

5.0 credits	30.0 h + 30.0 h	1q
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Teacher(s) :	Vandendorpe Luc ; Oestges Claude (coordinator) ;
Language :	Anglais
Place of the course	Louvain-la-Neuve
Main themes :	Identical to the contents of the course
Aims :	<p>The goals of this course are</p> <ul style="list-style-type: none"> - to understand and simulate the performance of wireless cellular communication system (bit error rate, impact of propagation channel and interferences), - to model the wireless transmission channel, including multi-antenna propagation, - to design a receiver for the considered application and estimate its performance. <p><i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i></p>
Content :	<ul style="list-style-type: none"> - Introduction to wireless communication system - Mobile transmission channels (macrocells, microcells, picocells) - Multi-antenna propagation - Multiple access (FDMA, TDMA, CDMA) - CDMA : motivation, coding, Rake-receiver, multi-user detection - GSM system - UMTS radio interface and receiver design; channel and interference related degradations - OFDM systems - MIMO systems
Other infos :	<p>The course is based on lectures and exercices. The course also contains a project relative to the implementation of a cellular communication system on Matlab</p> <p>The course is given in English</p> <p>Prerequisites ELEC1360 Telecommunications</p> <p>Assessment Evaluation will be based on the project and on an exam (written or oral)</p>
Cycle and year of study :	<p>> Master [120] in Electrical Engineering</p> <p>> Master [120] in Computer Science and Engineering</p>
Faculty or entity in charge:	ELEC