

<b>Subject name : Computer Architecture II</b>	<b>Code : EC-EII07-ARC</b>
<b>Number of hours per student : 27 H</b>	<b>ECTS Number : 2</b>
<b>Reference Teacher: Jean-Gabriel COUSIN</b>	

## Generalities

### **Objectives** (2000 characters)

- Understand the hardware techniques that affect the performance of modern computers and their low-level software programming (primarily assembler).

Main skills covered:

- Decompose a computer architecture into its interconnected functions;
- Analyse, complete, synthesise, simulate, or debug computer designs using the relevant industrial EDA tools;
- Take the features of the target architecture into account when programming low-level software;
- Make effective use of available resources (documentation, the Internet, etc.) to solve design problems relating to digital systems.

### **Description** (2000 characters)

- An overview of modern computer architectures;
- Principles of hardware/software time parallelism and their impact on performance;
- Analysis and completion of a pipeline RTL architecture of a RISC computer (in VHDL);
- Elementary structures and behaviours of cache memories;
- A quick overview to spatial parallelism in superscalar and VLIW architectures.

EDA tools used:

- Intel Corporation Quartus-Prime logic synthesizer
- Siemens ModelSim-Intel simulator

### **Requirements** (2000 characters)

- Notions of  $\mu$ Controller Systems (EC-EII06-SMC)
- Advanced notions of Programming in C (EC-EII05-PROGC)
- some notions of VHDL language (EC-EII07-VHDL)

## Course requirements and assessments

### **Teaching Language** (2000 characters)

French

**Teaching methods (500 characters)**

- Active pedagogy
- Learning by reading documents
- Project-based learning with near autonomy
- Upstream preparation of tutorials

**Number of hours per course type: (2000 characters)**

CM-lectures: 10.5 H  
TD-tutorials: 8 H  
PR-project: 8.5 H

**Evaluation (200 characters)**

Mainly:

- attendance and participation
- project

**Bibliography****Bibliography (2000 characters)**

- Websites
- Tanenbaum S., "Structured Computer Organization", Prentice Hall
- Hennessy J., Patterson D., "Computer Architecture: A Quantitative Approach", McGraw-Hill
- Stallings W., "Computer Organization and Architecture", Prentice hall
- Noeergaard T., "Embedded Systems Architecture", Elsevier Newnes

**Contacts****Contacts (2000 characters)**

Jean-Gabriel COUSIN

**Other information**

***Other information***

Target audience: 4EII

<b>Subject name : Data transmission systems</b>	<b>Code : EC-EII07-BDC</b>
<b>Number of hours per student : 20 H</b>	<b>ECTS Number : 2</b>
<b>Reference Teacher : Jean-François NEZAN</b>	

### Generalities

**Objectives (2000 characters)**

The goal is to learn about the main data transmission systems for real-time and/or embedded systems. The first part of the lecture is about the main constraints and requirements of data transmissions (security, error detection and correction). Point-to-point communications and network protocols are illustrated on existing use cases (SPI, SCI, CAN)

Targeted competences are:

- > To know the main classes of data communication systems
- > To program microcontrollers using data transmission capabilities

**Description (2000 characters)**

1. Overview of communication systems : introduction, main problems (examples, transmission line theory)
2. Point to point communications : parallel / serial links, synchronous / asynchronous links, SPI et SCI busses
3. Networks and multipoint communications : network topology, OSI model, CAN protocol

**Requirements (2000 characters)**

- Microprocessor-Based Systems (EC-EII06-SMC)

### Course requirements and assessments

**Teaching Language (2000 characters)**

French

**Teaching methods (500 characters)**

Lectures, use of SPI and CAN communications protocols in lab sessions

**Number of hours per course type: (2000 characters)**

CM :10 H

TD :

TP : 10 H

PR :

CONF :

Autres :

**Evaluation (200 characters)**

2 hours written examination with documents.

**Bibliography****Bibliography (2000 characters)**

1. RM0390 Reference manual Rev 4 - STM32F446xx advanced Arm®-based 32-bit MCUs - STMicroelectronics - 2018
2. CAN Specification 2.0. BOSCH, 1997 (<http://esd.cs.ucr.edu/webres/can20.pdf>)

**Contacts****Contacts (2000 characters)**

Jean-François NEZAN

**Other information**

***Other information***

Target audience : 4EII

<b>Subject name : Electronics III</b>	<b>Code : EC-EII07-ELE</b>
<b>Number of hours per student : 68 H</b>	<b>ECTS Number : 5.50</b>
<b>Reference Teacher(s) : Pierre LE GARGASSON and Olivier WEPPE</b>	

### **Generalities**

**Objectives (2000 characters)**

Identification of the various functions of a complex electronic system, defining specifications, suggesting compliant applications and distinguishing between theoretical design constraints and current technological limitations.

**Description (2000 characters)**

1. Electronic system design: Common embedding system architecture, Typical components, Analog sensors, Methodology, Supply chain, Kicad CAD.
2. Interfaces and signal shaping: Inter-component communication, sensor interfaces and stability, control signals generation, filtering and transfer functions, EMC, converters.
3. Power supplies and energy: Transformer and switching AC power supplies, electrical isolation, linear regulators, converters topologies, energy efficiency.
4. Wireless systems: Modulations (amplitude et frequency), encoding, typical transmitter and receiver chain.

**Requirements (2000 characters)**

Electronics 1 (EC-EII05-ELE) and 2 (EC-EII06-ELE), Signals and Systems(EC-ESM05-SIG).

### **Course requirements and assessments**

**Teaching Language (2000 characters)**

French

**Teaching methods (500 characters)**

Revision of lecture notes. Preparation of exercises. Oral presentations

**Number of hours per course type: (2000 characters)**

CM : 20 H  
TD : 12 H  
TP : 36 H  
PR :  
CONF :  
Other :

**Evaluation (200 characters)**

Continuous assessment by multiple-choice questions.  
Two-hour exam at the end of the semester. One authorized document: one page of personal notes, double-sided.  
Dedicated calculator authorized.  
Oral retake and substitution.

## Bibliography

**Bibliography (2000 characters)**

1. CHATELAIN J.D., DESSOULAVY R., ""Electronique"", Tome 2, Dunod.
2. GIRARD M., ""Alimentations à découpage"", Ediscience, 1993.
3. MALVINO Albert, BATES David J., ""Electronic Principles"", 2020.
4. BOGATIN, Eric, ""Bogatin's Practical Guide to Prototype Breadboard and PCB Design"", 2021.

## Contacts

**Contacts (2000 characters)**

Pierre LE GARGASSON and Olivier WEPPE

## Other information

**Other information**

Target audience : 4EII

<b>Subject name : INNOV-R-Bibliographic studies</b>	<b>Code : EC-EII07-INVR-EB</b>
<b>Number of hours per student : 68 H</b>	<b>ECTS Number : 5.50</b>
<b>Reference Teacher(s) : Lu ZHANG</b>	

### Generalities

**Objectives** (2000 characters)

Discovery of the research world and initiation to technology transfers and research valorisation.

**Description** (2000 characters)

The topics varying every year will be given by a teacher-reseracher or a PhD student (supervisor). Every proposed topic needs a reflection, a bibliographical study and a theoretical study of a complex problem.

**Requirements** (2000 characters)

### Course requirements and assessments

**Teaching Language** (2000 characters)

French

**Teaching methods** (500 characters)

Students work within specified time slots and have free access to facilities of the laboratory proposing the topics. Students need to have regular meetings with their supervisors to be followed up.

**Number of hours per course type:** (2000 characters)

CM :  
TD :  
TP :  
PR :  
CONF :  
Autres :

**Evaluation** (200 characters)

a written report (6/20), an oral presentation (6/20) and evaluation on the conducted work (8/20)..

## Bibliography

**Bibliography** (2000 characters)

## Contacts

**Contacts** (2000 characters)

Lu ZHANG

## Other information

**Other information**

<b>Subject name : INNOV-R-Bibliographic studies</b>	<b>Code : EC-EII07-INVR-FISP</b>
<b>Number of hours per student : 68 H</b>	<b>ECTS Number : 6</b>
<b>Reference Teacher(s) : Lu ZHANG</b>	

### Generalities

**Objectives** (2000 characters)

Discovery of the research world and initiation to technology transfers and research valorisation.

**Description** (2000 characters)

The topics varying every year will be given by a teacher-reseracher or a PhD student (supervisor). Every proposed topic needs a reflection, a bibliographical study and a theoretical study of a complex problem.

**Requirements** (2000 characters)

### Course requirements and assessments

**Teaching Language** (2000 characters)

French

**Teaching methods** (500 characters)

Students work within specified time slots and have free access to facilities of the laboratory proposing the topics. Students need to have regular meetings with their supervisors to be followed up.

**Number of hours per course type:** (2000 characters)

CM :  
TD :  
TP :  
PR :  
CONF :  
Autres :

**Evaluation** (200 characters)

a written report (6/20), an oral presentation (6/20) and evaluation on the conducted work (8/20).

## Bibliography

**Bibliography** (2000 characters)

## Contacts

**Contacts** (2000 characters)

Lu ZHANG

## Other information

**Other information**

<b>Subject name : Digital systems design methodology</b>	<b>Code : EC-EII07-MCPJ</b>
<b>Number of hours per student : 32 H</b>	<b>ECTS Number : 2.50</b>
<b>Reference Teacher(s) : Olivier DEFORGES</b>	

### **Generalities**

**Objectives (2000 characters)**

Presentation and learning of a design methodology for electronic systems: MCSE. Design approach consists of five essential stages (specification, functional design, definition, realisation and test). Each stage uses a specific description model for both structural (present entities, functions of the system, type of relation, etc.) and behavioural aspects. Otherwise, the module emphasises the necessity for a perfectly structured approach for the development of every digital system. Methodology used later for lectures on real-time systems, programmable logic and VHDL. Introduction to project management through lectures and conferences (given by representatives of various firms).

**Description (2000 characters)**

MCSE lectures:

1. Purpose of a methodology and general presentation of MCSE.
2. Specification: definition of the environment, descriptions of the entities, inputs/outputs bounding, functional specifications, operating and technological specifications.
3. Functional design: functional analysis, behaviour (description).
4. Realisation: layout constraints, hardware/software implementation.
5. Examples studied -control-command systems or digital circuits. Project management lectures:

1. Project life cycle.
2. The contract.
3. Cost Estimations.
4. Project design stages.
5. Scheduling.
6. Oral communication. The meeting.

**Requirements (2000 characters)**

Logic (EC-ESM05-LOG)

### **Course requirements and assessments**

**Teaching Language (2000 characters)**

French

**Teaching methods (500 characters)**

Active pedagogy, preparing exercises during TD and validating the results in practicals

**Number of hours per course type: (2000 characters)**

CM : 6 H

TD : 20 H

TP :

PR :

CONF : 6 H

Autres :

**Evaluation (200 characters)**

Written examination 3 hours, with documents.

## Bibliography

**Bibliography (2000 characters)**

CALVEZ J. P., "Spécification et conception des systèmes : une méthodologie", Masson.

## Contacts

**Contacts (2000 characters)**

Olivier DEFORGES

## Other information

### ***Other information***

Target audience : 4EII

<b>Subject name : Methodology and Project Management</b>	<b>Code : EC-EII07-OM</b>
<b>Number of hours per student : 40 H</b>	<b>ECTS Number : 3</b>
<b>Reference Teacher(s) : Othmane JERHAOUI</b>	

### Generalities

**Objectives (2000 characters)**

Linear programming and nonlinear optimisation with or without constraints; Finding an optimum through algorithmic methods.

**Description (2000 characters)**

1. Linear programming: Definition, standard form, simplex algorithm, duality, geometric interpretation.
2. Optimisation without constraints: Global/local minimums and maximums, and convex functions. Digital methods: Newton method, gradient descent methods, conjugate gradient algorithm - Quasi-Newton methods.
3. Optimisation with constraints: Necessary conditions of optimality: Lagrange or Kuhn-Tucker conditions. Case of convex programs. Presentation of some selected algorithms. Penalty methods.

**Requirements (2000 characters)**

Mathematics INSA 1st cycle or Science DEUG level.

### Course requirements and assessments

**Teaching Language (2000 characters)**

French

**Teaching methods (500 characters)**

Revision of lecture notes. Preparation of exercises (2 hours per week). Programming. Writing of a project.

**Number of hours per course type:** (2000 characters)

CM : 12 H  
TD : 12 H  
TP : 16 H  
PR :  
CONF :  
Autres :

**Evaluation** (200 characters)

Two-hour written examination (with documents). Presentation of project at the end of the semester.

## Bibliography

**Bibliography** (2000 characters)

1. SAKAROVITCH M., "Optimisation combinatoire", Volume 1.
2. MINOUX M., "Programmation mathématique", tome 1, Dunod.
3. LUENBERGER D.G., "Introduction to linear and non linear programming", Addison-Wesley.

## Contacts

**Contacts** (2000 characters)

Othmane JERHAOUI

## Other information

**Other information**

Target audience : 4EII

<b>Subject name: OBJECT-ORIENTED PROGRAMMING IN C++</b>	<b>Code : EC-EII07-PCOO</b>
<b>Number of hours per student: 38 H</b>	<b>ECTS Number: 4</b>
<b>Reference Teacher: Karol DESNOS</b>	

## Generalities

### **Objectives (2000 characters)**

This module is divided into three parts, covering: object-oriented programming in C++, the use of design patterns, and human-machine interface (HMI) design.

Object-oriented programming is a powerful tool for developing complex computer applications. It guarantees stable, reliable, and robust development of large-scale software projects by ensuring ease of evolution and maintenance. In this module, we build on our knowledge of the C++ language to understand the object-oriented programming paradigm. C++ is a very rich language that emphasizes efficiency and performance. It is widely used in business. A good command of object-oriented programming using C++ allows students to acquire comprehensive and general skills in object-oriented programming that can be easily transferred to other object-oriented languages (Java, C#, etc.).

The objective of the design pattern section is to learn how to choose and use a design pattern to solve a software problem.

The objective of the graphical interface design section is to learn how to design a graphical interface by applying MVC architecture and its derivatives.

### **Description (2000 characters)**

C++ objectives:

- Object and class concepts in C++: Object construction, Encapsulation
- Basic elements of C++: References, pointers, operators, inner classes and input/output management and streams...
- Memory management: Dynamic allocation, destructors and assignment...
- Object design in C++: Aggregation, inheritance, polymorphism, access control, abstract classes, multiple inheritance, interfaces, inner classes...
- Generic programming: Parameterised classes/templates...
- Standard Template Library (STL)...
- Run-Time Type Identification (RTTI), Functor objects, Lambdas and Smart pointers.
- Exception Handling...
- Interoperability and DLLs
- C++/C++11 evolution: memory management, rvalue/lvalue, etc.

Concepts covered in lectures and design pattern practicals:

- Singleton, Factory Method, Abstract Factory, Prototype, Builder, Adapter, Facade, Proxy, Composite, Twin, Decorator, Flyweight, Observer, Mediator, Chain of Responsibility, Command, Iterator, State, Memento, Strategy, Template Method, Interpreter, Visitor

Concepts covered in lectures and practical work on human-machine interfaces:

- Design patterns: Model-View-Controller and derivatives (MVP and MVVM)
- Use of the C++ Qt API for creating graphical user interfaces.

**Requirements** (2000 characters)

Basic knowledge of the C language (EC-EII05-PROGC, EC-EII06-PMND).

**Course requirements and assessments**

**Teaching Language** (2000 characters)

French

**Teaching methods** (500 characters)

The module consists of lectures and practical sessions.

**Number of hours per course type:** (2000 characters)

Lecture: 18h  
Practical: 20h

**Evaluation** (200 characters)

Written exam (2 hours, coef. 1)  
Practical work assessment (2 hours, coef. 1)

## Bibliography

### ***Bibliography*** (2000 characters)

B. Stroustrup. *A Tour of C++ (Second edition)*, Addison-Wesley. ISBN 978-0-13-499783-4. July 2018.  
Design Patterns: Elements of Reusable Object-Oriented Software (1994)  
Head First Design Patterns (2004)

## Contacts

### ***Contacts*** (2000 characters)

Karol DESNOS

## Other information

### ***Other information***

Cliquez ou appuyez ici pour entrer du texte.

<b>Subject name : Digital signal processing and automation</b>	<b>Code : EC-EII07-TSAN</b>
<b>Number of hours per student : 37 H</b>	<b>ECTS Number : 3</b>
<b>Reference Teacher(s) : Kidiyo KPALMA</b>	

### Generalities

**Objectives (2000 characters)**

Basics of digital signal processing. Provide students with digital processing methods in order to complete and extend their knowledge of signal theory and (analog) signal processing and control of analog dynamic systems.

Targeted competences are :

- > Acquire the techniques of signal discretization
- > Understand digital signal processing,
- > Apprehend the limits of those processings

**Description (2000 characters)**

1. Sampling and quantisation: discrete signals, different samplings, sampling theorem, signal reconstruction; quantisation: definition and principle, quantisation noise, quantisation efficiency, uniform quantisation, quantised signal encoding.
2. Discrete Fourier Transform (DFT): direct and inverse Fourier transform of a digital signal, digital signal frequency spectrums, digital signal Fourier transform properties, convolution, digital signal correlation: frequency sampling, sampling quality, periodic signal DFT, DFT properties, practical DFT for time-limited signals (windowing); Z-transform: direct and inverse transform, properties.
3. Digital filtering: representation methods, IIR/FIR classification, realisation structures, digital filters stability, IIR and FIR synthesis methods.
4. Unitary transforms: review of signals and vector spaces, signal transforms, transformation matrices generation by Kronecker product; Karhunen-Loève Transform (KLT), Hadamard transform (Walsh), Fast Fourier Transform (FFT), Discrete Cosine Transform (DCT); unitary transforms applications.
5. Digital system control using Z transform: first and second order models - stability - temporal and frequency specifications - study of dominant poles effects - proportional, integral and derivative action synthesis of digital regulators - space state representation.

**Requirements (2000 characters)**

Signals and Systems (EC-ESM05-SIG)  
 Signal processing (EC-EII06-TS)  
 Automation (EC-ESM06-AUTO)

**Teaching Language (2000 characters)**

French

**Teaching methods (500 characters)**

Lesson review. Preparation of exercises and practical work. Active learning: participation in problem solving on the board or work in sub-groups..

**Number of hours per course type: (2000 characters)**

CM : 11 H

TD : 16 H

TP : 10 H

PR :

CONF :

Autres :

**Evaluation (200 characters)**

Three-hours written examination in two tests.

**Bibliography****Bibliography (2000 characters)**

1. TISSERAND E., PAUTEX J.-F. SCHWEITZER P., "Analyse et traitement des signaux : Méthodes et applications au son et à l'image", Dunod, Collection Sciences Sup, 2009
2. KPALMA K. et COAT V., "Traitement numérique du signal : Théorie et applications", collection Technosup, éditions Ellipses, 2003.
3. Tan L. and Jiang J., "Digital Signal Processing: Fundamentals and Applications", Elsevier Science, 3rd Edition, 2018.
4. RIVOIRE M., FERRIER J.-L., 1993, "Cours d'automatique -tome 3 : commande par ordinateur, identification", Eyrolles.

**Contacts****Contacts (2000 characters)**

Kpalma KIDIYO

## Other information

### ***Other information***

Target audience : 4EII

<b>Subject name : VHDL</b>	<b>Code : EC-EII07-VHDL</b>
<b>Number of hours per student : 26 H</b>	<b>ECTS Number : 2</b>
<b>Reference Teacher(s) : Olivier DEFORGES</b>	

## Generalities

### **Objectives** (2000 characters)

Familiarisation with VHDL, a standard high level Hardware Description Language (HDL). VHDL is widely used to model complex digital systems and to synthesise them on ASICs or programmable devices.

This first part of the course mainly focuses on the system behavior description.

The behavior description can have two main objectives.

1. Before synthesis to validate the functional description given by the specifications.
2. After synthesis to provide a powerful test space.

The "VHDL synthesis" aspects are briefly introduced but are deeper seen in EC-EII08-LP module.

### **Description** (2000 characters)

1. Description: behaviour, data flow, structure.
2. Temporal modelling.
3. Lexical and syntactic basics of the language.
4. Structural description.
5. High level behavioural description.
6. Synchronous/asynchronous logic description.
7. General planning of a design.

The first 5 hours of practical work are dedicated to the modelling and simulation of digital systems composed of simple components (multiplexers, comparators, sequencers, pipeline registers, etc.).

The following 9 hours are dedicated to the modelling of a full microprocessor system (processor, ROM/RAM memories, address decoder, DMA).

The last 4 hours are dedicated to a project.

### **Requirements** (2000 characters)

Logic (EC-ESM05-LOG), Architecture of Calculators (EC-EII05-ARC).

## Course requirements and assessments

**Teaching Language (2000 characters)**

French

**Teaching methods (500 characters)**

Revision of lecture notes. Preparation of practical work and project.

**Number of hours per course type: (2000 characters)**

CM : 8 H

TD :

TP : 14 H

PR : 4 H

CONF :

Autres :

**Evaluation (200 characters)**

Project evaluation

**Bibliography****Bibliography (2000 characters)**

1. AUMIAUX M., "Initiation au langage VHDL", Masson.
2. DUTRIEUX L., DEMIGNY D., "Logique programmable", Eyrolles.
3. PERRY D. L., "VHDL", McGraw-Hill Series on Computer Engineering.
4. Principal site web : <http://www.vhdl.org/>

**Contacts****Contacts (2000 characters)**

Olivier DEFORGES

## Other information

### ***Other information***

Target audience : 4EII

<b>Nom de la matière : Allemand</b>	<b>Code EC: EC-HUMF07-ALL</b>
<b>Volume horaire total par étudiant: 21heures</b>	<b>Nombre crédits ECTS :</b>
	1,5 ECTS
<b>Responsable(s) : Cecile Hölzner-Jacques</b>	

## Généralités

### **Objectives, aims** (2000 characters)

Targeted skills:

Mastering a foreign language

Ability to communicate/progress/work in an international and intercultural context

Cultural openness

Communicating/interacting with others, working in a team

Working autonomously

German Level A1: Acquiring the basics of the German language. Be able to understand and hold a simple conversation about everyday life.

German Level A2-B1: Be able to communicate in German, acquire intercultural skills, demonstrate cultural openness. Work in a group on a project, speak up.

German Level B2/C1: Work in a group on a project, speak up, communicate in German, acquire intercultural skills, acquire basic scientific and technical vocabulary. Ask questions, become a responsible engineer, think about the world of tomorrow in an international context.

### **Description** (2000 characters)

*Practising written and oral comprehension. Developing oral expression through exercises in small groups and whole-class discussions. Acquire everyday German vocabulary for daily life and professional life.*

*German Level A2-B1: Grammar revision, consolidate knowledge. Practise reading and listening comprehension using multimedia resources. Develop oral expression skills through small group exercises, presentations or whole class discussions. Prepare students to progress independently in languages. Preparing mobility.*

*German B2-C1: Practise reading and listening comprehension using multimedia resources. Acquire technical and scientific German vocabulary. Develop oral expression skills through small group exercises, presentations or whole class discussions. Use and improve German language skills in the context of a project. Preparing mobility.*

### **Pré-requis** (2000 caractères)

German Level A1: none

German Level A2-B1: mastery of the basics of German (A2), second foreign language at secondary school (B1)

German B2-C1: good language skills, first foreign language or bilingual class at secondary school, ABIBAC

## Modalités du cours et des évaluations

**Langue d'enseignement** (2000 caractères)

Cliquez ou appuyez ici pour entrer du texte.

**Modalités d'enseignement** (500 caractères)

1.5–2 hours of classes per week.

Autonomous study time: 14-16 hours Total: 35 hours. Students are encouraged to read German newspapers regularly and watch videos, series and films, in addition to the work assigned between sessions.

**Volume horaire par type de cours :** (2000 caractères)

CM :

TD : 19 hours for the first cycle, 21 hours for the second cycle.

TP :

PR :

CONF :

Autres :

Autonomous study time: 14-16 hours

7 hours of optional project work in the second cycle

**Modalités d'évaluation / coefficient** (200 caractères)

Continuous assessment, oral examination

## Bibliographie

**Bibliographie** (2000 caractères)

MOODLE course page

Deutsch für Ingenieure, Maria Steinmetz/Heiner Dintera, VDI/Springer Vieweg, 2014

Deutsch Perfekt, periodical

online: Deutsche Welle, ARD, Der Spiegel, FAZ, die Zeit, das Handelsblatt, VDI (Verein Deutscher Ingenieure), Nachrichten, ZDF Logo

French-German dictionary le visuel, Editions de la Martinière

Übungsgrammatik für die Mittelstufe Hueber-Verlag

Na also! Waltraud Legros, Ellipses

multimedia resources

## Contacts

**Contacts** (2000 caractères)

Cecile Hölzner-Jacques : cecile.holzner-jacques@insa-rennes.fr

**Autres**

**Autres informations**

Cliquez ou appuyez ici pour entrer du texte.

<b>ENGLISH</b>	<b>Code EC: EC-HUM07-ANGL</b>
<b>Total number of hours per student : 28h</b>	<b>ECTS : 2</b>
<b>Supervisor : Philippe LE VOT</b>	

### General information

**Objectives and Purposes**

**General Objectives:**

Acquisition of the linguistic tools necessary for work in a company. Achieving the required level (B2) for the awarding of the diploma.

**Linguistic Objectives:**

Achieve or strengthen the B2 level (required for the validation of the engineering degree and defined by the CEFR).

Cliquez ou appuyez ici pour entrer du texte.

**Description**

- **Action-oriented approach to language learning:** Learn by doing: speaking and listening, writing a document while leveraging problem-solving, construction, demonstration, and persuasion skills.
- **Expressing oneself with precision** through rigorous use of syntax and phonology. Activities that call on the creativity and responsiveness of students, such as debates, role-playing, individual oral presentations using PowerPoint or Canva, and projects, will focus on current, scientific, and societal topics.
- Writing letters and CVs.
- Syntax structures specific to scientific English.
- Exploring the professional world in an international context.
- Preparation for the TOEIC (2nd semester: specific course "TOEIC Booster").

**Prerequisites:**

English courses from the 1st, 2nd, and 3rd years or equivalent.

### Course and Evaluation Modalities

**Language of Instruction**

English

**Teaching Methods**

The classes are two hours long and are held in rooms that are mostly equipped with projectors and sound systems. We have a multimedia language lab as well as computer rooms to provide students with a setting conducive to stimulating learning.

The educational resources used include press articles, audio and video materials (TV reports, excerpts from films or series), and the Internet is used as a documentary source.

Regular personal work is required. Students are expected to be curious and to continue practicing beyond the classroom

### **Hours by Course Type**

- **Lectures (CM):**
- **Tutorials (TD):** 28 hours (14 sessions of 2 hours each)
- **Practical Work (TP):**
- **Research Projects (PR):**
- **Conferences (CONF):**
- **Others:**

### **Evaluation Methods / Coefficient**

1 in-class presentation (see departments) + 1 continuous assessment grade (average of different graded assignments)

## **Bibliography**

### **Bibliography**

Any English-language materials, whether technical or otherwise.

## **Contacts**

### **Contacts**

plevot@insa-rennes.fr

<b>Subject name: CHINESE LV2-LV3</b>	<b>Code EC: EC-HUMF07-CHI</b>
<b>Number of hours per student: 21 hours</b>	<b>ECTS Number: 1,5</b>
<b>Reference Teacher: Cécile Hölzner-Jacques</b>	

### **Generalities**

**Objectives (2000 characters)**

Targeted skills:

- Mastering a foreign language
- Ability to communicate/develop/work in an international and intercultural context
- Cultural openness
- Communicating/interacting with others, working in a team
- Working independently
- Acquiring the basics of the Chinese language, essential structures and vocabulary
- Comprehension, expression, pronunciation
- Using the language in everyday contexts.

**Description (2000 characters)**

Oral skills:

Corrective phonetics (pinyin system),  
 Listening to and analysing simple texts and complex sentences,  
 Oral exercises (learners with each other / learners with teacher)  
 Learning new characters (pronunciation and tone accentuation).

Written skills:

Theme/version  
 Written production of simple texts and complex sentences,  
 Learning and reinforcement of grammatical mechanisms and vocabulary for oral and written production,  
 Learning new characters (stroke order, keys),  
 Reading and analysis of texts, commentary on texts.

**Requirements (2000 characters)**

Chinese 1: None  
 Chinese 2: Completion of Chinese 1  
 Chinese 3: Completion of Chinese 2

### **Course requirements and assessments**

**Teaching Language (2000 characters)**

**Teaching methods (500 characters)**

Reading lesson texts (in characters), rewriting new characters, exercises applying grammar points, lexical and morphological points, theme and version exercises...

**Number of hours per course type: (2000 characters)**

CM:

TD: 1h30

TP:

PR:

CONF:

Autres:

**Evaluation (200 characters)**

S1: Final mark

S2: Oral examination

**Bibliography****Bibliography (2000 characters)**

1. Chinese as spoken in China, Bernard Allanic, Presses Universitaires de Rennes, 2009
  2. Contemporary Chinese, WU Zhongwei, Sinolingua, 2010
  3. Experiencing Chinese, ZHANG Rumei, AI Xin, Higher Education Press, 2006
- Chinese Language Method (Second Level), Zhitang Yang-Drocourt - Liu Hong – Fan Jianmin  
Short Stories for Learning Mandarin Chinese, Zhang Xiaoli, 2025  
Standard Course HSK Workbook, Jiang Liping
- Other tools will complement these basic textbooks to provide students with a wide range of practical exercises.

**Contacts****Contacts (2000 characters)****Other information****Other information**

Learning Chinese isn't just about tones and characters. It's about connection — to a culture, to people, and to the stories that make language come alive.

<b>Subject name:</b> Entrepreneurship and innovation	<b>Code EC:</b> EC-HUM07-EI
<b>Number of hours per student:</b> 48h	<b>ECTS Number:</b> 3
<b>Reference Teacher:</b> Fanny GURRET (STIC), Philippe MENKE (MSN)	

## Generalities

**Objectives (2000 characters)** Cliquez ou appuyez ici pour entrer du texte.

The module aims to stimulate the creativity, initiative, and open-mindedness of future engineers through the development of an innovative entrepreneurial project.

This cross-disciplinary module brings together students from various specialties.

Main learning outcomes:

- Demonstrate creativity and initiative,
- Learn to persuade by mastering analytical techniques, logic, and the specific vocabulary of the business world,
- Show critical thinking skills to identify both the key success factors and the potential risks of an innovative project,
- Understand the key players in networks that support business creation and promote technological, economic, or social innovation.

**Description (2000 characters)**

The main topics covered are:

- Creativity techniques;
- The process of an innovative project: defining the need and the innovative offer (state of the art and product positioning), market study and business plan, strategy and operational plan, business model, and economic valuation of projects;
- Legal aspects: issues related to intellectual property (patents, trademarks, designs), company law, and contract law;
- Tax aspects: taxation of innovative companies;
- Financial forecasting: projected income statement and financing plan.

**Requirements (2000 characters)**

CREATIV (S6)

## Course requirements and assessments

### **Teaching Language** (2000 characters)

french

### **Teaching methods** (500 characters)

Cliquez ou appuyez ici pour entrer du texte.

A large part of the module is based on the learning-by-doing approach: students gradually develop a product and/or service development plan (intrapreneurship) or a business creation project (entrepreneurship). Prior to this, they take part in creativity sessions focused on trends or societal challenges previously identified by the teaching team.

Throughout the course, students gather the information and guidance needed to build a business plan through lectures and practical sessions. They are also supported by tutors who encourage them to question the relevance and validity of their work. Student teams are encouraged to take part in innovation and entrepreneurship competitions or challenges.

Groups also benefit from tutorial sessions.

### **Number of hours per course type:** (2000 characters)

CM: 10

TD: 26

TP:

PR:

CONF:

Autres 12:

### **Evaluation** (200 characters)

Cliquez ou appuyez ici pour entrer du texte.

Continuous assessment (collective work)

Progress is evaluated through progress reports in the form of oral presentations.

## Bibliography

### **Bibliography** (2000 characters)

Provided during the course

## Contacts

### **Contacts** (2000 characters)

Fanny GOURRET, Philippe MENKE

## Other information

### **Other information**

<b>Subject name: PHYSICAL EDUCATION (EPS) SEMESTER 7</b>	<b>Code EC: EC-HUM07-EPS</b>
<b>Number of hours per student: 24H</b>	<b>ECTS Number: 1</b>
<b>Reference Teacher: Gérard VAILLANT Yvan HINAULT Maïté LOSCHETTER</b>	

## Generalities

### *Objectives (2000 characters)*

#### **Aims**

The program aims to contribute, through the practice of Physical, Sports, and Artistic Activities, to the education and development of future citizens. It seeks to foster individuals who are capable of managing their present and future health, communicating effectively, participating actively in group dynamics, demonstrating innovation, and showing adaptability in various contexts.

#### **Learning Objectives**

Upon completion, learners should be able to:

1. Manage their own learning and training processes in a structured and reflective manner.
2. Engage in and take responsibility for the organization and management of a group, a structure, or a collective project.
3. Take charge of their physical, mental, and social health as an ongoing process of well-being and self-regulation.

### *Description (2000 characters)*

This course aims to develop students' motor, personal, social, and methodological competencies through the practice of physical, sports, and artistic activities. It fosters autonomy, adaptability, creativity, and responsibility in both individual and collective contexts.

**Motor and Cultural Competencies:** Master the technical and tactical fundamentals of the chosen activity. Adapt to varying play conditions, environments, and performance spaces. Develop specific physical qualities (endurance, flexibility, strength, speed) and psychological resources (focus, perseverance, stress management, confidence).

**Personal Competencies:** Take responsibility for one's long-term health and safety. Manage emotions and stress with self-control. Demonstrate innovation and creativity in practice. *Semester 7 focus : Understand one's motor preferences and identify the motivations driving one's practice to ensure long-term engagement throughout life;* Recognize one's strengths and weaknesses in order to use them most effectively.

**Interpersonal and Social Competencies:** Work effectively in teams—listen, communicate, motivate, and lead. Adopt an eco-citizen approach by respecting others, oneself, the environment, and equipment. *Semester 7 focus:* Adjust verbal and non-verbal communication to suit the group context. Handle conflicts in a way that leads to constructive and mutually beneficial outcomes.

**Methodological Competencies:** Manage complex projects by setting objectives, planning, and evaluating outcomes. Make informed decisions through observation, reflection, and feedback. *Semester 7 focus:* Commit to a learning project (evaluate one's initial level, identify areas for progression, gather information, and self-assess). Plan practice to achieve realistic goals

**Requirements (2000 characters)**

Cliquez ou appuyez ici pour entrer du texte.

**Course requirements and assessments****Teaching Language (2000 characters)**

French

**Teaching methods (500 characters)**

Through original and varied situations, this course engages all of the student's resources — motor, cognitive, relational, emotional, and informational.

Through action and experience, students are confronted with complex problem-solving and decision-making processes.

This practice encourages students to take autonomous responsibility for their own health, understood as a state of well-being requiring continuous regulation. It also contributes to preventing risky behaviors, reducing sedentary lifestyles, and promoting social integration.

Enjoyment serves as a key source of motivation, ensuring sustained engagement in both practice and learning

**Number of hours per course type: (2000 characters)**

CM:

TD: 20

TP:

PR:

CONF:

Autres:

**Evaluation (200 characters)****Assessment**

Students are evaluated on their participation, progress, and mastery of the competencies developed throughout the cycle.

**Grading:**

- 10 points for motor and cultural competencies.
- 5 + 5 points for two additional competencies selected by the instructor from personal, interpersonal and social, or methodological competencies.

**Bibliography**

***Bibliography (2000 characters)***

Cliquez ou appuyez ici pour entrer du texte.

**Contacts**

***Contacts (2000 characters)***

Cliquez ou appuyez ici pour entrer du texte.

**Other information**

***Other information***

Cliquez ou appuyez ici pour entrer du texte.

Nom de la matière : Spanish	Code EC: EC-HUMF07-ESP
Volume horaire total par étudiant: 21h	Nombre crédits ECTS : 1,5 ECTS
Responsable(s) : Marine Amargos Guilleray	

## Généralités

*Objectifs, finalités (2000 caractères)*

### 1 – Beginner Level:

Establish the grammatical and linguistic foundations of the Spanish language. Introduce students to Spanish and Latin American cultures. Be able to produce simple sentences related to everyday topics.

### 2 – Intermediate Level:

Maintain and strengthen linguistic skills, and deepen cultural knowledge (Hispanic culture, Spanish and Latin American civilization, social issues).

- Know how to manage a team around a project.
- Be able to integrate into a multicultural environment.

Be capable of taking into account the social, environmental, technological, and economic

### 3 – Advanced Level:

Consolidation of linguistic skills and deepening of cultural knowledge (Hispanic culture, Spanish and Latin American civilization, social issues).

- Know how to manage a team around a project.
- Be able to integrate into a multicultural environment.
- Be capable of taking into account the social, environmental, technological, and economic challenges of Spanish-speaking countries.
- challenges of Spanish-speaking countries.

### *Description*

Speaking and writing skills, listening and reading comprehension.

**Pré-requis** (2000 caractères)

**Spanish A1:** None

**Spanish A2:** Must have A1 level

**Intermediate Spanish:** Must have B1 level

**Advanced Spanish:** Must have B2 level

## Modalités du cours et des évaluations

**Langue d'enseignement** (2000 caractères)

Spanish

**Modalités d'enseignement** (500 caractères)

Face-to-face tutorials

**Volume horaire par type de cours :** (2000 caractères)

CM :

TD : 21 hours /semester

TP :

PR :

CONF :

Autres :

**Modalités d'évaluation / coefficient** (200 caractères)

Continuous assessment- Coefficient 1,5

## Bibliographie

### **Bibliographie** (2000 caractères)

"La grammaire active de l'espagnol", le livre de poche. Collection Les langues modernes + "El arte de conjugar en español" -Hatier+ "Passez-moi l'expression en espagnol", Belin + "El español en la prensa", Belin

## Contacts

### **Contacts** (2000 caractères)

Marine Amargos Guilleray : [marine.amargos@insa-rennes.fr](mailto:marine.amargos@insa-rennes.fr)

## Autres

### **Autres informations**

Cliquez ou appuyez ici pour entrer du texte.

<b>Subject name: French foreign language</b>	<b>Code EC: EC-HUMF07-FLE</b>
<b>Number of hours per student: 21 hours (or 2 x 21 hours for the Exchange programme)</b>	<b>ECTS Number: 1,5</b>
	3 credits for the Exchange
<b>Reference Teacher: FOURE Dominique</b>	

## Generalities

### **Objectives (2000 characters)**

The various activities in the FLE and FOS (French for Specific Purposes) programme aim to develop optimal language proficiency and the use of language as a cultural and intercultural vehicle, a tool for work and communication adapted to the context. Students will develop their autonomy through group work and individual work.

Targeted skills/humanities (SHS): ▪ Knowing oneself, managing oneself physically and mentally ▪ Working, learning and developing independently ▪ Interacting with others, working in a team ▪ Demonstrating creativity, innovation and initiative ▪ Acting responsibly in a complex world ▪ Developing in a professional and social environment ▪ Working in an international and intercultural context

### **Description (2000 characters)**

#### Level A1/A2

1- Language, culture and communication: Help learners feel comfortable in all everyday situations. Language learning is organised around observing how the language works, practising a variety of activities in class and carrying out projects in real or simulated contexts to promote autonomy.

2- Scientific and academic French: Facilitate integration into scientific studies, student life and social life.

#### Level B1/B2

1- Language, culture and communication: Help learners express themselves fluently in writing and orally on a wide range of general and specialised topics.

Key themes: Studying and living in France/ Understanding and exercising critical thinking in various fields: current affairs/history/art/science and technology, urban planning, the environment, etc.

Social sciences and humanities: socio-ecological transition, business and innovation.

2- Preparation for DELFB2 or DALFC1, compulsory French language diploma required to obtain an engineering degree.

#### Level B2/C1

1- Interculturality - Study of European and international current affairs and in-depth exploration of issues related to SHS

- Communicate and interact
- Decode intercultural references in speech, attitudes and behaviour
- Put one's values, beliefs and behaviour into perspective
- Integrate cultural diversity into group work

#### 2- Professional French

- Prepare effectively for finding an internship or job
- Understand complex issues within the company
- Master societal, political, economic, environmental, ethical and philosophical aspects, etc.
- Act responsibly in the professional world

**Requirements (2000 characters)**

None

Courses range from beginner to advanced levels.

Each student will be placed in a group corresponding to their level and needs

- based on a test at the beginning of the year for new entrants
- based on the level acquired and assessed the previous year for existing students

**Course requirements and assessments****Teaching Language (2000 characters)**

Learners are trained and assessed on the five skills recognised by the Common European Framework of Reference for Languages (CEFR).

**Teaching methods (500 characters)**

Language, communication and intercultural skills are tailored to the target level and the needs of the group (indicated in the group code).

**Number of hours per course type: (2000 characters)**

CM:

TD:

TP:

PR:

CONF:

Autres:

**Evaluation (200 characters)**

Continuous assessment in line with the skills to be validated: CE, CO, PE, PO

INSA student programme: 21 hours/semester (1.5 credits)

Exchange programme: Students studying for a semester at INSA Rennes have the opportunity to obtain a total of 4 credits

- 1 Language Project (7 hours/semester) = 1 ECTS
- 2 FLE courses (2X21 hours/semester) e.g. Language, Culture and Communication + Interculturality

## **Bibliography**

### ***Bibliography (2000 characters)***

Materials selected by the teacher based on the level and objectives to be achieved

## **Contacts**

### ***Contacts (2000 characters)***

Dominique.foure@insa-rennes.fr

## **Other information**

### ***Other information***

<https://fle.insa-rennes.fr/>

<b>Subject name: ITALIAN LV2-LV3</b>	<b>Code EC: EC-HUMF07-ITA</b>
<b>Number of hours per student: 21h</b>	<b>ECTS Number: 1,5</b>
<b>Reference Teacher: Cécile HÖLZNER-JACQUES</b>	

### **Generalities**

**Objectives (2000 characters)**

Targeted skills:

Mastering a foreign language

Ability to communicate/develop/work in an international and intercultural context

Cultural openness

Communicating/interacting with others, working in a team

Working independently

Level 1 beginner: Introducing Italian language and culture, expressing ideas in writing and orally.

Level 2 advanced beginner: By the end of the course, students should be able to converse and write in Italian.

Level 3 intermediate: Give students the opportunity to explore topics related to art, civilisation, literature and cinema in greater depth.

**Description (2000 characters)**

Oral expression and comprehension: reading the course material with phonetic and grammatical corrections with the teacher, reading the situations found in the text, watching films and reading literary texts and press articles.

Written expression and comprehension: doing the exercises in the text with particular attention to difficulties, summarising the situations without the text available and the films studied.

**Requirements (2000 characters)**

Beginner level: none.

Advanced beginner level A2: must have attended the beginner Italian course.

Intermediate level B1/advanced level B2: must have a good knowledge of the Italian language.

### **Course requirements and assessments**

**Teaching Language (2000 characters)**

Italian language

### **Teaching methods (500 characters)**

The course will cover:

Grammar concepts;

Exercises to understand basic linguistic mechanisms;

Building vocabulary using keywords and translations;

Presentations and discussions on given topics;

Asking questions and knowing how to respond;

Creating dialogues, stories, and discussions based on given keywords;

(All of this will be adapted to the average level of the course.)

1.5 hours of face-to-face lessons per week, 21 hours per semester.

Personal work: 14 hours Read the texts provided in the handouts; 7 hours create a dialogue or short story using the keywords provided and express yourself with them.

### **Number of hours per course type: (2000 characters)**

CM:

TD: 21h

TP:

PR:

CONF:

Autres:

### **Evaluation (200 characters)**

S1: Final mark

S2: Oral examination

## **Bibliography**

### **Bibliography (2000 characters)**

Loesher Archivio di Grammatica, <https://italianoperstranieri.loescher.it/archivio-di-grammatica>

Harraps, Italian Express Method, Vittoria Bowles and Paul Coggle

Texts taken from Italian novels, poems, essays, daily and weekly newspapers, and films by famous directors

## **Contacts**

### **Contacts (2000 characters)**

Paolo Procesi: [Paolo.Procesi@insa-rennes.fr](mailto:Paolo.Procesi@insa-rennes.fr)

## **Other information**

### **Other information**

<b>Subject name: Japanese</b>	<b>Code EC: EC-HUMF07-JAP</b>
<b>Number of hours per student:</b>	<b>ECTS Number: 1.5</b>
<b>Reference Teacher: Cécile Hölzner-Jacques</b>	

## Generalities

### **Objectives** (2000 characters)

Targeted skills:

Mastering a foreign language

Ability to communicate/develop/work in an international and intercultural context

Cultural openness

Communicating/interacting with others, working in a team

Working independently

Beginner level (A1):

- Awareness of specific features (phonetics, syntax)
- Discovering Japanese culture, traditions and customs
- Learning two writing systems (Hiragana and Katakana)
- Mastering spoken Japanese in everyday situations.

Intermediate level (A2):

- Introduction to ideograms (30-60 kanji)
- Reading simple texts (using manga, etc. )
- Writing simple texts
- Mastering spoken Japanese in everyday situations.

Advanced level (B1, B2):

- Learning kanji (60-200)
- Acquiring four skills (reading, listening, writing and speaking) for travelling and studying in Japan.

### **Description** (2000 characters)

Description (2000 characters)

Level 1 beginner (A1):

- Improvement of Hiragana and Katakana
- Mastery of Japanese in everyday situations (Marugoto A1).

Lesson 3: Me\_ Nice to meet you

Lesson 4: Me\_ There are three of us in my family

Lesson 5: Food\_ What kind of food do you like?

Lesson 6: Food\_ Where shall we eat?

Lesson 7: The house\_ It's a three-room flat

Lesson 8: The house\_ What a beautiful room you have!

Lesson 9: Everyday life\_ What time do you get up?

Lesson 10: Everyday life\_ When are you available?

Level 2 Intermediate (A2):

- Continuation of the Marugoto textbook (Lessons 11 to 18)
- Learning new basic grammar points (past tense, potential tense, volitional tense, etc.)
- Improving and discovering new particles (で、に、から/まで, etc.)
- Discovering and learning 30-60 kanji
- Reading and writing simple texts
- Learning to communicate in everyday situations.

Intermediate level (B1, B2):

- Reading manga
- Acquiring four skills (reading and listening comprehension, writing and speaking).

### **Requirements (2000 characters)**

Beginner level A1: none.

Beginner level A2: completion of beginner level A1.

Intermediate/advanced level: completion of beginner levels A1/A2.

## **Course requirements and assessments**

### **Teaching Language (2000 characters)**

### **Teaching methods (500 characters)**

Teaching takes the form of tutorials. Each session consists of an explanation of concepts, which are then illustrated with examples and conversation exercises in which the students participate.

**Number of hours per course type:** (2000 characters)

CM:  
TD:21h  
TP:  
PR:  
CONF:  
Autres:

**Evaluation** (200 characters)

A1  
S1 and S2: Final mark

A2 and B1  
S1: Final mark  
S2: Oral examination

## Bibliography

**Bibliography** (2000 characters)

Level 1 beginner (A1): Margoto A1, Japan Foundation, 2013, Japan.

Level 2 beginner (A2): Margoto A2, Japan Foundation, 2014, Japan.

## Contacts

**Contacts** (2000 characters)

## Other information

**Other information**

<b>Nom de la matière : Language Project</b>	<b>Code EC: EC-HUMF07-LV2P</b>
<b>Volume horaire total par étudiant: 7 hours /semestre</b>	Tous semestres
	<b>Nombre crédits ECTS : 0,5</b>
<b>Responsable(s) : C.Hölnzer, M.Amargos, D.Fouré</b>	

## Généralités

### *Objectifs, finalités (2000 caractères)*

German Project: Mastering a foreign language Ability to communicate/develop/work in an international and intercultural context Cultural openness Communicating/interacting with others, working in a team Working independently Using and improving German language skills within the framework of a project.

Spanish Project: 1- Prepare for the Spanish language certification: the DELE Spanish Project

2- Facilitate oral expression and build students' confidence before studying abroad in a Spanish-speaking country - Acquire fluency and enjoy expressing oneself in Spanish without being constrained by grammar rules.

French as a Foreign Language (FLE) Project: 'International Student Short Film Festival' in conjunction with the Interculturality course. An educational outing (or field study) is proposed to study an issue in social sciences and/or TSE that interests them. The aim is to produce an audiovisual report that may consist of interviews, particularly with experts and professionals, to address the issue on the programme. These meetings will enable them to exchange views and refine their analysis. Finally, students will be asked to present their findings to the public. The reports will be screened at an International Festival on an intercultural theme studied in class.

### *Description (2000 caractères)*

German Project:

- Preparation for the Goethe Institute's 'Zertifikat' exam, level B2 or C1 (external certification)
- Thematic courses: cultural awareness
- Project related to the industrial world: international economics: Germany
- Preparation for mobility
- Preparation: study trip

Spanish Project:

Spanish Project 1

- Written and oral tests
- Written and oral work in preparation for the exam

Spanish Project 2

- Oral expression: debates on current affairs and discussions on the main concerns of students

FLE Project:

- Oral expression, confidence in front of an audience
- Creation of an audiovisual report
- Preparation for oral expression to obtain the DELFB2/DALFC1

### *Pré-requis (2000 caractères)*

**German Project: German Level B2**

**Spanish Project: Baccaureate Level**

**FLE Project: Levels B1 to C1**

**Langue d'enseignement (2000 caractères)**

Cliquez ou appuyez ici pour entrer du texte.

**Modalités d'enseignement (500 caractères)**

German Project: 7 hours/semester in class 10 hours of independent and group work Class hours are intended to review students' independent work and project progress. Most of the work is done outside of class, preferably in groups of 2 or 3 students (exception: 'Zertifikat' project with methodological assistance during class).

Spanish Project: Regular training with DELE workbook

**Volume horaire par type de cours : (2000 caractères)**

German Project: 7 hours of tutorials per semester

Spanish Project: 7 hours of tutorials per semester

FLE Project: 7 hours of tutorials per semester

**Modalités d'évaluation :**

German Project: Semester 1: Final Mark - Semester 2: Final Mark

Spanish Project: Written

FLE Project: Oral/Public presentation as part of an international short film festival

Coefficient: 0.5 (1 for Erasmus exchange students)

**Bibliographie****Bibliographie (2000 caractères)**

German Project: Zertifikat Project: Goethe-Institut exam papers (B2 and C1) in the INSA library

Spanish Project: Books related to the DELE

**Contacts**

**Contacts** (2000 caractères)

Cliquez ou appuyez ici pour entrer du texte.

**Autres**

**Autres informations**

Cliquez ou appuyez ici pour entrer du texte.

<b>Subject name: Intercultural Modul</b>	<b>Code EC: EC-HUMF07-LV2-OI</b>
<b>Number of hours per student: 21h par semestre</b>	<b>ECTS Number: 1.5</b>
<b>Reference Teacher: Cécile Hölzner-Jacques</b>	

## Generalities

### **Objectives** (2000 characters)

The course aims to develop students' fluency in both written and spoken communication while fostering philosophical reflection. It not only enhances reading, listening, and expressive skills but also cultivates critical thinking and confident public speaking. Particular emphasis is placed on rigorous reasoning, clear argumentation, and the ability to connect philosophical inquiry with linguistic precision.

### **Description** (2000 characters)

Each semester is devoted to a specific philosophical concept. For the first semester of 2025, the theme is *violence*. The course is divided into two distinct parts. The first part focuses on language development. Each session begins with a warm-up activity designed to encourage oral participation and group interaction. Students engage in creative writing exercises — such as recounting a memory or imagining a story — to stimulate imagination and improve expressive skills. Regular reading of newspaper articles helps strengthen reading comprehension, pronunciation, and vocabulary. The second part of the course is dedicated to project work, which constitutes the final graded assignment. Through these projects, students synthesize language practice and philosophical reflection, applying both to a concrete and personally meaningful topic.

### **Requirements** (2000 characters)

Students should be able to express themselves in English with a reasonable degree of confidence. Mistakes in grammar or pronunciation are not a problem, but a solid foundation in vocabulary and basic grammar is necessary to follow the course. The class usually includes both bilingual students and others with more limited proficiency, so the activities are designed to allow everyone to participate meaningfully and progress at their own pace.

## Course requirements and assessments

### **Teaching Language** (2000 characters)

The course is conducted primarily in English, although French may occasionally be used for clarification or discussion when necessary.

### **Teaching methods (500 characters)**

This is not a traditional lecture-based course but an interactive class built around students' interests. It is designed as a space for expression and reflection. Written and video materials are regularly used, and students are encouraged to take an active role through role-playing activities and short theatrical performances.

### **Number of hours per course type: (2000 characters)**

CM:

TD: 20 h par semestre

TP:

PR:

CONF:

Autres:

### **Evaluation (200 characters)**

Assessment is based on attendance and participation, but mainly on a creative end-of-term project demonstrating linguistic skills and critical thinking, completed individually or in groups

## **Bibliography**

### **Bibliography (2000 characters)**

#### **Books**

Camus, Albert. *The Stranger*. Translated by Stuart Gilbert. New York: Vintage Books, 1942.

Dostoevsky, Fyodor. *Crime and Punishment*. Translated by Constance Garnett. New York: Modern Library, 1866.

Flock, Elizabeth. *The Furies: Women, Vengeance, and Justice*. New York: Harper, 2024.

Malm, Andreas. *How to Blow Up a Pipeline: Learning to Fight in a World on Fire*. London: Verso Books, 2021.

Manne, Kate. *Down Girl: The Logic of Misogyny*. Oxford: Oxford University Press, 2017.

Motz, Anna. *If Love Could Kill: The Myths and Truths of the Women Who Commit Violence*. New York: Knopf, 2024.

Thoreau, Henry David. *Civil Disobedience*. Boston: David R. Godine, 1849.

Zinn, Howard. *A People's History of the United States*. New York: Harper & Row, 1980.

#### **Articles and Essays**

King, Martin Luther, Jr. "Letter from Birmingham Jail." April 16, 1963.

Schwartz, Alexandra. "When Women Commit Violence." *The New Yorker*, 2024.

Zinn, Howard. "The Problem is Civil Obedience." Speech delivered at Johns Hopkins University, Baltimore, November 1970.

#### **Films and Television**

Bong Joon-ho, dir. *Parasite*. Seoul: Barunson E&A, 2019.

Coen, Joel, and Ethan Coen, dirs. *Fargo*. Los Angeles: PolyGram Filmed Entertainment, 1996.

Coen, Joel, and Ethan Coen, dirs. *No Country for Old Men*. Los Angeles: Miramax Films, 2007.

Demme, Jonathan, dir. *The Silence of the Lambs*. Los Angeles: Orion Pictures, 1991.

Fincher, David, dir. *Gone Girl*. Los Angeles: 20th Century Fox, 2014.

Fincher, David, dir. *The Girl with the Dragon Tattoo*. Culver City: Columbia Pictures, 2011.

Fincher, David, dir. *Zodiac*. Los Angeles: Paramount Pictures, 2007.

Gilligan, Vince, creator. *Breaking Bad*. Los Angeles: AMC, 2008–2013.

Kelly, Richard, dir. *Donnie Darko*. Los Angeles: Newmarket Films, 2001.

Lanthimos, Yorgos, dir. *The Killing of a Sacred Deer*. London: A24, 2017.

Lynch, David, and Mark Frost, creators. *Twin Peaks*. Los Angeles: CBS Television Distribution, 1990–1991, 2017.

Martin, Steve, and John Hoffman, creators. *Only Murders in the Building*. Los Angeles: Hulu, 2021–.

Miller, George, dir. *Furiosa: A Mad Max Saga*. Burbank: Warner Bros., 2024.

Miller, George, dir. *Mad Max: Fury Road*. Burbank: Warner Bros., 2015.

Penhall, Joe, creator. *Mindhunter*. Los Gatos: Netflix, 2017–2019.

Pizzolatto, Nic, creator. *True Detective*. Los Angeles: HBO, 2014.

Tarantino, Quentin, dir. *Kill Bill: Vol. 1* and *Kill Bill: Vol. 2*. Los Angeles: Miramax Films, 2003–2004.

Wan, James, dir. *Saw*. Santa Monica: Lions Gate Films, 2004

## Contacts

**Contacts** (2000 characters)

## Other information

**Other information**

<b>Subject name: Russian</b>	<b>Code EC: EC-HUMF07-RUS</b>
<b>Number of hours per student: 21h</b>	<b>ECTS Number: 1,5</b>
<b>Reference Teacher: Cécile HÖLZNER-JACQUES</b>	

### **Generalities**

**Objectives** (2000 characters)

Russian beginner : acquire A1 level  
 Russian intermediary : acquire A2/B1 level

**Description** (2000 characters)

Acquisition of grammatical basis and commonplace vocabulary.  
 Training of the 5 skills, oral and written comprehension, oral and written expression, interaction.  
 The stress is put on written and oral communication, firstly in the frame of daily situations, then with a progressive introduction of other themes and opening on the professional communication.  
 Training with varied media (written, audio, video)  
 Individual exercises and works in groups, talks from the intermediate level on.  
 Grammar program depending on the level.  
 (Inter) cultural opening

**Requirements** (2000 characters)

### **Course requirements and assessments**

**Teaching Language** (2000 characters)

**Teaching methods** (500 characters)

**Number of hours per course type:** (2000 characters)

CM:

TD: one hour -and-a-half courses per week in SUPELEc

TP:

PR:

CONF:

Autres:

**Evaluation** (200 characters)

Final grade (overseen by SUPELEC).

## Bibliography

**Bibliography** (2000 characters)

To be seen with the teacher

## Contacts

**Contacts** (2000 characters)

## Other information

**Other information**