



UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Department of Computer Science and Electronics

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Bachelor in Computer Science

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MODULE HANDBOOK

Module name	Next Generation Networks
Module level, if applicable	Undergraduate
Code, if applicable	MII-2611
Courses, if applicable	NA
Semester(s) in which the module is taught	Fall (Odd)
Person responsible for the module	Dr. Tri Kuntoro Priyambodo
Lecturer(s)	Dr. Tri Kuntoro Priyambodo
Language	Bahasa Indonesia & English
Relation to curriculum	1. Undergraduate degree program, compulsory, 4th semester. 2. International undergraduate program, compulsory, 4th semester.
Teaching methods	1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students.
Workload (incl. contact hours, self-study hours)	1. Lectures: 3 x 50 = 100 minutes per week. 2. Exercises and Assignments: 3 x 50 = 100 minutes per week. 3. Private study: 1 x 50 = 50 minutes per week.
Credit points	3 credit points (sks).
Requirements according to the examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.
Required and recommended prerequisites for joining the module	NA
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to: CO1. Able to identify and explain advanced telecommunication concepts CO2. Able to explain components, subsystems and modules in advanced telecommunication concepts CO3. Able to identify tools and support for advanced telecommunication and satellite concepts CO4. Able to explain how to work and performance optimization in advanced telecommunication and satellite CO5. Able to present and present ideas that are related to the existing problems in the concept of advanced telecommunications and satellites

	PLO		CO1	CO2	CO3	CO4	CO5																																																								
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PLO5					√	√																																																									
Content	<p>This course provides knowledge, understanding of advanced telecommunication and satellite concepts, the material also discusses components, subsystems and modules in advanced telecommunication concepts, tools, and supports on advanced telecommunication and satellite concepts, how to work and performance optimization in advanced telecommunications and satellites, and ideas that are related to the existing problems in the concept of advanced telecommunications and satellite</p> <ol style="list-style-type: none"> 1. Telecommunication and industry: the development and telecommunication industry 2. The HCF Network 3. Data over cable service interface 4. Telephony and wireless 5. Development of 1 to 5 G: concept of 1G, concept of 2G, concept of 3G, concept of 4G, concept of 5G 6. Next generation Networks: NGN, NGN Services, NGN Society 7. Convergencies: Architecture, IMS service, Quality of services, Authentication, dan network service management 8. Data Driven Network 																																																														
Study and examination requirements and examination forms	<p>The evaluation is done in 2 forms, namely:</p> <ol style="list-style-type: none"> 1. Trial, either midterm or semester test, 2. Two tasks, including individual or 3. Two group assignments to be completed within a certain timeframe, and <p>Assessment is done using benchmark assessment, with the aim of measuring the level of student understanding related to the target and class rank.</p>																																																														
Media employed	e-learning Platform (ELOK), LCD, blackboard, and websites.																																																														
Assessments and evaluation	<table border="1"> <thead> <tr> <th>Type</th> <th>Percentage</th> <th>CO1</th> <th>CO2</th> <th>CO3</th> <th>CO4</th> <th>CO5</th> </tr> </thead> <tbody> <tr> <td>Task 1</td> <td>10</td> <td>√</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Group Task 1</td> <td>10</td> <td></td> <td>√</td> <td></td> <td></td> <td></td> </tr> <tr> <td>MidSem Test</td> <td>30</td> <td></td> <td>√</td> <td>√</td> <td></td> <td></td> </tr> <tr> <td>Task 2</td> <td>5</td> <td></td> <td></td> <td></td> <td>√</td> <td></td> </tr> <tr> <td>Group Task 2</td> <td>10</td> <td></td> <td></td> <td>√</td> <td>√</td> <td></td> </tr> <tr> <td>Final Test</td> <td>30</td> <td></td> <td></td> <td></td> <td>√</td> <td>√</td> </tr> <tr> <td>Total</td> <td>100</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>							Type	Percentage	CO1	CO2	CO3	CO4	CO5	Task 1	10	√					Group Task 1	10		√				MidSem Test	30		√	√			Task 2	5				√		Group Task 2	10			√	√		Final Test	30				√	√	Total	100					
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Reading list	Next Generation Telecommunication Networks, services and management, Thomas Plevyak, Veli Sahin, April 2010, Wiley.																																																														

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