

Course Code	TKEE163241													
Course Name	Antenna Engineering													
Course Instructors	Iswandi;													
Course Type	Elective													
Course Classification	Engineering Topics													
Credit / Contact Hour per Week	2 / 100 minutes per Week													
Course Description	This lecture provides an understanding of basic antenna theory, antenna type, antenna parameters. Calculation both in exact and numerical methods,. Some types of antenna are studied such as points source, wire, loop, array, microstrip, aperture, and broadband antennas.													
Prerequisites Courses	-													
Covered Student Outcome	Development of Engineering Solution (b) Engineering Design (c)													
Learning Outcome	<ol style="list-style-type: none"> 1. Students are expected to understand and explain the general characteristics of antenna 2. Students can calculate the radiation parameters of wire antenna 3. Students can compare the characteristic of loop antenna to others 4. Students can demonstrate the numerical calculation of cylinder antenna by using moment methods 5. Student can evaluate the dimension of microstrip antenna by numerical software 6. Student can explain some measurement method for antenna 													
Topic	<ol style="list-style-type: none"> 1. Antenna Fundamental Theory 2. Antenna Exact Analysis 3. Antenna Array 4. Antenna Types 													
Direct Assessment	<table border="1"> <thead> <tr> <th>Direct Assessment Plan</th> <th>Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Special Assignment</td> <td>LO4,LO5</td> </tr> <tr> <td>Mid Term Exam</td> <td>LO1,LO2, LO3</td> </tr> <tr> <td>Final Term Exam</td> <td>LO3,LO4, LO5</td> </tr> <tr> <td>Homeworks</td> <td>LO1,LO2,LO3</td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>		Direct Assessment Plan	Measured Learning Outcome	Special Assignment	LO4,LO5	Mid Term Exam	LO1,LO2, LO3	Final Term Exam	LO3,LO4, LO5	Homeworks	LO1,LO2,LO3		
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Indirect Assessment	Questionnaire (EDOM)													
References	<p>[1] Kraus, J.D. and D.A. Fleisch, Electromagnetics with Applications, Mc Graw – Hill, 2000.</p> <p>[2] The ARRL Antena Book, 2000</p> <p>[3] Kraus,J.D. and Ronald J. Marhefka, Antenas for all applications, Graw – Hill International 2002.</p> <p>[4] Saunder, S.R., dan Zavala, A.A., Antena and Propagation for Wireless Communication System 2nd edition, Wiley, 2007.</p> <p>[5] Fang, D. G., Antena Theory and Microstrip Antenas, CRC Press, 2009</p> <p>[6] Goldsmith, A., 2005, Wireless Communications, Cambridge University Press</p> <p>[7] Setiyanto, B., 2010, Dasar-Dasar Telekomunikasi, Penerbit Sakti, Yogyakarta</p>													