



Module Description

Module name	Wireless Sensor Networks
Module level, if applicable	Bachelor of Informatics
Code, if applicable	332D4224
Subtitle, if applicable	-
Course, if applicable	-
Semester(s) in which the module is taught	6 th
Person responsible for the module	Prof. Dr. Ir. Andani, MT.
Lecturer	Prof. Dr. Ir. Andani, MT. Dr. Ir. Zahir Zainuddin, MT
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 6 th semester.
Type of teaching, contact hours	Teaching methods: [project-based learning]. Teaching forms: [lecture], [tutorial]. CH : 08.00 - 16.00
Workload	For this course, students are required to meet a minimum of 181.33 hours in one semester, which consist of: - 53.33 hours for lecture, - 64 hours for structured assignments, - 64 hours for private study
Credit points	4 credit points (equivalent with 6.8 ECTS)
Requirements according to the	Students have participated in at least 80% of the learning activities (Academic Regulations, Chapter VII)



examination regulations	
Recommended prerequisites	-
Module objectives/intended learning outcomes	<p>After completing the course, Students are able:</p> <p>Intended Learning Outcomes (ILO):</p> <p>ILO 1 :</p> <p>Have the knowledge of advance topic in an Informatics specific fields of either Artificial Intelligence, Data Science, Computer Network, Cloud Computing or Internet of Things.</p> <p>ILO 3 :</p> <p>Communicate their ideas in a convincing and effective manner, either in written or orally, to propose solutions.</p> <p>Course Learning Objective (CLO):</p> <p>After taking the Wireless Sensor Network course for 1 (one) semester, students are able to use theoretical concepts of technological knowledge in wireless sensor networks independently, of good quality and measurable, and able to analyze and design quality Wireless Sensor Networks. In Wireless Sensor Networks students are able to formulate problem-solving as outlined in the form of analytical documentation.</p> <p>Sub CLO :</p> <p>ILO 2 \Rightarrow CLO 1 : Students are able to understand the basic concepts of wireless networks and master the concept of Wifi and its technology, BWA technology, infrastructure, regulations, network architecture, protocols, services, communication processes on ISDN & IN, the structure of cellular networks, concept, structure, and network protocol in wireless sensor network (WSN) technology</p> <p>ILO 7 \Rightarrow CLO 2 : Students are able to apply the theory of Wireless Sensor Networks</p>



Content	<p>Students will learn about :</p> <ol style="list-style-type: none"> 1. Broadband Wireless Access 2. Wifi 3. Wimax 4. AdHoc 5. Wireless Sensor Network 6. BWA 7. Manet 8. Femtocell
Forms of Assessment	<p>Assessment techniques: [observation], [written test].</p> <p>Assessment forms: [midterm exam], [final term exam], [assignment], [report], [presentation].</p> <p>Assignment = 55%, mid term exam = 15%, report = 15%, Final term exam (Presentation) = 15%,</p> <p>CLO 1 => ILO 2: 70% (Assignment and Mid term exam: written test)</p> <p>CLO 2==>ILO 7: 30% (Report and Presentation, Final term exam : Observation)</p>
Study and examination requirements and forms of examination	<p>Study and examination requirements:</p> <ul style="list-style-type: none"> - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. - Students must attend the exam to get final grade. <p>Form of examination:</p> <p>Written exam: Essay</p>
Media employed	Zoom/Gmeet, LMS Unhas (sikola.unhas.ac.id), e-book, and PowerPoint Presentation.
Reading list	<p>Main :</p> <p>Callaway.H.Edgar, "Wireless Sensor Networks : Architectures and Protocols", CRCPress, 2004</p> <p>Support :</p> <p>Zheng Jun, Jamalipour Abbas, "Wireless Sensor Networks : A Networking Perspective", John Wiley&Sons Inc Publication, 2009.</p>