



DEPARTMENT OF GEOMATICS ENGINEERING
UNDERGRADUATE PROGRAM IN GEOMATICS ENGINEERING
COURSE SYLLABUS

| | | |
|---------------|----------|---------------------|
| COURSE | Name | Digital Cartography |
| | Code | RM184309 |
| | Credits | 3 (three) |
| | Semester | III (three) |

COURSE DESCRIPTION

This course is intended for students to able to explain and apply concepts and procedures of cartography science and techniques as a method in making maps using computer technology. Basic theories about cartographic elements such as generalizations of the elements to be presented along with the scale of the map; selection of symbols and colors for an element of the earth in accordance with the geospatial information that will be presented; map layout, laying the contents of the map and text such as the selection of types and sizes of letters will be provided so that students will have knowledge about how to make the characteristics and design a map with digital technology. Students will have the ability to process both vector and raster data and will be able to process geospatial data, also be able to apply it by using a digital mapping application to analyze contour mapping, profile, volume and map visualization applications.

EXPECTED LEARNING OUTCOME

| | |
|---|---|
| C | Able to identify, formulate, analyze and solve problems in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, and cadastral. |
| D | Able to perform spatial data acquisition using modern measurement methods, geospatial data processing, using industry standard software, and making standard designs and analyzes in the fields of geodesy, surveying, hydrography, remote sensing, |
| E | Able to apply information & communication technology and the latest technological developments in the fields of geodesy, surveying, hydrographic, remote sensing, photogrammetry, geographic information systems, and cadastral. |
| F | Able to compile scientific reports and provide solutions based on leadership, creativity and communication skills as well as being responsible for the work done. |

COURSE LEARNING OUTCOME

| | |
|---|---|
| 1 | Students have knowledge of cartography which is applied to digital spatial data |
| 2 | Students have knowledge of data processing from acquisition to visualization using digital devices |
| 3 | Students have the experience to be able to apply the concept of mapping and presenting it digitally |
| 4 | Students have the ability to manage mapping based on the principle of cartography in a hierarchical manner with harmonization and implementation of the development of digital cartography technology |
| 5 | Students have knowledge and can follow and apply geospatial information through internet / web-based digital mapping technology. |

COURSE MATERIALS

| | |
|---|--|
| 1 | The concept of cartography as a technique and method in digital mapping |
| 2 | Digital data acquisition and conversion |
| 3 | Representation of symbols, labels and attributes in Cartography |
| 4 | Map design technology and digital map production |
| 5 | Application of KUGI in design and digital cartography |
| 6 | Development of web / internet-based geospatial data visualization technology |

PREREQUISITE

Cartography, Advanced Terrestrial Mapping

REFERENCES

| | |
|----|---|
| A. | Main References |
| 1 | Robinson, AH. 1995. Elements Of Cartography. John Willey & Son. |
| 2 | Kraak, M.J., Ormeling, F., 2007, Kartografi Visualisasi Data Geospasial, Edisi kedua, Gadjah Mada University Press, Yogyakarta |
| 3 | Ken Field, Edie Punt, John Nelson, Wesley Jones and Nathan Shephard. 2016. MOOC- Cartography. https://www.esri.com/training/catalog/596e584bb826875993ba4ebf/cartography./ |
| B. | Additional References |
| 1 | Ormeling, Ferjan, 2004, Map Use Education and Geovisualisation, Prosiding, 3rd FIG Regionl Conference, Jakarta |
| 2 | Moore,A. & Drecki, I. 2008. Geospatial New Vision. Springer |