



HÖGSKOLAN I GÄVLE

Radio Systems 7.5cr

Radiosystem 7,5hp

Set by Board of Technology and Built Environment

Version	Set at	Valid from
	12/10/08	HT2008

Level	A1F
Education level	Second cycle
Course identifier	EE430D
Credits	7.5cr
Main field of study	Electronics
Subject group	Electronics
Disciplinary domain	Technology 100.0%

Learning outcomes The students should upon passing the course be able to understand and apply the most important techniques for analyzing the performance of radio, radar and wireless multi-user communication systems.
The course consist of two parts: A lecture course and Matlab assignments

Course content

- Introduction to Radio Communications
- Radio wave propagation and modelling
- Link budget calculations
- Radio channels, fading, multipath and channel modelling
- Diversity Systems
- Multi user communications
- Principles of cellular systems
- Mobility management: Handover.
- Transmitter power control:
- Frequency Hopping
- DS-CDMA
- Simulation techniques for performance evaluation of Wireless Systems. RUNE
- Introduction to RADAR Systems

Teaching	The education is performed in lectures, exercises, and Matlab assignments. The assignments are normally performed in groups of three students. Emphasis is put on the students ability of accomplishing and reporting the work. The education is not mandatory for the student, except for the laboratory work and assignment tasks.			
Prerequisites	Corresponding to Cellular Networks, Statistical Signal Processing and Modulation and Coding			
Examination	Written examination and Assignment reports.			
Grade	A, B, C, D, E, Fx, F			
Sustainable environment	Content with sustainable development is not relevant to this course.			
Module	0010	Written Examination	5cr	Grade: AF
	0020	Assignment Reports	2.5cr	Grade: AF