

Course Code	TKIT165212									
Course Name	Systems Based Internet of Things									
Course Instructors	I Wayan Mustika									
Course Type	Elective									
Course Classification	Engineering Topics									
Credit / Contact Hour per Week	3 / 150 minutes per Week									
Course Description	This course discusses the principles of the Internet of Things and its applications. The material is divided into 3 major themes: (1) basic concept of IoT, (2) protocol and application of IoT, (3) and (4) project IoT. To provide hands-on experience, IoT applications can be assigned using the MQTT and OpenHAB protocols.									
Prerequisites Courses	-									
Covered Student Outcome	Development of Engineering Solution (b) Knowledge of Contemporary Issues (f) Engineering Awareness and Society (j)									
Learning Outcome										
		Study Program Student Outcome								
No	Learning Outcome	SO (a) – SO (k)								
1.	Student able to understand fundamental principle of Internet of Things.	Knowledge & Contemporary Issues								
2.	Student are able to explain protocol and application of IoT	Knowledge & Contemporary Issues								
3.	Student are able to explain project IoT	Engineering Awareness and Society								
4.	Student are able to implement IoT application using MQTT and OpenHAB	Development of Engineering Solution								
Topic	<ol style="list-style-type: none"> 1. Introduction 2. Intsrnet Of Things And Data Analytics 3. The Industrial Internet Of Things (IoT): Applications And Taxonomy 4. Iot Innovation Pulse 5. Internet Of Things Open & Source Systems 6. Mqtt Tutorial 7. Mems: An Enabling Technology For The Internet Of Things (IoT) 									
Direct Assesment	<table border="1"> <thead> <tr> <th>Direct Assesment Plan</th> <th>Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Mid Exam</td> <td>LO1, LO2</td> </tr> <tr> <td>Final Exam</td> <td>LO3, LO4</td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>		Direct Assesment Plan	Measured Learning Outcome	Mid Exam	LO1, LO2	Final Exam	LO3, LO4		
Direct Assesment Plan	Measured Learning Outcome									
Mid Exam	LO1, LO2									
Final Exam	LO3, LO4									
Indirect Assesment	Questionnaire and direct communication									
References	1. Internet of Things and Data Analytics Handbook, Hwaiyu Geng, 2016									