  |
| Capturing content digitally. | 15.4.5.K. 15.4.2.K | SeptemberJanuary |
| Develop, utilize, and navigate skills for basic production editing. | 15.4.8.K.15.4.12.K. | OctoberJanuary |
| Use appropriate technical skills to develop basic software competency. | 15.4.12.G. | OctoberFebruary |
| Program basic functions of block coding. | 3.4.10E4, 15.4.12.H | NovemberMarch |
| Program basic functions of automation. | 3.4.10E4 | NovemberMarch |
| Create a three dimensional design. | 3.4.10.C1. | DecemberApril |
| Create a prototype of a three dimensional design out of a physical material. | 3.4.10.C2, 3.4.10.D1 | DecemberApril |
| Apply the design process to solve design problems. | 3.4.10.C1, 15.4.8.J.  | JanuaryMay |

**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:** Teacher Questioning/Discussion, Terminology quiz, Entrance and Exit Questions, Individualized and Team Based Projects

**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:** STEM Portfolio