

# Clackamas Community College

## Online Course/Outline Submission System

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 Show changes since last approval in red

### Section #1 General Course Information

**Department:** Manufacturing

**Submitter**

First Name: Carel

Last Name: Kotze

Phone: 3728

Email: carelk

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**Course Prefix and Number:** GIS - 236

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**# Credits:** 1

**Contact hours**

Lecture (# of hours):

Lec/lab (# of hours): 22

Lab (# of hours):

Total course hours: 22

For each credit, the student will be expected to spend, on average, 3 hours per week in combination of in-class and out-of-class activity.

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**Course Title:** Programming for GIS

**Course Description:**

The course is an introduction to programming in Geographic Information Systems(GIS). Students will learn to customize software and write basic programming scripts in the ArcGIS environment. The basics of the Python programming language are explained and put into practice. This is intended to allow students to add or streamline functionality in the ArcGIS environment

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**Type of Course:** Career Technical Preparatory

Is this class challengeable?

**Yes**

Can this course be repeated for credit in a degree?

**No**

Is general education certification being sought at this time?

**No**

Does this course map to any general education outcome(s)?

**No**

Is this course part of an AAS or related certificate of completion?

**Yes**

**Name of degree(s) and/or certificate(s):** Geographic Information Systems (GIS) certificate

Are there prerequisites to this course?

**Yes**

**Pre-reqs:** MFG-109 or equivalent computer competency

**Have you consulted with the appropriate chair if the pre-req is in another program?**

**No**

Are there corequisites to this course?

**No**

Are there any requirements or recommendations for students taken this course?

**No**

Are there similar courses existing in other programs or disciplines at CCC?

**No**

Will this class use library resources?

**Yes**

**Have you talked with a librarian regarding that impact?**

**No**

Is there any other potential impact on another department?

**No**

Does this course belong on the Related Instruction list?

**No**

**GRADING METHOD:**

A-F or Pass/No Pass

**Audit: Yes**

When do you plan to offer this course?

✓ **Fall**

Is this course equivalent to another?

If yes, they must have the same description and outcomes.

**No**

Will this course appear in the college catalog?

**Yes**

Will this course appear in the schedule?

**Yes**

Student Learning Outcomes:

Upon successful completion of this course, students should be able to:

1. demonstrate the use of a variety of software customization options,
2. utilize the fundamental concepts of the Python programming language, in the ArcGIS environment;
3. write basic Python scripts to customize ArcGIS,
4. use basic GIS application development options and terminology.

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***This course does not include assessable General Education outcomes.***

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Major Topic Outline:

1. Introduction to the basics of GIS customization.
2. Introduction to Python in ArcGIS.
3. Introduction to programming in Python.
4. Creating simple Python scripts.
6. Understanding Python language fundamentals.
7. Use python scripts to do geoprocessing in ArcGIS.

Does the content of this class relate to job skills in any of the following areas:

- |                                      |            |
|--------------------------------------|------------|
| 1. Increased energy efficiency       | <b>No</b>  |
| 2. Produce renewable energy          | <b>No</b>  |
| 3. Prevent environmental degradation | <b>No</b>  |
| 4. Clean up natural environment      | <b>No</b>  |
| 5. Supports green services           | <b>Yes</b> |

Percent of course: **50%**

First term to be offered:

**Next available term after approval**

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