# AP Computer Science Principles Course No. 31094 Credit: 1.0

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| **Student name:**  |  | **Graduation Date:** |  |

Pathways and CIP Codes:Programming & Software Development (11.0201)

Course Description: **Technical Level:** AP Computer Science Principles offers a multidisciplinary approach to teaching the underlying principles of computation. The course will introduce students to the creative aspects of programming, abstractions, algorithms, large data sets, the Internet, cybersecurity concerns, and computing impacts. AP Computer Science Principles will give students the opportunity to use technology to address real-world problems and build relevant solutions. Together, these aspects of the course make up a rigorous and rich curriculum that aims to broaden participation in computer science.

Directions:The following competencies are required for full approval of this course. Check the appropriate number to indicate the level of competency reached for learner evaluation.

**RATING SCALE:**

4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude.

3. Proficient Achievement:Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision.

2. Limited Achievement:Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision.

1. Inadequate Achievement:Student lacks knowledge, skills or professional attitude.

0. No Instruction/Training:Student has not received instruction or training in this area.

## Benchmark 1: Connecting Computing

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 1.1 | Identify impacts of computing. |  |
| 1.2 | Describe connections between people and computing. |  |
| 1.3 | Explain connections between computing concepts. |  |

## Benchmark 2: Developing computational artifacts

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 2.1 | Create an artifact with a practical, personal, or societal intent. |  |
| 2.2 | Select appropriate techniques to develop a computational artifact. |  |
| 2.3 | Use appropriate algorithmic and information-management principles. |  |

## Benchmark 3: Abstracting

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 3.1 | Explain how data, information, or knowledge are represented for computational use. |  |
| 3.2 | Explain how abstractions are used in computation or modeling. |  |
| 3.3 | Identify abstractions. |  |
| 3.4 | Describe modeling in a computational context. |  |

## Benchmark 4: Analyzing problems & artifacts.

### Competencies

| **#** | **DESCRIPTION** | **RATING** |
| --- | --- | --- |
| 4.1 | Evaluation of a proposed solution to a problem. |  |
| 4.2 | Location and correction of errors. |  |
| 4.3 | Explanation of how an artifact functions. |  |
| 4.4 | Justification of appropriateness and correctness. |  |

I certify that the student has received training in the areas indicated.

Instructor Signature:

For more information, contact:

CTE Pathways Help Desk

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