

## Modul Description

<b>Module name</b>	Course Module
<b>Module level, if applicable</b>	Bachelor of Electronics Engineering
<b>Code, if applicable</b>	5215-039-3
<b>Subtitle, if applicable</b>	-
<b>Course, if applicable</b>	Antenna and Wave Propagation
<b>Semester(s) in which the module istaught</b>	VI
<b>Person responsible for the module</b>	Lecturer of Courses
<b>Lecturer</b>	Dr. Efri Sandi, MT
<b>Language</b>	Indonesian Language [Bahasa Indonesia]
<b>Relation to Curriculum</b>	This course is a mandatory course for Communication Electronics Specialization and offered in the 6 <sup>th</sup> semester.
<b>Type of teaching, contact hours</b>	<p>Teaching methods used in this course are:</p> <ul style="list-style-type: none"> <li>- Lecture (i.e., group investigation, small group discussion, case study, and video-based learning)</li> <li>- Structured assignments (i.e., essays and case study)</li> <li>- Practice (i.e., computer simulation and case study in laboratorium)</li> </ul> <p>The class size for lecture is 30 students. Contact hours for lecture is 40 hours, assignments are 48 hours</p>
<b>Workload</b>	<p>For this course, students are required to meet a minimum of 136 hours in one semester, which consist of:</p> <ul style="list-style-type: none"> <li>- 40 hours for lecture,</li> <li>- 48 hours for structured assignments,</li> <li>- 48 hours for private study,</li> </ul>
<b>Credit points</b>	3 credit points (equivalent with 4.5 ECTS)
<b>Requirements according to the examination regulations</b>	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.
<b>Recommended prerequisites</b>	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.

<p><b>PLO-ILO-CLO</b></p>	<p>After completing the course and given with this case:</p> <p><b>Course Learning Objectives (CLO1):</b> Mahasiswa mampu understanding the various characteristics (10) (K2)</p> <p><b>Course Learning Objectives (CLO2):</b> Mahasiswa mampu memahami pemanfaatan antena (10) (K2)</p> <p><b>Course Learning Objectives (CLO3):</b> Mahasiswa mampu menerapkan technique and procedures for designing and measuring antennas (40) (K2, S1, S2, C1)</p> <p><b>Course Learning Objectives (CLO4):</b> Mahasiswa mampu menganalisis technique and procedures for designing and measuring antennas (40) (K2, S1, S2, C1)</p> <p><b>Program Learning Outcomes (PLO3):</b> Menerapkan kompetensi teknik elektronika untuk memecahkan masalah keteknikan</p> <p><b>Knowledge (K2):</b> Untuk menerapkan prinsip-prinsip teknik elektronik untuk memecahkan masalah dalam sistem teknik elektronik</p> <p><b>Engineering and Education Skill (S1):</b> Mampu merancang prinsip dan aplikasi sistem rekayasa elektronik</p> <p><b>Engineering and Education Skill (S2):</b> Mampu menganalisis prinsip kerja dan penerapan sistem rekayasa elektronik</p> <p><b>Competence (C1):</b> Menerapkan teknologi baru di bidang rekayasa dengan mempertimbangkan standar teknis, aspek kinerja, keandalan, penerapan, dan keberlanjutan</p>
<p><b>Content</b></p>	<p><b>Students will learn about:</b> Understanding the various characteristics and uses of antennas. This course discusses the characteristics and analysis of various types of antennas that are widely used for communication systems, technique and procedures for designing and measuring antennas</p>
<p><b>Forms of Assessment</b></p>	<p>Assessment is carried out based on written examinations, assessment/evaluation of the learning process and performance with the following components: Presence and Activity: 10%; Structured tasks: 10%; Practical tasks: 10%; Mid Test : 30%; Final Test: 40%</p>

<b>Study and examination requirements and forms of examination</b>	<b>Study and examination requirements:</b> <ul style="list-style-type: none"> <li>- Students must attend 15 minutes before the class starts.</li> <li>- Students must switch off all electronic devices.</li> <li>- Students must inform the lecturer if they will not attend the class due to sickness, etc.</li> <li>- Students must submit all class assignments before the deadline.</li> <li>- Students must attend the exam to get final grade.</li> </ul> <b>Form of examination:</b> Written exam: Essay
<b>Media employed</b>	Direct Whiteboard and Power Point Presentation.
<b>Reading list</b>	<ol style="list-style-type: none"> <li>1. Constantine A. Balanis, Antenna Theory: Analysis and Design, Third Edition. New York: John Wiley and Sons, 2005</li> <li>2. Krauss, Antennas. Singapor: McGraw Hill International Editions, 1998</li> <li>3. D.H.Staelin, AW Morgenthaler, Jing Au Kong, Electromagnetic Waves. New Jersey: Prentice-Hall Inc, 1994</li> <li>4. Mudrik Alaydrus, Antena Prinsip dan Aplikasi. Yogyakarta: Graha Ilmu, 2011</li> <li>5. N.M. Adriansyah, Modul Sistem Antena. Bandung: STT Telkom, 2001</li> <li>6. N.N. Rao, Elements of Engineering Electromagnetic. New Jersey: Prentice-Hall Inc, 2000.</li> <li>7. RE. Collin, Antennas and Radiowave Propagation. Singapore: McGraw Hill International Editions, 1985</li> </ol>