

# CSIT 168: INTRODUCTION TO PYTHON PROGRAMMING

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## Learning Outcomes Display (show only)

CC.AI: Certificate of Completion in Artificial Intelligence (<https://catalog.ocean.edu/programadmin/?key=81>)

## 1. Course Information

### Subject

CSIT - Computer Science/ Information Technology

### Course Number

168

### School

Science, Technology, Engineering, Mathematics

### Course Title

Introduction to Python Programming

## 2. Hours

### Semester Hours

2.00000

### Lecture

2

### Lab

0

### Practicum

0

## 3. Catalog Description

### For display in the online catalog

This course introduces the student to the fundamental techniques used in the development of software applications. The course teaches students with prior programming experience how to apply basic programming concepts and principles using Python. Students will learn the Python programming language in an integrated and interactive software development environment. The topics covered include classes, objects, algorithms, data types, control structures, arrays, attributes, and methods. Working knowledge of Windows required. Open lab time required.

## 4. Requisites

### Prerequisites

Grade of C or higher in CSIT 163, CSIT 165, OR MATH 157

### Corequisites

NONE

## 5. Course Type

### Course Fee Code

3

### Course Type for Perkins Reporting

vocational (approved for Perkins funding)

## 6. Justification

### Describe the need for this course

This can be used as an elective for any computer science and engineering related program.

## 7. General Education

Will the college submit this course to the statewide General Education Coordinating Committee for approval as a course, which satisfies a general education requirement?

No

If the course does not satisfy a general education requirement, which of the following does it satisfy:

Elective

## 8. Consistency with the Vision and Mission Statements, the Academic Master Plan, and the strategic initiatives of the College

Please describe how this course is consistent with Ocean County College's current Vision Statement, Mission Statement, Academic Master Plan, and the strategic initiatives of the College:

	Add item
1	Offer comprehensive educational programs that develop intentional learners of all ages and ensure the full assessment of student learning in these programs. (Mission Statement)
2	Foster educational innovation through effective teaching-learning strategies, designed to develop and nurture intentional learners who are informed and empowered. (Vision Statement)
3	Employ technology and learning outcomes assessment to ensure student success in an increasingly diverse and complex world. (Vision Statement)
4	Prepare students for entrance into the workforce and/or for successful transfer to other educational institutions. (Academic Master Plan) v. Seek to empower students through the mastery of intellectual and Practical Skills. (Academic Master Plan)
5	Seek to empower students through the mastery of intellectual and Practical Skills. (Academic Master Plan)
6	Challenge students to transfer information into knowledge and knowledge into action. (Academic Master Plan)

## 9. Related Courses at Other Institutions

### Comparable Courses at NJ Community Colleges

#### Institution

Bergen CC

#### Course Title

Introduction to Programming (Python)

#### Course Number

INF-103

#### Number of Credits

3

#### Institution

Brookdale CC

#### Course Title

Programming Using Python

#### Course Number

COMP238

#### Number of Credits

3

#### Institution

Rowan College at Burlington County

#### Course Title

Introduction to Python

**Course Number**

CIS 139

**Number of Credits**

3

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**Institution**

Camden County College

**Course Title**

Introductory Python Programming

**Course Number**

CSC171

**Number of Credits**

3

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**Institution**

Hudson County CC

**Course Title**

Python Programming

**Course Number**

CSC118

**Number of Credits**

3

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**Institution**

County College of Morris

**Course Title**

Python Programming

**Comments**

Continuing Education Course

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**Institution**

Raritan Valley CC

**Course Title**

Python Programming

**Course Number**

CISY200

**Number of Credits**3

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## Transferability of Course

### Georgian Court University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
		Unable to determine status

### Kean University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
FEX1000, Elective, 2 credits	Elective	

### Monmouth University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
CS001, 100 level CS Elective, 2 credits	Elective	

### Rowan University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
INTR99070, elective, 2 credits	Elective	

### Rutgers - New Brunswick, Mason Gross School of the Arts

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
		Will not transfer

### Stockton University

Course Code, Title, and Credits	Transfer Category	If non-transferable; select status
SCICEC, Computer Science and Information Systems Elective, 2 credits	Elective	

### If not transferable to any institution, explain:

This is a 2 credit course and it is unlikely that transfer credits will be given for 3 or 4 credit courses.

## 10. Course Learning Outcomes

### Learning Outcomes

Students who successfully complete this course will be able to:	
CLO1	Identify the steps required in problem solving.
CLO2	Identify the properties of an algorithm.
CLO3	Differentiate between an algorithm and a computer program.
CLO4	Identify the basic data types available.
CLO5	Design, code, test and debug simple programs written in an object-oriented language.
CLO6	Apply conditional control structures and methods.
CLO7	Utilize repetition structures and methods in programs.
CLO8	Apply the technique of decomposition in program construction.
CLO9	Differentiate between a void method and one that returns a value.
CLO10	Construct and manipulate arrays.

## 11. Topical Outline

(include as many themes/skills as needed)

	Major Themes/ Skills	Assignments (Recommended but not limited to)	Assessments (Recommended but not limited to)	Course Learning Outcome(s)
T01	Introduction to Programming a) History of Computers and Programming Languages b) How to set up the Python Programming Environment c) Using an Integrated Development Environment (IDE)	In-class demonstration	Exam	CL01
T02	Problem Solving and Algorithms a) Problem Solving Techniques b) Algorithms c) Decomposition	In-class exercise	Programming Exercises Exam	CL01,CL02,CL03
T03	Data Representation a) Data Types b) Identifiers c) Arithmetic Operations d) Variable and Declaration Statements e) Data Type Conversions f) Assignment Statements	In-class exercise	Lab assignment	CL04
T04	Programming by Example a) Simple keyboard input b) Simple console output c) Formatting output	In-class demonstration, Lab exercises	Programming Exercises	CL03
T05	Object Oriented Details a) Object Interaction b) Inheritance and reuse of code	In-class demonstration	Programming Exercises	CL05
T06	Selection Structures a) Selection Criteria - Relational and Logical Operators b) One and Two-way Selection c) Multi-way Selection d) Compound Conditions e) Problem Solving - Data Validation	In-class demonstration & Lab Exercises	Programming Exercises Exam	CL06
T07	Repetition Structures a) Pre-test Loops b) Post-test Loops c) Counter Loops d) Interactive Loops e) Nested loops	In-class demonstration & Lab Exercises	Programming Exercises Exam	CL07
T08	Methods a) Creating methods b) Invoking methods c) Passing parameters d) Returning Values	In-class demonstration & Lab Exercises	Programming Exercises Exam	CL08,CL09
T09	Arrays a) Creating arrays b) Examples c) Using arrays in a loop	In-class demonstration & Lab Exercises	Programming Exercises Exam	CL10

## 12. Methods of Instruction

In the structuring of this course, what major methods of instruction will be utilized?

- o Class lecture
- o Discussion
- o Demonstrations
- o Lab assignments
- o Programs and online presentations

### 13. General Education Goals Addressed by this Course (this section is to fulfill state requirements)

Information

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**Technological Competency**

Yes

**Related Course Learning Outcome**

CL02,CL04-CL10

**Related Outline Component**

T02-T09

**Assessment of General Education Goal (Recommended but not limited to)**

Programming Exercises Exam

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**Information Literacy**

Yes

**Related Course Learning Outcome**

CL02,CL03

**Related Outline Component**

T02,T08

**Assessment of General Education Goal (Recommended but not limited to)**

Programming Exercises Exam

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**Independent/Critical Thinking**

Yes

**Related Course Learning Outcome**

CL01,CL02

**Related Outline Component**

T01,T02

**Assessment of General Education Goal (Recommended but not limited to)**

Programming Exercises Exam

### 14. Needs

**Instructional Materials (text etc.):**

Appropriate textbooks and/or open educational resources will be selected. Contact the department for current adoptions. Class notes, presentations, software and online materials.

**Technology Needs:**

College Portal and/or College Distance Learning Platform and/or Textbook or Instructor Website.

**Human Resource Needs (Presently Employed vs. New Faculty):**

Presently employed

**Facility Needs:**

Laboratory classrooms equipped with computer workstations, each configured to support program development using Python.  
Podium computer similarly equipped plus the ability to present audio-video presentations to the class.

**15. Grade Determinants**

The final grade in the course will be the cumulative grade based on the following letter grades or their numerical equivalents for the course assignments and examinations

**A: Excellent**

**B+: Very Good**

**B: Good**

**C+: Above Average**

**C: Average**

**D: Below Average**

**F: Failure**

**I: Incomplete**

**R: Audit**

For more detailed information on the Ocean County College grading system, please see Policy #5154.

**16. Board Approval****History of Board approval dates**

Board of Trustees Approval Date: March 28, 2019

Board of Trustees Approval Date: March 26, 2020

**Reviewer Comments**

**Riviello Sylvia (sriviello) (Fri, 10 Sep 2021 15:53:53 GMT):** Rollback: We do not have a MATH 157 course

**O'Connor Susan (soconnor) (Thu, 28 Oct 2021 20:24:28 GMT):** Rollback: See CC minutes about adding CSIT 124 as another possible prereq and discuss transfer component with Eileen Schilling. Tabled at CC on 10-28-21