# Course Description Form

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| 1. Course Name: geographic information systems ng |
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| 2. Course Code: CSMM3212 |
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| 3. Semester / Year: 2st semester / 2024-2025 |
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| 4. Description Preparation Date: Feb. 2025 |
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| 5. Available Attendance Forms: |
| |
| 6. Number of Credit Hours (Total) / Number of Units (Total) |
| 56 |
| 7. Course administrator's name (mention all, if more than one name) |
| Name: Lucturer . Dr. Ali Adel Saeid<br>Email: ali.a.saeid@uotechnology.edu.iq |

| 8. Course Objectives | |
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| **Course Objectives** | 1-Understing the concepts of geographic information systems<br>**2-** Dealing with geographical sources such as paper maps, aerial photographs, satellite phot grapl |

| 9. Teaching and Learning Strategies | |
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| **Strategy** | Books, resources (internet and library), lectures reinforced with an illustrative example. The oretic present practical ideas to students (data show, electronic board) |

**10. Course Structure**

| Week | Hours | Required Learning Outcomes | Unit or subject name |
|---|---|---|---|
| 1 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Introduction, to define **GIS** |
| 2 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | GISystem , GScience , GIS application |
| 3 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | The real world and representation of it |

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|---|---|---|---|
| 4 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Models and modelling.<br>Maps, database |
| 5 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Spatial database and spatial analysis |
| 6 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Computer representation of geographic information |
| 7 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Vector representation |
| 8 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Topology and spatial relationships |
| 9 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Representation of geographic fields |
| 10 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Representation of geographic objects |
| 11 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | GIS and spatial databases<br>Linking GIS and DBMS |
| 12 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Spatial database functionality<br>Spatial referencing |
| 13 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Coordinate systems<br>Map projections |
| 14 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | point data transformation,<br>Interpolating discrete data,<br>Interpolating continuous data |
| 15 | 2 hrs classroom +2 hrs lab | 1,3,5,6,7 | Course Exam |

**11. Course Evaluation**

Final Exam (60%) Quizzes (10%) Laboratory (15%) Term Tests (15%)

**12. Learning and Teaching Resources**

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| **Required textbooks (curricular books any)** | - |
| **Main references (sources)** | prinsplies of gugraphic information systems |
| **Recommended books and references (scientific journals, reports…)** | |

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| **Electronic References, Websites** | -https://www.esri.com/en-us/home<br>-https://www.esri.com/en-us/what-is-gis/overview#:~:text=Ge<br>%20system(s)%2C,what%20things%20are%20like<br>%20there.( |