

Instructional Model:

Teacher Led

Engaged Learning

Project Based Lessons

Course Category:

Engineering

Minimum Grade Level:

7th Grade

Prerequisites:

None

Software used in Course:

Repl.it

Thonny

Technology Options:

Mac

Windows

Chromebook

COURSE DESCRIPTION

In this project-based course, educators introduce students to coding with Python. Students develop computational thinking skills through basic computer science principles like loops, functions, and conditional statements. Students participate in group discussions to learn about the components of computer hardware and their functions in a larger system. Students manipulate data to understand user input, strings, and functions. After this course, students will have a basic understanding of hardware and software interactions in computer science.

STANDARDS ALIGNED

- 100% national and state computer science standards alignment - standards map provided
- Reinforces Math, ELA, and Social-Emotional Learning competencies

STUDENT OUTCOMES

Each lesson plan is designed to achieve specific student outcomes related to computer science competencies.

Sample objectives for this course include:

- Students will be able to define and explain programming as it relates to Python.
- Students will be able to modify and add to a program to produce new output.
- Students will be able to identify and implement print functions and comments while developing a software program.
- Students will be able to describe the general uses for Python.
- Students will be able to identify and explain the advantages Python provides in programming.

RESOURCES INCLUDED

- Teacher training videos
- Summative assessments
- Formative assessments
- Syllabus
- Computer science standards alignment mapping
- Step-by-step lesson plans
- Pacing guide
- Vocabulary words and definitions
- Coding activities
- Unplugged activities
- Digital citizenship activities
- Hardware activities (optional)

PILLARS OF ENGAGEMENT



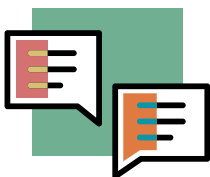
CODING *visual*

Codelicious engages visual learners with computer-based projects, vocabulary activities, as well as written and visual imagery, while building foundational and advanced computer science skills.



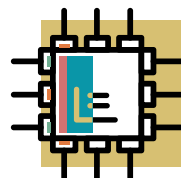
UNPLUGGED *kinesthetic*

Designed to be conducted off-line with creative activities or movement, Codelicious leverages unplugged activities to reinforce computer science concepts.



DIGITAL CITIZENSHIP & STEM CAREERS *auditory*

With discussions, collaboration sessions, and student presentations, Codelicious provides computer science curriculum that enables the auditory learner to thrive.



HARDWARE *tactile*

Hands-on learning with Codelicious curriculum builds upon computer science principles through hardware projects, problem solving activities involving everyday materials, and real-world applications.