

Industrial Sciences and Technology (Applied engineering)

Study area of Design and Production Technology

Reference	Name of the course	Semester	No ETCS
	MECHANICAL DESIGN – BASIC	1 (autumn)	5

The Department of Design and Production Technology offers a hands-on course on the basics of mechanical design

Subjects :

- Basics of 3D modeling using the CREO 3.0 software
- Assemblies
- Design of 2D drawings based on 3D models
- Product dimensioning
- Parts lists
- Production and project documentation

Course structure:

- Theoretical introduction and start-up workshop
- Mixed guided/self-study practical exercises at the Vives Labs

Time schedule:

48 hours

Contact:

geert.furniere@vives.be

Industrial Sciences and Technology (Applied engineering)

Study area of Design and Production Technology

Reference	Name of the course	Semester	No ETCS
	MECHANICAL DESIGN - ADVANCED	2 (spring)	5

The Department of Design and Production Technology offers a hands-on course teaching advanced aspects of mechanical design

Subjects :

- Advanced 3D modeling using the CREO 3.0 software
- Design of 2D drawings based on advanced 3D models
- Advanced assemblies
- Sheet metal
- Creo – Mathcad interface
- Analysis of models
- Configuration and analysis of mechanisms
- Advanced production and project documentation

Course structure:

- Theoretical introduction and start-up workshop
- Mixed guided/self-study practical exercises at the Vives Labs

Time schedule:

48 hours

Contact:

geert.furniere@vives.be

Industrial Sciences and Technology (Applied engineering)

Study area of Design and Production Technology

Reference	Name of the course	Semester	No ETCS
	CAM AND CNC	1 (autumn)	3

The Department of Design and Production Technology offers a hands-on course on Computer aided manufacturing and Numerical Control Technology

Subjects :

- Introduction to computer aided manufacturing
- Traditional numerical machining : Turning, milling
- Grinding
- High-speed milling
- Rapid tooling
- Reverse engineering
- Mastercam software

Course structure :

- theoretical introduction and start-up workshops
- mixed guided/self-study practical exercises at the Vives Labs

Time schedule:

24 hours

Contact:

geert.furniere@vives.be

Industrial Sciences and Technology (Applied engineering)

Study area of Design and Production Technology

Reference	Name of the course	Semester	No ETCS
	PNEUMATICS	2 (spring)	3

The Department of Design and Production Technology offers a hands-on course on applied pneumatic technology

Subjects :

- Compressors and production of compressed air
- Conditioning and distribution of compressed air
- Regulating and switching components
- Pneumatic actuators
- Electro-Pneumatic diagrams
- Simulation of pneumatic systems using Fluidsim software
- Practical exercises on pneumatic trainer systems
- Safety and risk assessment in electro-pneumatic systems

Course structure :

- theoretical introduction and start-up workshops
- mixed guided/self-study practical exercises at the Vives Labs

Time schedule:

30 hours

Contact:

geert.furniere@vives.be

Industrial Sciences and Technology (Applied engineering)

Study area of Design and Production Technology

Reference	Name of the course	Semester	No ETCS
	HYDRAULICS	1 (autumn)	6

The Department of Design and Production Technology offers a hands-on course on applied hydraulic technology

Subjects :

- Hydraulic pumps and design of hydraulic power units
- Regulating and switching components
- Electro - Hydraulic diagrams
- Hydraulic accumulators
- Simulation of hydraulic systems using Fluidsim software
- Practical exercises on hydraulic trainer systems
- Safety and risk assessment in hydraulic systems

Course structure :

- theoretical introduction and start-up workshops
- mixed guided/self-study practical exercises at the Vives Labs

Time schedule:

48 hours

Contact:

geert.furniere@vives.be

Industrial Sciences and Technology (Applied engineering)

Study area of Design and Production Technology

Reference	Name of the course	Semester	No ETCS
	PROJECTS IN DESIGN AND PRODUCTION TECHNOLOGY	S2 (spring)	30

The Department of Design and Production Technology offers opportunities for different types of projects :

Some examples :

- Update and development of didactic equipment for a hydraulic technology lab
- Update and development of didactic equipment for a pneumatic technology lab
- Assistance in the conception and start-up of an open lab environment ('Maaklab')
- Practical study of aspects of 3D printing of ceramic products
- Practical study of aspects of 3D metal printing and its application in an academic setting
- Waterjet cutting technology and development of applications in an academic setting
-

Project structure :

- autonomous practical project at the Vives lab facility's or with an external partner
- theoretical study followed by a practical realization

Time schedule:

1 semester

Contact:

geert.furniere@vives.be