



## **MODULE HANDBOOK**

### **Geographic Information System Lab**

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Faculty of Mathematics and Natural Sciences  
Universitas Indonesia

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Module designation	Geographic Information System Lab
Semester(s) in which the module is taught	Fourth (4th) Semester
Person responsible for the module	Adi Wibowo, Ph.D.
Lecturer	<ol style="list-style-type: none"> <li>1. Adi Wibowo, Ph.D.</li> <li>2. Iqbal Putut Ash Shidiq, M.Sc., Ph.D.</li> <li>3. Riza Putera, M.Si.</li> <li>4.</li> </ol>
Language	Bahasa Indonesia
Relation to curriculum	Compulsory
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: 50 minutes per week per semester</li> <li>2. Assignment: 60 minutes per week per semester</li> <li>3. Independent study: 60 minutes per week per semester</li> <li>4. Minutes x weeks x semester: <math>170 \times 14 \times 1 = 2380</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: 2580 minutes / 43 hours</li> </ol>
Credit points	1 (One)
Required and recommended pre-requisites for joining the module	<ol style="list-style-type: none"> <li>1. Cartography</li> <li>2. Cartography Lab</li> <li>3. Survey and Mapping Lab</li> <li>4. Remote Sensing Lab</li> </ol>
Module objectives/intended learning outcomes	After completing this course, fourth semester students (4) were able to make a simple spatikis model for analyzing spatial phenomena by applying the principle of spatial analysis of vector data and raster data and displaying in layout print maps based on cartographical rules using geographical information software along with Outfall in the form of monograph and paper format Pro format
Content	<ol style="list-style-type: none"> <li>1. Interoperability data and spatial database management</li> <li>2. Concept of vector and raster data</li> <li>3. Geoprocessing concept in GIS</li> <li>4. The concept of a 2-dimensional and 3-dimensional spatial analysis method</li> <li>5. GIS modeling concept</li> <li>6. Concept of certain thematic spatial analysis</li> <li>7. Concept of reporting in geography for certain themes</li> </ol>
Examination forms	-
Study and examination requirements	<ol style="list-style-type: none"> <li>1. Essay (20%)</li> <li>2. Group and Presentation Score (15%)</li> <li>3. Individual Score (20%)</li> <li>4. Final Assesment (15%)</li> <li>5. Midterm Examination (15%)</li> <li>6. Final Examination (15%)</li> </ol>

Reading list	<p>Supriatna, (2001), Dasar-Dasar Sistem Informasi Geografis. Departemen Geografi FMIPA UI, Depok, Indonesia</p> <p>Supriatna (2009): Sistem Informasi Geografis, Analisis &amp; Aplikasi. Departemen Geografi FMIPA UI, Depok, Indonesia</p> <p>David L. Verbyla, (2002): Practical GIS Analysis, Taylor &amp; Francis, London, UK</p> <p>Edy Irwansya (2013),Sistem Informasi Geografis : Prinsip Dasar dan Pengembangan Aplikasi (2013), DIGIBOOKS, Yogyakarta, Indonesia</p> <p>Rustiadi, E., 2018. Perencanaan dan pengembangan wilayah. Yayasan Pustaka Obor Indonesia.</p> <p>Howe,D.R, 1992. Data Analysis for Database Design. International Institute for Aerospace &amp; Earth Sciences ITC, Netherland</p> <p>De Mers, 2000. Fundamentals of Geographical Information Systems, John Wiley &amp; Sons, Inc. New York.</p> <p>Laurini &amp; Thomson, 1996. Fundamentals of Spatial Information Systems. Academic Press, London.</p> <p>Michael, B. (1996). GIS &amp; Environmental Modelling: Progress &amp; Research Issue. New York: GIS World Books, Fort Collins.</p> <p>F. Wang. Quantitative Methods and Applications in GIS. 2006. Taylor &amp; Francis.</p> <p>P. A. Longley, et al. Geographic Information Science and Systems, 4th Edition. 2015. Wiley</p>
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