# Clackamas Community College

## Online Course/Outline Submission System

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**Section #1 General Course Information**

**Department:** WAFE

**Submitter**

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**Course Prefix and Number:** GIS - 240

**# 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:** Geospatial Database Development and Management

**Course Description:**

Introduces the fundamentals of relational databases (non-geographic and geographic). Covers SQL query basics to retrieve, edit, insert, and manipulate data. Learn relational database design concepts and theory. Work with open source Postgres/PostGIS and ESRI's geodatabase products. Identify and apply key differences in developing, querying, managing, and administrating an enterprise geodatabase.

**Type of Course:** Career Technical Preparatory

**Reason for the new course:**

To broaden the understanding and skills for GIS

**Is this class challengeable?**

## No

**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):** CC: GISTECHNOLOGY

**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?**

## Yes

**Recommendations:** Be familiar with GIS software and applications.

**Requirements:**

**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?**

✓ **Not every term**

**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. Explain fundamentals of database and geodatabase design
2. Access, edit, and manipulate data with SQL query language
3. Design, create, and manage a PostGIS Geodatabase
4. Design, create, and manage ESRI File Geodatabase
5. Design, create, and manage ESRI Enterprise Geodatabase
6. Apply SQL query language to access, edit, and manipulate spatial data from an enterprise geodatabase

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

**Major Topic Outline:**

1. Relational database fundamentals. Design and management
2. SQL Query basics
a. SELECT, UPDATE, INSERT, DELETE queries
b. Query process and operation order
c. JOINS
d. Aggregating data
c. Stored Procedures, functions, and views
3. Postgres/PostGIS geodatabase
a. Spatial select queries
b. Geometry Types
c. Working with views
e. Geometry constructors, accessors, editors, outputs
f. Spatial functions
4. ESRI's Desktop File Geodatabase
a. Attribute domains
b.Subtypes

    c. Feature datasets
    d. Topology
    e. Geometric networks
    5. ESRI's Enterprise Geodatabase
    a. Adding users and data
    b. Data set creation
    c. SDE tables
    d. Versioning

**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 | **No** |

Percent of course: 0%

**First term to be offered:**

**Next available term after approval**
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