



Eco-Design and Innovation



INGÉNIEUR CONCEPTION

DESIGN ENGINEER

Lecturers: Olivier DESSOMBZ

| Lecturers : 0.0 | TC : 0.0 | PW : 0.0 | Autonomy : 0.0 | Study : 0.0 | Project : 0.0 | Language : FR

Objectives

Keywords :

Programme

Learning outcomes

Independent study

Objectifs :

Méthodes :

Core texts

Assessment



PROCÉDÉS DE CONCEPTION AVANCÉE

ADVANCED DESIGN PROCESSES

Lecturers: **Olivier DESSOMBZ**

| Lecturers : 18 | TC : 0.0 | PW : 0.0 | Autonomy : 0.0 | Study : 0.0 | Project : 0.0 | Language : FR

Objectives

Awareness of sustainable development issues and the ecodesign approach. The purpose of setting the context is to re-anchor the engineering student in a societal reality. Use examples to integrate the concepts and put them into practice. Through creativity exercises, learn to develop the ability to project towards future scenarios.

Keywords : Eco-design, circular economy, environmental and social impacts, sustainable development

Programme

From the planet to the products:

- Approach to sustainable development, social responsibility of organizations.
- Limits of resources.
- Ecosystem services, biomimicry.
- Issue of sustainable development, social responsibility of organizations, dimension environmental, social, societal.
- The challenges of eco-design in your design strategy.
- Sustainable development, environmental impacts, eco-design, life cycle ...
- Define the basic functional unit of any Life Cycle Analysis (LCA).

Learning outcomes

- To be able to integrate environmental and social criteria into the design process.
- Understanding of social, environmental, planetary and local issues.
- Create new paradigms, innovate, question what already exists.

Independent study

Objectifs : This activity is not concerned with framed autonomy activities outside personal work.

Méthodes : This activity is not concerned with framed autonomy activities outside personal work.

Core texts

Assessment

mini-project



OUTILS MODERNES DE CONCEPTION

MODERN DESIGN TOOLS

Lecturers: **Olivier DESSOMBZ**

| Lecturers : 16 | TC : 0.0 | PW : 0.0 | Autonomy : 0.0 | Study : 4.0 | Project : 0.0 | Language : FR

Objectives

Provide an overview of the optimization methods and the taking into account of uncertainties.
Know the sensory design processes in innovation

Keywords : Optimization, Meta-Heuristics, Meta-models, Uncertainties, Iso-geometry, Sensory Design, Innovation

Programme

Learning outcomes

- Theoretical knowledge: taking into account uncertainties and optimization
- Knowing how to set up a sensory design process

Independent study

Objectifs : This activity is not concerned with framed autonomy activities outside personal work.

Méthodes : This activity is not concerned with framed autonomy activities outside personal work.

Core texts

Assessment

mini-projects



CONCEPTION ET CHOIX TECHNOLOGIQUES

DESIGN AND TECHNOLOGICAL CHOICES

Lecturers: **Olivier DESSOMBZ**

| Lecturers : 48 | TC : 0.0 | PW : 0.0 | Autonomy : 0.0 | Study : 0.0 | Project : 0.0 | Language : FR

Objectives

Provide knowledge in multiphysics design, manufacturing methods and eco-design in Civil Engineering
The branch courses (Civil Engineering or Electro-mechanical) given by specialists in the field allow to deepen knowledge in these fields.

Keywords : Multiphysics, manufacturing processes, eco-design

Programme

A course deals with the implementation and expertise of numerical and experimental methods applied to the implementation and optimization of control strategies for the stabilization and isolation of dynamic systems.

A second course deals with manufacturing methods for mechanical parts.

A third course deals with eco-design in Civil Engineering and recycling

The branch courses (Civil Engineering or Electro-mechanical) given by specialists in the field allow to deepen knowledge in these fields.

Learning outcomes

Independent study

Objectifs : This activity is not concerned with framed autonomy activities outside personal work.

Méthodes : This activity is not concerned with framed autonomy activities outside personal work.

Core texts

Assessment

Mini-projects



PROJET ICO

FIRST DESIGN OF INNOVATIVE PRODUCTS

Lecturers: **Olivier DESSOMBZ**

| Lecturers : 12 | TC : 0.0 | PW : 0.0 | Autonomy : 10 | Study : 0.0 | Project : 0.0 | Language : FR

Objectives

Imagine innovative products using a "Design thinking" process and check their feasibility in a pre-conception phase . To lay the foundations of a "business model" with an entrepreneurial vision.

Keywords : Innovation, design, entrepreneurship

Programme

- Creativity session for the definition of innovative products
- Competition analysis
- Functional analysis
- Pre-design
- Construction of a business model

Learning outcomes

Independent study

Objectifs : This activity is not concerned with framed autonomy activities outside personal work.

Méthodes : This activity is not concerned with framed autonomy activities outside personal work.

Core texts

Assessment

Report + Defense



CONFÉRENCES

CONFERENCES

Lecturers: **Olivier DESSOMBZ**

| Lecturers : 10 | TC : 0.0 | PW : 0.0 | Autonomy : 0.0 | Study : 0.0 | Project : 0.0 | Language : FR

Objectives

Openness to industrial subjects

Keywords :

Programme

According to the availability of industrial stakeholders

Learning outcomes

Independent study

Objectifs :

Méthodes :

Core texts

Assessment

Attendance