MODULE HANDBOOK
Master Program in Computer Science
Department of Computer Science and Electronics
Faculty of Mathematics and Natural Sciences
Universitas Gadjah Mada

Wireless and Mobile Communication System

<table>
<tr><td>Module name</td><td>Wireless and Mobile Communication System</td></tr>
<tr><td>Module level</td><td>Postgraduate</td></tr>
<tr><td>Code</td><td>MII6875</td></tr>
<tr><td>Courses (if applicable)</td><td></td></tr>
<tr><td>Semester</td><td>Fall (Gasal)</td></tr>
<tr><td>Contact person</td><td>Dr. techn. Ahmad Ashari , M.Ilkom</td></tr>
<tr><td>Lecturer</td><td>Dr. techn. Ahmad Ashari , M.Ilkom
Dr. Mardhani Riasetiawan, MT</td></tr>
<tr><td>Language</td><td>Bahasa Indonesia</td></tr>
<tr><td>Relation to curriculum</td><td>1. Postgraduate degree program, elective</td></tr>
<tr><td>Type of teaching, contact hours</td><td>1. Postgraduate degree program, : lectures, < 60 students,</td></tr>
<tr><td>Workload</td><td>1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week.
2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week.
3. Private study: 3 x 60 = 180 minutes (3 hours) per week.</td></tr>
<tr><td>Credit points</td><td>3 credit points (sks).</td></tr>
<tr><td>Requirements according to the examination regulations</td><td>A student must have attended at least 75% of the lectures to sit in the exams.</td></tr>
<tr><td>Recommended prerequisites</td><td>Computer Network</td></tr>
<tr><td>Learning outcomes and their corresponding PLOs</td><td>After completing this module, a student is expected to:
<table>
<tr><th>Course Learning Outcomes</th><th>Deskripsi</th><th>Program Learning Outcome (PLO) yang didukung</th></tr>
<tr><td>CO-1</td><td>Mahasiswa mampu menjelaskan konsep dan standar jaringan wireless, wireless LAN/MAN, dan jaringan mobile (seluler).</td><td>PLO2</td></tr>
<tr><td>CO-2</td><td>Mahasiswa mampu menjelaskan kualitas layanan (QoS) dalam jaringan wireless dan mobile.</td><td>PLO2, PLO3, PLO4</td></tr>
<tr><td>CO-3</td><td>Mahasiswa mampu menjelaskan konsep dan arsitektur jaringan sensor serta penggunaannya.</td><td>PLO2, PLO3, PLO4</td></tr>
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<tr><td>CO-4</td><td>Mahasiswa mampu menjelaskan tentang penamaan, pengalamatan, dan routing pada jaringan sensor.</td><td>PLO2, PLO3, PLO4</td></tr>
<tr><td>CO-5</td><td>Mahasiswa mampu menjelaskan teknik teletrafik dan model analitik pada jaringan mobile.</td><td>PLO5, PLO6, PLO9</td></tr>
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<tr><td>Content</td><td>Kuliah sistem komunikasi wireless dan mobile ini membahas tentang konsep dan standar jaringan wireless dan mobile, fungsi antenna dan forward error correction, aplikasi jaringan wireless pada jaringan sensor. Teori teletrafik dan model analitik pada jaringan mobile. Konsep dan arsitektur jaringan sensor, topologi, dan aplikasi jaringan sensor. Penamaan, pengalamatan, dan routing pada jaringan sensor. Parameter dan standar kualitas layanan (QoS) dan QoS dalam jaringan wireless dan mobile</td></tr>
<tr><td>Study and examination requirements and forms of examination</td><td>Mid-terms examination and Final examination.
Task assessment
Project Presentation and reviw</td></tr>
<tr><td>Media employed</td><td>LCD, blackboard, websites, and big data tools.</td></tr>
<tr><td>Assessments and Evaluation</td><td>
<table>
<tr><th>CO</th><th>Metode Evaluasi</th><th>Total</th></tr>
<tr><td rowspan="2">CO1</td><td>Kuis 1</td><td rowspan="2">7,5%</td></tr>
<tr><td>Soal 1 di UTS</td></tr>
<tr><td rowspan="3">CO2</td><td>Kuis 2</td><td rowspan="3">17,5%</td></tr>
<tr><td>Soal 2 di UTS</td></tr>
<tr><td>Soal 3 di UTS</td></tr>
<tr><td rowspan="3">CO3</td><td>Soal 4 di UTS</td><td rowspan="3">27,5%</td></tr>
<tr><td>Tugas 1: Teori dan aplikasinya</td></tr>
<tr><td>Kuis 3</td></tr>
<tr><td rowspan="3">CO4</td><td>Kuis 4</td><td rowspan="3">12,5%</td></tr>
<tr><td>Soal 1 di UAS</td></tr>
<tr><td>Soal 2 di UAS</td></tr>
<tr><td rowspan="3">CO5</td><td>Soal 3 di UAS</td><td rowspan="3">35%</td></tr>
<tr><td>Soal 4 di UAS</td></tr>
<tr><td>Tugas 2: Problem Solving dengan Case Study</td></tr>
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<tr><td>Reading List</td><td>WA: Distributed and Cloud Computing, From Parallel Processing to the Internet of Things, Lai Hwang, Geogffrey C Fox, Jack J Dongara, 2011.
Cloud in Enterprise. Mardhani Riasetiawan, Inside Technology Publishing 2016</td></tr>
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