Course Code	TKIT165112
Course Name	Mobile Communications System
Course Instructors	Wahyu Dewanto
Course Type	Elective
Course Classification	Engineering Topics
Credit / Contact Hour per Week	3 / 150 minutes per Week
Course Description	The course of the Mobile Communication System is an elective course in the final semester. Therefore the teaching method used is more focused on the discussion. Discussion materials taken from reference books, journals, internet, etc. coupled with demonstrations / field trips. The task of writing the discussion materials in paper and power point is an absolute thing. In this course will be discussed everything related to mobile communications system, especially cellular communication system. Because the development of technology in this field is growing very rapidly, the discussion is not limited to the basic system, but also the latest systems and technologies that are commonly found in everyday use.
Prerequisites Courses	Communication System & Telecommunications Technics
Covered Student Outcome	**Fundamental Engineering Knowledge (a)** **Modern Tools Utilization (e)** **Knowledge of Contemporary Issues (f)**

Learning Mapping

Code	Learning Outcome	Student Outcome (SO (a) – SO (k))
LO1	Students are able to understand the working principle of satellite and cellular	Fundamental Engineering Knowledge
LO2	Students are able to understand the important parts of satellites and cellular systems	Knowledge of Contemporary Issues
LO3	Students are able to plan a cellular system in a place	Modern Tools Utilization

Topic

1. Introduction of Mobile Communications Systems
2. Satellite Introduction
3. Satellite Hardware
4. Types of Satellites
5. Types of Satellites
6. Types of Satellites
7. Basic Design of Mobile Communication System (Rappaport Chapter I and II)
8. Standard and Mobile Communication System (Rappaport Chapter X)
9. Propagation of Radio Waves Outside and Indoors (Rappaport Chapter III)
10. Modulation Techniques In Mobile Communications Systems (Rappaport Chapter V)
11. Techniques to Improve the Signal Quality of Admission in Mobile Communications Systems (Rappaport Chapter VI)
12. Smart Cell Concept and Its Application and Intelligent Antenna Technology in Mobile Communications Systems.
13. WIMAX, LTE, OFDM Technology in Mobile Communications Systems
14. Smart Network For Mobile Communications

Direct Asessment

Direct Asessment Plan	**Measured Learning Outcome**
Mid Exam	LO1,LO3
Final Exam	LO2

Indirect Assesment	Questionnaire and direct communication
References	1. Maini, A.K., dan Agrawal V., 2011, Satellite Technology: Principles and Applications, 2nd edition, A John Wiley and Sons, Ltd.Publ, United Kingdom 2. Rappaport,T.S., 1996, Wireless Communications: Principles and Practice, IEEEPRESS, New York. 3. Lee, W.C.Y., 2006, Wireless & Cellular telecommunications, 3rd edition,Mc Graw Hill Intl, Singapore