

Clackamas Community College

Online Course/Outline Submission System

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Section #1 General Course Information

Department: Manufacturing

Submitter

First Name: **Carel**

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Course Prefix and Number: GIS - 201

Credits: 3

Contact hours

Lecture (# of hours):

Lec/lab (# of hours): 66

Lab (# of hours):

Total course hours: 66

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.

Course Title: Introduction to Geographic Information System

Course Description:

The class covers key concepts, methodologies, and problem solving techniques used in a Geographic Information System (GIS). It maps out the GIS profession and how it relates to today's world. The focus of the class is the ArcGIS software. The class introduces students to the basics of viewing, analyzing and mapping GIS data using the ArcGIS software.

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): GIS Certificate

Are there prerequisites to this course?

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. recognize and describe key features of at least two GIS applications commonly used by business and industry,
2. explain GIS concepts and how they relate to GIS analysis and map production,
3. describe three sources of GIS data and provide examples of how this information is used in its respective industry,
4. demonstrate proficiency in digitizing techniques,
5. utilize GIS software and computer technology to produce hardcopies of GIS maps and related documentation,
6. utilize standard GIS terminology in presenting projects and describing GIS-related solutions,
7. explain GIS analysis protocol,
8. produce a GIS project employing appropriate GIS methodologies and analytical techniques.

This course does not include assessable General Education outcomes.

Major Topic Outline:

1. Exploring maps. How are maps used? What are the applications of maps? What information do different maps convey? What are the visual aspects of a map? Exploring data and maps on a computer.
2. What is GIS? How has GIS evolved over time? Introduction to GIS software. Desktop GIS applications used locally will be demonstrated in lab.
3. Understanding the basics of ArcGIS and its components.
4. Coordinate systems and datums.
5. Introduction to ArcCatalog; Data Structure, Data Storage and Organization.
6. Vector and raster data models.
7. Data sources, data entry techniques.
8. Creating and editing data in ArcGIS.
9. Overlay analysis, raster analysis, spatial queries, introduction to remotely sensed data.
10. Basic analysis techniques and tools in ArcGIS.
11. Creating maps in ArcGIS. Map elements. Classifying data for thematic mapping. Colors and cosmetics. Labeling, support features.
12. Student projects and presentations.

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

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

Percent of course: **30%**

First term to be offered:

Next available term after approval

:
