

MODUL HANDBOOK

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|  | UNIVERSITAS PADJADJARAN FACULTY OF MATHEMATICS AND NATURAL SCIENCES BACHELOR OF BIOLOGY PROGRAMME | COURSE CODE D10D- 60203 |
| Module designation | Geographic Information Systems | |
| Semester(s) in which the module is taught | 6 | |
| Person(s) responsible for the module | Dr. Teguh Husodo, M.Si | |
| Medium of instruction | Indonesian | |
| Relation to curriculum | Elective course | |
| Teaching methods | Lectures, discussions, cooperative learning, and inquiry learning | |
| Workload | Total workload : 5440 minutes = 90.67 hours Lectures, discussions, cooperative learning, and inquiry learning Exercises : 2 x 50 minutes x 16 weeks = 1600 minutes = 26.67 hours Self-study : 2 x 60 minutes x 16 weeks = 1920 minutes = 32 hours : 2 x 60 minutes x 16 weeks = 1920 minutes = 32 hours | |
| Credit points | 2,00 (3,62 ECTS) | |
| Required and recommended prerequisites for joining the module | General Ecology | |
| Module objectives/intended learning outcomes | <ol style="list-style-type: none"> 1. Students are able to explain (C2) and discuss (A2) the concept of geographic information system and its application in various fields, at least 60% correct. 2. Students are able to describe (C2) and discuss (A2) how GIS works in each of its components, and the position of GIS in various fields, at least 60% correct. 3. Students are able to understand (C2) and build (P2) GIS data from various sources and manage (A4) the data ready for use in various GIS digital formats, at least 60% correct. 4. Students are able to apply (C3) and implement (P2) data acquisition in Geographic Information Systems, at least 60% correct. 5. Students are able to analyze (C4) and implement (P2) and build (A4) GIS data design into a geodatabase, at least 60% correct. 6. Students are able to apply (C3) and implement (P2) digitation and topology procedures to build (A4) geodatabase ready for presentation and analysis, at least 60% correct. 7. Students are able to apply (C3) and implement (P2) GIS presentation and visualization in digital thematic maps, at least 60% correct. 8. Students are able to apply (C3) and implement (P2) the concept of spatial reference and geometry correction in GIS software, at least 60% correct. 9. Students are able to analyze (C4) and classify (A4) the quality of GIS data, at least 60% correct. 10. Students are able to operate (C3) and implement (P2) the basics of spatial analysis and formulate (A4) GIS data to be able to analyze (C4) and classify (A4) the quality of GIS data. | |
| Contents | The Geographic Information System course studies the concepts and working systems of GIS, learns the procedures for building geospatial data and basic spatial analysis used in solving spatial problems with GIS. | |
| Examination forms | Quiz, midterm exam, assignment, and final exam | |
| Study and examination requirements | The minimum attendance in lectures is 80%. The final grade is evaluated based on tasks (100%) | |
| Reading lists | <ol style="list-style-type: none"> 1. Allen, David. 2009. 'GIS Tutorial (Spatial Analysis Workbook)'. California. Esri Press 2. Indarto dan Arif Faisol. 2012. 'Konsep dasar Analisis Spasial' Penerbit ANDI Yogyakarta | |

3. Konecny, Gottfried. 2003. 'Geoinformation Remote sensing, photogrammetry and geographic information systems'. London and New York : Taylor & Francis
4. Prahasta, Eddy. 2009. 'Sistem Informasi Geografis (Konsep-konsep dasar perspektif geodesi dan geomatika)'. Bandung : Informatika
5. Aronoff, Stan, 1989. Geographic Information System: A Management Perspective. WDL Publications, Ottawa, Canada
6. Burrough, PA & McDonnel, RA, 1998. Principles of Geographical Information System. Oxford University Press Inc, New York
7. Huisman, Otto., De By, Rolf., 2009. Principles of Geographic Information Systems. ITC. Netherlands
8. Slocum, T.A., Kessler, F., 2009. Thematic Cartography and Geovisualization. Pearson Education
9. Bahan Internet