



## **MODULE HANDBOOK**

### **Global Navigation Satellite System**

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Universitas Indonesia

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## Global Navigation Satellite System

Module designation	Global Navigation Satellite System
Semester(s) in which the module is taught	Fifth (5th) Semester
Person responsible for the module	Tjiong Giok Pin, M.Si.
Lecturer	<ol style="list-style-type: none"> <li>1. Tjiong Giok Pin, M.Si.</li> <li>2. Riza Putera Syamsuddin, M.Si.</li> <li>3.</li> </ol>
Language	Bahasa Indonesia
Relation to curriculum	Elective
Teaching methods	Student-centered Learning and combination with Cooperative Learning
Workload (incl. contact hours, self-study hours)	<ol style="list-style-type: none"> <li>1. Lectures: 100 minutes per week per semester</li> <li>2. Assignment: 120 minutes per week per semester</li> <li>3. Independent study: 120 minutes per week per semester</li> <li>4. Minutes x weeks x semester: <math>340 \times 14 \times 1 = 4760</math> minutes per semester</li> <li>5. Midterm Examination: 100 minutes per semester</li> <li>6. Final Examination: 100 minutes per semester</li> <li>7. Total workload per semester: 4950 minutes / 82 hours 40 minutes</li> </ol>
Credit points	2 (Two)
Required and recommended pre-requisites for joining the module	<ol style="list-style-type: none"> <li>1. Geographic Information System</li> </ol>
Module objectives/intended learning outcomes	The Global Navigation Satellite System course is given to second level students in the third semester. The purpose of the course is to understand the concept of satellite navigation and its application for mapping the phenomenon of physical, social geography, to applications on remote sensing and geographic information systems
Content	<ol style="list-style-type: none"> <li>1. Basic Concepts of Surveys and Mapping Using Navigation Satellite Systems</li> <li>2. History of navigation satellite systems and mapping using navigation satellite systems</li> <li>3. Explain the concept of mapping using a navigation satellite system</li> <li>4. Use navigation satellite system on smartphones</li> <li>5. Describe the type of navigation satellite and location such as GPS, Glonass, Beidou, QZss, Galileo and other satellites</li> <li>6. GNSS concept</li> <li>7. Mapping applications in various fields (physical geography)</li> <li>8. Mapping applications in various fields (human geography or regional development)</li> <li>9. Mapping applications on various fields of geographic information system applications and remote sensing</li> </ol>
Examination forms	-
Study and examination requirements	<ol style="list-style-type: none"> <li>1. Individual Score (25%)</li> <li>2. Group and Presentation Score (15%)</li> <li>3. Mid Examination (30%)</li> <li>4. Final Examination (30%)</li> </ol>

Reading list	<p>Kraak, Menno-Jan; Ormeling, F. (2010). Visualization of Spatial Data Third Edition. In Pearson Education (Third). Edinburg Gate, London: Pearson Education Limited. (Chapter 2 dan Chapter 5)</p> <p>Guochang, X.; Yan X. (2016). GPS: Theory, Algorithms and Applications (Third Edit). Berlin: Springer-Verlag Berlin Heidelberg.</p>
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