



**DEPARTMENT OF GEOMATICS ENGINEERING
UNDERGRADUATE PROGRAM IN GEOMATICS ENGINEERING**

COURSE SYLLABUS

COURSE	Name	Geospatial Information for Thematic Mapping
	Code	RM184946
	Credits	3
	Semester	Elective

COURSE DESCRIPTION

In this course, students will learn one type of Geospatial Information (GI), namely Thematic Geospatial Information. Laws and regulations relating to Geospatial Information with the relevance of One Map Policy will be provided as a fundamental concept in establishment of Geospatial Information. Assignments are given in the form of working groups to arrange a Thematic GI both in the sectoral and non-sectoral fields, to maintain a better understanding for students about the establishment of Thematic GI. Problems existing in the community, especially local governments, are used as a case study. Herein, students can think critically and apply Thematic GI to solve those problems such as transportation infrastructure, agriculture and forestry, mineral resources, and potential revenue (district or province).

EXPECTED LEARNING OUTCOME

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, photogrammetry, and cadastral
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
H	Able to work in inter-disciplinary and inter-cultural teams so they can compete at national and international levels

COURSE LEARNING OUTCOME

1	Students are able to explain the definition of Geospatial Information (GI) based on the Geospatial Information Law and its role referring to one map policy.
2	Students are able to compile data and present the constituent elements of a basic GI and thematic GI, both sectoral and non-sectoral fields.
3	Students are able to compile and present data sources and constituent elements of Thematic GI for the national level of non-sectoral fields such as land transportation infrastructure.
4	Students are able to organize and present data sources and constituent elements of Thematic GI for the non-sectoral sector at the provincial level, such as the mineral resources, agriculture and forestry, and the volcano
5	Students are able to compile and present Thematic Geospatial Information using Web-based Geographic Information Systems (GIS).
6	Students are able to organize and present data sources and constituent elements of Thematic GI for the sectoral sector of the village, such as potential revenue using Web-based GIS.

COURSE MATERIALS

1	The concept of Geospatial Information (GI) includes Basic GI and Thematic GI referring to GI Law.
2	The concept of GI especially Thematic GI concerning one map policy
3	Data and constituent elements of the Basic and Thematic GI both for sectoral and non-sectoral fields.
4	Establishment of thematic GI in comprehensive sectors such as transportation infrastructure, agriculture and forestry, mineral resources, and regional potential.

PREREQUISITE

Geografic Information System

REFERENCES

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| A. | Main References |
| 1 | Dent B. Cartography: Thematic Map Design. McGraw Hill, 5th Edition; 1999. ISBN: 0697384950. |
| 2 | Slocum TA, McMaster RB, Kessler FC, and Howard HH. Thematic Cartography and Geovisualization, 3rd |
| 3 | President of the Republic of Indonesia, Law No. 4 of 2011 concerning Geospatial Information |
| 4 | ESRI, 2009, GIS for Building and Managing Infrastructure |
| B. | Additional References |
| 1 | Holdstock D.A., 2019, Smart Geospatial Practices and Applications in Local Government: An Altogether Different |
| 2 | Wolf P., DeWitt B., and Wilkinson B., 2014, Elements of Photogrammetry with Application in GIS, Mc Graw Hill |

