

<b>Subject name: OBJECT-ORIENTED PROGRAMMING IN C++</b>	<b>Code EC: DET07-POO</b>
<b>Number of hours per student: 30</b>	<b>ECTS Number: 2</b>
<b>Reference Teacher: Eric Anquetil</b>	

## Generalities

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

Object-oriented programming is a powerful tool for developing complex software applications.

It enables the stable, reliable and robust development of large-scale software projects, facilitating their evolution and maintenance.

In this module, we will use the C++ programming language to explore the object-oriented paradigm.

C++ is a rich language that emphasises efficiency and performance, and it is widely used by companies.

Mastering object-oriented programming through C++ provides a set of comprehensive, general skills that can be easily transferred to other object-oriented languages, such as Java and C#.

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

Course outline:

- 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...

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

Basic knowledge of the C language.

## 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: 16h

Practical: 14h

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

Exam (2 hours): one theoretical part and one practical computer-based part.

## Bibliography

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

B. Stroustrup. *A Tour of C++ (Second edition)*, Addison-Wesley. ISBN 978-0-13-499783-4. July 2018.

## Contacts

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

[eric.anquetil@insa-rennes.fr](mailto:eric.anquetil@insa-rennes.fr)

## Other information

### **Other information**

Cliquez ou appuyez ici pour entrer du texte.

<b>Subject name: Network : CDC Project</b>	<b>Code EC: DET07-CDC</b>
<b>Number of hours per student: 30h</b>	<b>ECTS Number : 1.5</b>
<b>Reference Teacher: Christophe LEMOINE</b>	

## Generalities

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

Definition of the electronic student project

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

The students are organized in group (6 students). They have to propose to work on a subject in electronic field. during this first semestria, they have to :

- analyse the existing solutions if already in use
- propose technical solutions
- propose a schedule of the projet realized during 2nd semestria
- analyse the cost ( human and material costs)
- analyse the possible difficulties and alternative solutions

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

## Course requirements and assessments

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

French

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

Cliquez ou appuyez ici pour entrer du texte.

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

CM:

TD:

TP:

PR: 10h

CONF:

Autres:

**Evaluation** (200 characters)

Home work

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## Bibliography

**Bibliography** (2000 characters)

Cliquez ou appuyez ici pour entrer du texte.

## Contacts

**Contacts** (2000 characters)

Christophe.lemoine@insa-rennes.fr

## Other information

**Other information**

4<sup>th</sup> year E&T

<b>Subject name: Network : Digital Communications 1</b>	<b>Code EC: DET07-CNUM1</b>
<b>Number of hours per student: 42h</b>	<b>ECTS Number : 3.5</b>
<b>Reference Teacher: Matthieu CRUSSIÈRE</b>	

## Generalities

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

An overview of the principles of digital communication

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

1. History and principles of digital communications. Properties of digital communications.
2. From analog to digital communications. Classification of digital modulations Pulse modulation.
3. Details of a digital communication chain. Rate and spectral efficiency. Capacity.
4. Power spectral density of digital signal. Application to line codes and linear digital modulations.
5. Optimal receiver and performance for illimited bandwidth base band signal transmission.
- 6 Digital modulations. Optimal receiver and performance for modulated signal transmission. (ASK, PSK, FSK,MSK, QAM, etc).
7. 6h Lab work: study of a digital transmission channel using Ptolemy.

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

Modules DET05-PRMAT, DET06-COMSYS, DET07-DESTI, DET06-DLS

## Course requirements and assessments

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

French

**Teaching methods (500 characters)**

Revision of lecture notes and practical exercises

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

CM: 22h

TD: 10h

TP: 10h

PR:

CONF:

Autres:

**Evaluation (200 characters)**

2 two-hour written examinations.

Mark for practical work and short exams during lecture courses

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

Cliquez ou appuyez ici pour entrer du texte.

J. G. Proakis., ""Digital communications"", 6th J. G. Proakis., ""Digital communications"", 6th Edition, Mc Graw-Hill  
Int. Editions, 2003.  
S. Benedetto, E. Biglieri, V. Castellani, "Digital transmission theory", Prentice Hall  
International Editions  
Communications numériques, M. H  lard, document polycopi  

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

Matthieu.crussiere@insa-rennes.fr

**Other information****Other information**

4<sup>th</sup> year E&T

<b>Subject name: Network : Detection and Estimation / information Theory &amp; Coding</b>	<b>Code EC: DET07-DETIC</b>
<b>Number of hours per student: 58h</b>	<b>ECTS Number : 4.5</b>
<b>Reference Teacher: Gheorghe ZAHARIA</b>	

## Generalities

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

Introduction to detection, estimation, information theory and channel coding techniques and their applications. At the end of the information theory and coding part, students should be able to implement proofs involving quantities of information (entropy, mutual information, divergence, etc.) and construct a compression code adapted to a particular source. They should be able to implement syndrome decoding on Hamming codes and the Viterbi algorithm, in hard and soft decision modes, for a convolutional code.

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

1. Detection and Estimation: Bayes method, min-max criterion, maximum a posteriori criterion: Fundamentals of binary detection statistical theory: scalar and vector cases. Statistical hypothesis testing, Neyman-Pearson method.

Receiver operating characteristic. Case of multiple hypotheses. Case of band-limited signals. Estimation of deterministic parameters (scalar or vector). Maximum likelihood criterion. Estimation of random parameters. Estimator quality. Cramer-Rao criterion, efficient estimator.

2. Information theory. Introduction to information theory. Entropy and mutual information. Information sources with and without memory: examples of Markovian sources. Entropy of a stationary source with and without memory. Source coding: presentation of fundamental source coding theorem, Huffman coding. Transmission channel capacity and fundamental channel coding theorem. Capacity of a stationary channel without memory, with discrete input and analog output.

#### 3. Coding

Introduction to channel coding. Bloc codes: definition and general properties of linear block codes. Generator and parity check matrices. Detection and correction of transmission errors. Minimum distance and performance of bloc codes. Some examples of linear block codes. Cyclic bloc codes. Definition. Some examples. Decoding technics. Error probability of block codes. Performance and coding gain.

Convolutional codes. Main principles of the convolutional codes. Tree, trellis and state diagrams. Decoding of convolutional codes. The Viterbi algorithm. Performance of the convolutional codes. Punctured convolutional codes. Examples and applications of the convolutional codes.

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

DET05-PROBA, DET05-MATP, DET06-SSPB, SRC06-COMSYS modules

## Course requirements and assessments

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

French

<p><b>Teaching methods (500 characters)</b></p> <p>Cliquez ou appuyez ici pour entrer du texte.</p>
<p><b>Number of hours per course type: (2000 characters)</b></p> <p>CM: 40h  TD: 18h  TP:  PR:  CONF:  Autres:</p>
<p><b>Evaluation (200 characters)</b></p> <p>2 two-hour written examinations  .</p>

Bibliography
<p><b>Bibliography (2000 characters)</b></p> <p>Cliquez ou appuyez ici pour entrer du texte.</p> <ol style="list-style-type: none"> <li>1. H. Van Trees, "Detection, Estimation and Modulation Theory", Part I, Dover, 1994.</li> <li>2. H. Urkowitz, "Signal theory and random processes", Artech House, 1983.</li> <li>3. A. Spataru, "Théorie de la transmission de l'information", Presses polytechniques et universitaires romandes, 1987.</li> <li>4. J. G. Proakis., "Digital communications", 6th Edition, Mc Graw-Hill Int. Editions, 2003. Communication systems, S. Haykin, John Wiley &amp; Sons, 2001.</li> <li>5. A. Glavieux, M. Joindot, "Communications numériques", Collection pédagogique des Télécommunications, Masson, 1996.</li> <li>6. S. Benedetto, E. Biglieri, V. Castellani, "Digital transmission theory", Prentice Hall International Editions.</li> <li>7. "Codage de canal: des bases théoriques aux turbocodes", sous la direction d'Alain Glavieux, Hermès Lavoisier.</li> <li>8. Thomas M. Cover, Joy A. Thomas, "Elements of Information Theory", Second Edition, Wiley, 2006.</li> </ol>

Contacts
<p><b>Contacts (2000 characters)</b></p> <p>Gheorghe.zaharia@insa-rennes.fr</p>

Other information
<p><b>Other information</b></p> <p>4<sup>th</sup> year E&amp;T</p>



<b>Subject name: Network : Digital Signal Processors</b>	<b>Code EC: DET07-DSP</b>
<b>Number of hours per student: 24h</b>	<b>ECTS Number : 2</b>
<b>Reference Teacher: Audrey MARTINI</b>	

## Generalities

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

Digital signal processing. Use case : STM32F446 and DSPC64x

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

- 1- Introduction to DSP
- 2- Architecture VLIW and others parallelism
- 3- Pipeline and spatial parallelism
- 4- DMA transfer
- 5- Interruption mechanism

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

DET06-AMI, ESM05-LOG

## Course requirements and assessments

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

French

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

Homework

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

CM: 8h

TD: 8h

TP: 8h

PR:

CONF:

Autres:

**Evaluation** (200 characters)

Practice and 1 examination of 1H

## Bibliography

**Bibliography** (2000 characters)

Cliquez ou appuyez ici pour entrer du texte.

Traité d'électricité, d'électronique et d'électrotechnique - J.D. CHATELAIN et R. DESSOULAVY - Dunod.

Traitement numérique du signal - Gérard Blanchet - Hermes

Ingénierie des systèmes à microprocesseurs - Eric Martin et J-I. Philippe - CNET Collections Techniques

## Contacts

**Contacts** (2000 characters)

Audrey.martini@insa-rennes.fr

## Other information

**Other information**

4<sup>th</sup> year E&T

<b>Subject name: Network : Non-Linear Electronic Systems</b>	<b>Code EC: DET07-ESNL</b>
<b>Number of hours per student: 52h</b>	<b>ECTS Number : 4</b>
<b>Reference Teacher: Stéphane MERIC</b>	

## Generalities

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

Provide students with a set of methods that can be used to study non-linear systems. Enable them to understand the phenomena that occur in these systems, and give them some examples of how these methods can be used.

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

- 1- 1. Fundamentals for non-linear systems. General behaviour of non-linear systems according to initial conditions.
- 2- Signal distortion, distortion rate calculation.
- 3- 2. First harmonic operating approximation method: scattered characteristics case, common method for some
- 4- characteristics.
- 5- 3. Non-linear looped systems, Nyquist and critical points method, auto-stabilisation of oscillations in a
- 6- looped
- 7- system.
- 8- 4. Global study method in phase plane: singular points, limit cycles, cartography in phase plane, influence
- 9- of initial
- 10- conditions on system behaviour.
- 11- 5. Study of some non-linear systems, multiplication circuits, frequency multipliers, modulation and
- 12- demodulation
- 13- circuits.
- 14- 6. Description and study of a Phase Locked-Loop: Introduction and description of the different parts of the
- 15- PLL,
- 16- methods for designing the loop-filter, the phase detector and the voltage control oscillator, study of
- 17- different
- 18- applications (frequency demodulation, asynchronous amplitude demodulation, frequency synthesis).
- 19- 7. Description of the ADC and DAC characteristics: Gain, transfert function, quantum, conversion errors.
- 20- Description of the different technologies for ADC (flash, parallel, ramp technics, Delta-Sigma) and for DAC
- 21- (weighted resistances, R-2R network, inversed network R-2R, weighted currents).

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

Resolution methods for second order differential equations with constant coefficients  
 Looped systems analysis (stability and oscillations), DET06-SL module.

## Course requirements and assessments

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

French

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

Cliquez ou appuyez ici pour entrer du texte.

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

CM: 22h

TD: 10h

TP: 20h

PR:

CONF:

Autres:

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

2 two-hour written examinations.

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## Bibliography

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

Cliquez ou appuyez ici pour entrer du texte.

Analyse numérique et équations différentielles, Jean-Pierre Demailly, Presses Universitaires de Grenoble

Systèmes non linéaires, A. FOSSARD, Publication de cours SUPAERO, Toulouse

Electronique : fonctions principales et systèmes intégrés, Jean-Marc POITEVIN, Dunod.

Principes de conversion : analogique-numérique et numérique-analogique, Jean-Paul TROADEC, Dunod

## Contacts

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

Stephane.meric@insa-rennes.fr

## Other information

### **Other information**

Cliquez ou appuyez ici pour entrer du texte.

<b>Subject name: Network : Programmable Logic</b>	<b>Code EC: DET07-LPROG</b>
<b>Number of hours per student: 24h</b>	<b>ECTS Number : 2</b>
<b>Reference Teacher: Jean-Christophe PREVOTET</b>	

## Generalities

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

Introduction to programmable logic, digital integrated circuit technology, CPLD circuits, FPGA circuits, Design methodology

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

Introduction to programmable logic circuits. Simulation, logic synthesis, place and route, implementation of a design chain with its different stages. Design of a digital architecture followed by an implementation on an FPGA board.

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

DET05-VHDL

## Course requirements and assessments

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

French

**Teaching methods (500 characters)**

Cliquez ou appuyez ici pour entrer du texte.

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

CM: 10h

TD: 4h

TP: 10h

PR:

CONF:

Autres:

**Evaluation (200 characters)**

Written examination. Mark for practical work.

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

Cliquez ou appuyez ici pour entrer du texte.

Le langage VHDL -Jacques Weber, Maurice Meaudre - Dunod Initiation au langage VHDL - Michel Aumiaux -  
Traité d'électricité, d'électronique et d'électrotechnique - J.D. CHATELAIN et R. DESSOULAVY - Dunod.

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

Jean-christophe.prevotet@insa-rennes.fr

**Other information****Other information**

Cliquez ou appuyez ici pour entrer du texte.

<b>Subject name: Microwaves - Basics</b>	<b>Code EC: DET07-MB</b>
<b>Number of hours per student: 34h</b>	<b>ECTS Number : 2.5</b>
<b>Reference Teacher: Erwan FOURN</b>	

## Generalities

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

- Further the study and the frequency and time analysis of microwave transmission lines- Become familiar with analysis and synthesis techniques of microwave circuits - Learning to simulate and design electronic circuits on the main technologies in microwaves

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

I) Transmission lines (10h, lectures and exercises)

a) Analysis tools: standing wave ratio, transmission line impedance equation, special lines (quarter-wave and half-wave), etc.

b) Impedance matching circuits (lumped elements, quarter-wave transformer, series or shunt stub(s)), microstrip and planar technologies

c) Reflectometry

II) Microwaves circuits (16h, lectures and exercises)

a) Scattering matrix

b) Signal flow graph and Mason rule

c) Linear amplifier (stability, power matching, gain, noise) - Application to a single-stage narrow-band amplifier

III) Practical work (8h)

4 sessions on the simulation software ADS (Keysight) to study and design active and passive components. Learn electromagnetic simulation techniques

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

DET05-WTLB (Waves and Transmission Lines Basics)

DET06-EWAB (Electromagnetic Waves and Antennas Basics)

- Further the study and the frequency and time analysis of microwave transmission lines- Become familiar with analysis and synthesis techniques of microwave circuits - Learning to simulate and design electronic circuits on the main technologies in microwaves

## Course requirements and assessments

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

French

**Teaching methods (500 characters)**

Cliquez ou appuyez ici pour entrer du texte.

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

CM: 20h

TD: 8h

TP:

PR:

CONF:

Autres:

**Evaluation (200 characters)**

2-hour written exam (including questions about the project) – Possible short random exams during lectures to capitalise bonus marks.

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## Bibliography

**Bibliography (2000 characters)**

Cliquez ou appuyez ici pour entrer du texte.

- "Microwave Engineering", D.M. Pozar, Wiley

## Contacts

**Contacts (2000 characters)**

Erwan.fourn@insa-rennes.fr

## Other information

**Other information**

Cliquez ou appuyez ici pour entrer du texte.





<b>Subject name: Network : Radiocommunications- Basics</b>	<b>Code EC: DET07-RADIO1</b>
<b>Number of hours per student: 28h</b>	<b>ECTS Number : 2</b>
<b>Reference Teacher: Ghaïs EL ZEIN</b>	

## Generalities

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

Study of different propagation phenomena and radio links. Characterisation and modelling of radiowave channels. Reception diversity techniques.

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

1. Introduction to radio communications: free space propagation, receiving power, characteristics of antennas, link power budget, interference.
2. Modelling the environment: ground waves, ground reflections, atmospheric refraction, tropospheric scattering, diffraction, rain and vegetation effects, depolarisation, multipath and fading, prediction models.
3. Radio links: ionospheric, tropospheric, satellite and mobile radio links.
4. Characterisation of nonstationary transmission channels: time, frequency and time-frequency domains, Doppler, delay.
- 5 Diversity reception techniques: space frequency time polarisation multipath and arrival angle diversities.

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

DET05-WTLB (Waves and Transmission Lines Basics)

DET06-EWAB (Electromagnetic Waves and Antennas Basics)

## Course requirements and assessments

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

French

**Teaching methods (500 characters)**

Cliquez ou appuyez ici pour entrer du texte.

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

CM: 20h

TD: 8h

TP:

PR:

CONF:

Autres:

**Evaluation (200 characters)**

2-hour written exam.

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

Cliquez ou appuyez ici pour entrer du texte.

L.Boithias, ""Propagation des ondes radioélectriques dans l'environnement terrestre"", Dunod 84

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

Ghais.El-Zein@insa-rennes.fr

**Other information****Other information**

Cliquez ou appuyez ici pour entrer du texte.

<b>Subject name: Research &amp; Innovation Project</b>	<b>Code EC: DET07-RECH</b>
<b>Number of hours per student: h</b>	<b>ECTS Number : 1.5</b>
<b>Reference Teacher: Erwan FOURN</b>	

## Generalities

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

Beginning of the research project proposed to the student: knowledge and skills improvement necessary for its realization (training with the supervisor and/or in autonomy, bibliographic study, first examples, etc.); first simulations and/or characterizations of the studied systems, etc.

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

Individual work on a research and innovation subject proposed by a researcher from the IETR laboratory. The work remotely or in the premises of the IETR on sessions dedicated to the DET07-CDC module for other students and on availability.

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

## Course requirements and assessments

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

French

**Teaching methods (500 characters)**

The student will continue this project within the framework of the modules DET08-RECH and/or DET09-RECH (according to his/her international mobility) and in the 4th year training period (DET08-STAGE)

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

CM:

TD:

TP:

PR:

CONF:

Autres:

**Evaluation (200 characters)**

A grade will be awarded by the project supervisor according to the work done and/or a progress report..

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

Cliquez ou appuyez ici pour entrer du texte.

Function of the proposed research topic. The first elements of the bibliography will be provided by the project supervisor.

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

Erwan.fourn@insa-rennes.fr

**Other information****Other information**

Cliquez ou appuyez ici pour entrer du texte.

<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).

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### 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 GOURRET (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: Baccalaureate Level**

**FLE Project: Levels B1 to C1**

## Modalités du cours et des évaluations

**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
<b>Contacts</b> (2000 characters)

Other information
<b>Other information</b>

<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**