

EE6129

WIRELESS AND MOBILE RADIO SYSTEMS

Acad Unit: 3
Pre-requisite: Nil
Effective: Academic Year 2013-2014
Last update: June 2012

LEARNING OBJECTIVE

This course is intended to provide students with a good understanding of the fundamental principles underlying the theory of wireless communication systems, multipath fading effects and their mitigation techniques, with emphasis on cellular mobile and satellite communication systems and signal processing.

CONTENT

Wireless channel models. Fading and ISI mitigation techniques. Cellular concept and Multiple access techniques. Satellite communications.

LEARNING OUTCOME

Students who have completed this course will be equipped with the fundamental knowledge of wireless communications, multiple access and multipath fading concepts, basic understanding of several important wireless communication systems link budget, multiple access schemes and fading mitigation techniques, and the ability to perform basic design and performance analysis of wireless communication systems using the techniques described above.

STUDENT ASSESSMENT

Continuous Assessment	20%
Final Examination	80%

TEXTBOOKS

1. Andrea Goldsmith, Wireless Communications, Cambridge University Press, 2005.
2. Timothy Pratt, Charles Bostian, Jeremy Allnutt, Satellite Communications, John Wiley, 2nd edition, 2003.

REFERENCES

1. Simon Haykin, Michael Moher, Modern Wireless Communications, Pearson Prentice-Hall, 2005.
2. Theodore S. Rappaport, Wireless Communications - Principles and Practice, Pearson Prentice-Hall, 2nd edition, 2002.