

# Optimization-based Control Design

**Titulaire**

Emanuele GARONE (Coordonnateur)

**Mnémonique du cours**

ELEC-H509

**Crédits ECTS**

4 crédits

**Langue(s) d'enseignement**

Anglais

**Période du cours**

Premier quadrimestre

- Consciousness of the ethical, social, environmental and economic context of his/her work and strives for sustainable solutions to engineering problems including safety and quality assurance aspects
- An attitude of life-long learning as needed for the future development of his/her career
- Has a profound knowledge of either (i) nano- and opto-electronics and embedded systems, (ii) information and communication technology systems or (iii) measuring, modelling and control.
- Has a broad overview of the role of electronics, informatics and telecommunications in industry, business and society.
- Is able to analyse, specify, design, implement, test and evaluate individual electronic devices, components and algorithms, for signal-processing, communication and complex systems.
- Is able to model, simulate, measure and control electronic components and physical phenomena.
- Is aware of and critical about the impact of electronics, information and communication technology on society.

## Contenu du cours

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## Objectifs (et/ou acquis d'apprentissages spécifiques)

*Voir la version en anglais de cette page.*

## Méthodes d'enseignement et activités d'apprentissages

*Voir la version en anglais de cette page.*

## Contribution au profil d'enseignement

This teaching unit contributes to the following competences:

- In-depth knowledge and understanding of exact sciences with the specificity of their application to engineering
- In-depth knowledge and understanding of integrated structural design methods in the framework of a global design strategy
- In-depth knowledge and understanding of the advanced methods and theories to schematize and model complex problems or processes
- Reformulate complex engineering problems in order to solve them (simplifying assumptions, reducing complexity)
- Present and defend results in a scientifically sound way, using contemporary communication tools, for a national as well as for an international professional or lay audience
- Develop, plan, execute and manage engineering projects at the level of a starting professional
- A creative, problem-solving, result-driven and evidence-based attitude, aiming at innovation and applicability in industry and society
- A critical attitude towards one's own results and those of others

## Références, bibliographie et lectures recommandées

*Voir la version en anglais de cette page.*

## Autres renseignements

### Contact(s)

Service d'Automatique et d'Analyse des Systèmes Bât. L, porte E, 1er étage Mail : [egarone@ulb.ac.be](mailto:egarone@ulb.ac.be)

## Méthode(s) d'évaluation

Autre

### Méthode(s) d'évaluation (complément)

*Voir la version en anglais de cette page.*

## Construction de la note (en ce compris, la pondération des notes partielles)

*Voir la version en anglais de cette page.*

## Langue(s) d'évaluation principale(s)

Anglais

## Programmes

IREM | **Master : ingénieur civil électromécanicien** | finalité Spécialisée/bloc 2

### Programmes proposant ce cours à l'école polytechnique de Bruxelles

MA-IREL | **Master : ingénieur civil électricien** | finalité Spécialisée électronique et technologies de l'information/bloc 2 **et** MA-

