


Due to the COVID-19 crisis, the information below is subject to change, in particular that concerning the teaching mode (presential, distance or in a comodal or hybrid format).

5 credits	30.0 h + 30.0 h	Q2
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Teacher(s)	Louveaux Jérôme (coordinator) ;Vandendorpe Luc ;
Language :	English
Place of the course	Louvain-la-Neuve
Aims	<p>With respect to the AA referring system defined for the Master in Electrical Engineering, the course contributes to the development, mastery and assessment of the following skills :</p> <p>1</p> <ul style="list-style-type: none"> • AA1.1, AA1.2, AA1.3 • AA2.1, AA2.2, AA2.4 • AA3.1 • AA4.2, AA4.4 • AA5.3, AA5.5 <p>-----</p> <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>
Evaluation methods	<p>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</p> <p>The project is evaluated through a written report as well as a presentation by the students, followed by oral discussion on the results of the project.</p> <p>The students are also evaluated individually with a written examination, based on the objectives described earlier. The examination is open-book and mostly based on exercices applying the different studied concepts.</p>
Teaching methods	<p>Due to the COVID-19 crisis, the information in this section is particularly likely to change.</p> <p>The cours is organized as follows</p> <ul style="list-style-type: none"> • 13 lectures • 6-7 exercice sessions • A project based on Matlab simulations, carried out in groups of 2 students. The project is supervised and takes the equivalent of 6-7 exercice sessions. The project starts around April and lasts until the last week of the semester.
Content	<ul style="list-style-type: none"> • Introduction to digital communication systems • Random signals, modulations and detection • Coherent and noncoherent demodulation • Basics of Information theory • Convolutional codes • Adaptive modulation and coding • Equalization (Linear and decision-feedback) • Synchronization (time, frequency and phase)
Inline resources	<p>Moodle</p> <p>http://moodleucl.uclouvain.be/course/view.php?id=4823</p>
Bibliography	<p><u>Supports</u></p> <ul style="list-style-type: none"> • Syllabus de cours • Transparents • Enoncés des séances d'exercices <p>L'ensemble de ces supports de cours sont disponibles sur Moodle</p>
Faculty or entity in charge	ELEC

Force majeure

Teaching methods	<p>If the sanitary situation makes it possible the lectures and exercises sessions will be held in presence.</p> <p>If the sanitary situation requests it the lectures and exercises sessions will be held remotely. Students may also be invited to watch podcasts.</p>
Evaluation methods	<p>The evaluation will address subjects covered in the courses, the podcasts and the exercise classes. The project will also be evaluated.</p> <p>The examination will be written, individual, and composed of open questions. It will be an open book examination.</p> <p>The students will also be evaluated by group and orally about the project. Depending on the sanitary conditions, this evaluation will be held in presence or remotely. It will consist in a student presentation followed by questions.</p>

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Electrical Engineering	ELEC2M	5		
Master [120] in Mathematical Engineering	MAP2M	5		