| | |
|---|---|
| **Subject name : Electronics 2** | **Code : EC-EII06-ELE** |
| **Number of hours per student :  81 H** | **ECTS Number : 6** |
| | |
| **Reference Teacher: Jean-Noël PROVOST** | |

# Generalities

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

Understanding the behavior of integrated circuits by analyzing their internal structure.
Modeling of closed-loop electronic systems using feedback theory.
Application to stability and frequency compensation issues.
Study of the operation of specific operational amplifiers.

Practical application of the theoretical concepts studied.
Hands-on experiments and simulations on the studied structures and components.

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

1. Field-effect transistors, MOSFETs in amplification and switching applications.
2. Structures specific to integrated circuits: current mirrors, substrate sharing in bipolar technology, differential stages, and output stages in class A, B, and AB.
3. Study of the principles of feedback theory for analyzing systems with a feedback loop.
4. Calculation methods and criteria for stability analysis. Amplifier compensation, with a study of the influence of poles on the closed-loop transfer function.
5. Analysis of certain dynamic limitations of operational amplifiers (frequency response, slew rate).
6. Study of modern operational amplifiers: current feedback.
7. Oscillators.

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

Electronics 1 (EC-EII05-ELE).

# Course requirements and assessments

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

French

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

In-depth study of the course material, preparation of tutorial exercises.
Preparation of laboratory (practical) exercises.
Practical application of concepts covered in lectures and tutorials.
Writing a report on a project.

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

*CM : 24 H*
*TD : 20 H*
*TP : 21 H*
*PR : 16*
*CONF :*
*Autres :*

**Evaluation** *(200 characters)*

One-hour closed-book exam at mid-semester.
Two-hour open-book exam at the end of the semester.
Grading based on project implementation and report.

## Bibliography

**Bibliography** *(2000 characters)*

1. BLOT J., "Electronique linéaire -Cours avec exercices et travaux pratiques", Chapitres 1 et 3, Dunod, 1993.
2. BLOT J., "Electronique linéaire -exercices résolus", Dunod, 1994.
3. BLOT J., "Les transistors -éléments d'intégration des circuits analogiques", Chapitres 1 à 3, Dunod, 1995.
4. SEDRA ADEL S. et SMITH KENNETH C., "Microelectronic circuits", Holt, Rinehart, and Winston, 1998.
5. GREBENE A. B., "Bipolar and MOS analog integrated circuit design", n° ISBN 0471085294, 1984.

## Contacts

**Contacts** *(2000 characters)*

Jean-Noël PROVOST

## Other information

***Other information***

Intended audience : All students registered in the second semester of the third year in the EII program.

| **Subject name : Project and Methodology for Digital** | **Code : EC-EII06-PMND** |
|---|---|
| **Number of hours per student :  25 H** | **ECTS Number : 2.5** |
| | |
| **Reference Teacher: Thibaut MARTY** | |

## Generalities

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

The objective of this module is twofold:
   * To present the methodologies and tools for managing programming project.
   * To put into practice these methods for the realization of a C language project.

## Objectives of the Methodology Part
To describe the general environment of a software development: functional analysis, tests, continuous integration continue, code versioning, project configuration.

The targeted skills are:
-> Handle the build of a program from C code by means of CMake
-> Manage a software development versioned by Git
-> Use test tools to check the code
-> Apply a methodology to break down a programming problem into smaller problems

## Objectives of the Project Part
The objective of this project is to use the programming skills acquired during the previous semester. Objectives are classified along 3 axes:
1. Project Management
   * Develop a complete software including a graphical user interface application within a team.
   * Write precise specification and user requirements
   * Work with greater autonomy in a collaborative team
   * Experiment necessity of project management methodology
   * Develop skills for written and oral presentation of technical work
   * Establish a critical assessment of project results with respect to initial project goal
2. Software Architecture and Design
   * Conceive a software architecture according to functional specifications.
   * Implement the Model-View-Controller design pattern.
   * Select third-party library fitting the project objectives.
3. Technical skills
   * Document the code with Doxygen
   * Implement unitary tests.
   * Master professional tools for collaborative software development (Git, Gitlab, ...)
   * Self-training on some technical points in software development (graphic interfaces, embedded systems, ...)

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

## Methodology
   1. Build toolchain
   2. Versioning tools
   3. Tests and continuous integration
   4. Functional analysis
   5. Use a design pattern

## Project
   1. Produce written specifications
   2. Task repartition
   3. Regular meetings with supervising teacher
   4. Project development
   5. Report writing, oral presentation preparation
   6. Oral defence of the project

4 hours of this course account for SHES.

**Requirements** *(2000 characters)*

C Language (EC-ESM05-INFOC), C Language Level 2 (EC-EII05-LANG), Operating Systems (EC-EII06-SE).

# Course requirements and assessments

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

Lectures are in French and documents are written in English.

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

## Methodology Part
Classical organization: Lecture and practical work.

## Project Part
-Teams of 4 to 5 students, including a project leader
-Topics proposed by students and/or teachers
-Regular meetings between the students and the project supervisor (a professor) are planned in the timetable.
-Autonomous work over several months: no specific hours fixed in the timetable.

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

*CM :  7 H*
*TD :*
*TP :  6 H*
*PR :  8 H*
*EP :*
*CONF :*
*Other : 4 H*

**Evaluation** *(200 characters)*

Skills and knowledge from the methodology part are evaluated through their use in the project.

Each group of students will submit a 5-page report and make an oral presentation in front of two teachers and interested students. The project source code will be hosted on a Git repository whose access will be granted to the project supervisor for evaluation.

## Bibliography

**Bibliography** *(2000 characters)*

.

## Contacts

**Contacts** *(2000 characters)*

Thibaut MARTY

## Other information

**Other information**

Intended audience: 3EII.

| | |
|---|---|
| **Subject name : Operating systems** | **Code : EC-EII06-SE** |
| **Number of hours per student :  27 H** | **ECTS Number : 2.5** |
| | |
| **Reference Teacher : Jean-François NEZAN** | |

# Generalities

## *Objectives* (2000 characters)

1. Introduce the principles, structure and functions of operating systems, defining their basic concepts and their evolution.
2. The commands associated with these functions in the context of a Linux OS.

The skills targeted are :
- Interact with the operating system using the relevant commands to read and edit inputs, mastering I/O redirection and **globbing**.
- Define and search for a pattern based on regular expressions for efficient searching using the **grep** command
- write a **bash** script to shorten repetitive and/or complex tasks into a single function call
- Use a file system by mastering the commands used to view and edit the characteristics of an entry and its contents.
- Consult the characteristics of a file management system to determine its limitations, advantages and disadvantages.
- Manage **Makefile**-configured projects, distinguishing between static and dynamic link editing mechanisms to be able to handle a correct library installation
- Program in C system operations: create commands with arguments, handle files and processes

## *Description* (2000 characters)

1. Introduction to operating systems
2. Introduction to the shell
3. Introduction to file management systems: commands and formats
4. Introduction to processes
5. Overview of the C language and concepts covered in class

## *Requirements* (2000 characters)

Programmation en C (EC-EII05-PROGC))

# Course requirements and assessments

## *Teaching Language* (2000 characters)

French

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

Lecture revision, preparing exercises and validating the results in practicals

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

*CM :  8 H*
*TD :  4 H*
*TP :  15 H*
*PR :*
*CONF :*
*Autres :*

**Evaluation** *(200 characters)*

A one-hour exam on courses and tutorials, and a 3-hours exam on PC at the end of the semester

## Bibliography

**Bibliography** *(2000 characters)*

1-  SILBERSCHATZ A., GALVIN P. and GAGNE G., Operating Systems Concepts (6th Ed), John Wiley et Sons,).
2- MIDDOT, TANENBAUM A., Modern Operating Systems (2nd Ed), Prentice-Hal
.

## Contacts

**Contacts** *(2000 characters)*

Jean-François NEZAN

## Other information

**Other information**

Intended audience : 3EII.

| | |
|---|---|
| **Subject name : Microprocessor-Based Systems** | **Code : EC-EII06-SMC** |
| **Number of hours per student :  58.50 H** | **ECTS Number : 5** |
| | |
| **Reference Teacher: Daniel MENARD** | |

## Generalities

**Objectives** *(2000 characters)*

The aim of this module is to master the operation of microcontrollers and the implementation of embedded applications in microcontrollers. The module is divided into two parts. The first part focuses on ARM cores, particularly the Cortex-M family. The second part focuses on peripherals, using the STM32 as the target.

**Description** *(2000 characters)*

The skills and knowledge to be acquired during the modules are as follows:

Part 1: ARM processor cores
   Understanding the operating mechanisms of Cortex M cores;
   Developing C and assembler code for microcontrollers;

Part 2: Processor peripherals
   Implementation of interrupt mechanisms;
   Implementation of microcontroller peripherals:
      . input/output ports,
      . timer (generation mode and measurement mode)
      . analog interfaces: analog-to-digital converter, digital-to-analog converter

**Requirements** *(2000 characters)*

Computer Architecture I (EC-EII05-ARC), C Language (EC-ESM05-INFOC)

## 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 : 10.50 H*
*TD : 18 H*
*TP : 30 H*
*PR :*
*CONF :*
*Autres : H*

**Evaluation** *(200 characters)*

1.5-hour written exam on Part 1, mid-semester (documents permitted)
1.5-hour written exam on Part 2, end of the semester (documents permitted)
2.5-hour computer-based exam on Part 2, end of the semester (documents permitted)

## Bibliography

**Bibliography** *(2000 characters)*

.

## Contacts

**Contacts** *(2000 characters)*

Daniel MENARD

## Other information

***Other information***

Intended audience : 3EII.

| | |
|---|---|
| **Subject name : Signal processing** | **Code : EC-EII06-TS** |
| **Number of hours per student :  44 H** | **ECTS Number : 4** |
| | |
| **Reference Teacher: Kidiyo KPALMA** | |

# Generalities

**Objectives** *(2000 characters)*

The fundamental elements of signal theory and signal processing. Raise the problems inherent to signal processing and propose some solutions. Provide methods for choosing an appropiate solution.

 Targeted competences are:
-> Consolidate and apply the concepts learned in ESM05-SIG.
-> Understanding signal theory and its mathematical modeling
-> Assimilate various signal processing techniques

**Description** *(2000 characters)*

1. Signals: definition, temporal, energy, morphological, etc. classifications, representation by Fourier series, Fourier transform, and Laplace transform.
2. Deterministic signals: definition, a reminder of the basic notions of the Fourier transform, analytic signals and Hilbert transform, convolution integrals, correlation, matched filters, deterministic signals of finite energy and finite mean power, periodic signals.
3. Random signals: definition, a reminder of the basic notions of probability theory, temporal moments, statistical moments, stationarity, ergodicity, noise.
4. Linear filtering: definition, filter impulse response, filter transfer function, construction of a linear filter, properties of linear filters, filtering of a random signal, the matched filter.
5. Modulation, demodulation: introduction, the different types of modulation, modulations of a sinusoidal carrier wave (linear modulations, angle modulations), pulse modulations.

**Requirements** *(2000 characters)*

Signals and Systems (EC-ESM05-SIG), Mathematical Analysis for the Engineer (EC-ESM05-ANAL), Mathematics for EII engineers (EC-EII05-MATH), Probabilistic tools for engineers (EII05-PROBA).

# Course requirements and assessments

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

French

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

Revision of lecture notes. Preparation of exercises. Active learning: participation in problem solving on the board and work in sub-groups.

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

*CM : 15 H*
*TD : 14 H*
*TP : 15 H*
*PR :*
*CONF :*
*Autres :*

*Evaluation* (200 characters)

Two-hour written examination (with documents), one-hour written examination on lab-works and evaluation of lab-work reports at the end of the semester.

## Bibliography

*Bibliography* (2000 characters)

1- Égon H., Marie M. et Porée P., "Traitement du signal et automatique : Traitement du signal et asservissements analogiques", Hermann, 2000.
2- Chaparro L.et Akan A., "Signals and Systems using MATLAB", Elsevier, 2018.
3- CHARBIT M., "Eléments de théorie du signal : les signaux aléatoires", Ellipses, Collection Pédagogique des Télécommunications, 1990.
.

## Contacts

*Contacts* (2000 characters)

Kidiyo KPALMA

## Other information

*Other information*

Intended audience : 3EII.

| | |
|---|---|
| **Subject name : Control Systems Engineering** | **Code : EC-ESM06-AUTO** |
| **Number of hours per student : 40** | **ECTS Number : 3** |
| | |
| **Reference Teacher: Sylvain GUEGAN** | |

## Generalities

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

Automatic control is a discipline that deals with modeling, analysis, identification, and control of dynamic systems.
The aim of this course is to provide students with a solid understanding of classical methods in order to:
- Model and identify a system based on its time-domain or frequency-domain representation;
- Analyze its time and frequency responses in open-loop and closed-loop configurations;
- Design analog control laws in polynomial or state-space form.
This course focuses exclusively on continuous-time systems (Laplace transform domain).

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

1. Models and graphical identification methods:
First-order, second-order, and n-th order models; delay-first-order model (Broïda); Ziegler–Nichols and Strejc models; effects of adding poles and zeros to a transfer function; study of dominant poles.
2. Feedback control systems:
Concept of closed-loop control; purpose and control scheme; graphical representation of open-loop and closed-loop transfer functions; Bode plots; Black–Nichols charts; pole–zero map.
3. Performance of closed-loop systems:
Routh–Hurwitz and Nyquist stability criteria; stability margins; steady-state and dynamic accuracy; performance indices; robustness; time- and frequency-domain specifications.
4. Regulation and control:
Proportional, Integral, and Derivative (PID) actions; feedforward correction; phase-lead and phase-lag compensation; tachometric feedback; controller design methods: semi-empirical, Bode, Black–Nichols, root locus (Evans), Naslin's adjustable-damping polynomial method, internal model control.
5. Analysis of dynamic systems in the state-space domain:
State concept; state-space representation; transition matrix; relationships between transfer functions and state-space representations.
6. State feedback control:
Controllability and observability; control scheme; pole placement (SISO systems).

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

Signals and Systems (EC-ESM05-SIG),

## Course requirements and assessments

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

French

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

Lectures, tutorials and practical lab sessions. Preparation required for tutorials and labs.

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

*CM : 14 H*
*TD : 14 H*
*TP : 12 H*
*PR :*
*CONF :*
*Autres :*

**Evaluation** *(200 characters)*

Graded lab work.
Final 2-hour written exam (with notes allowed).
Final grade = (Lab grade + 3 × Exam grade) /4

# Bibliography

**Bibliography** *(2000 characters)*

- RIVOIRE M., FERRIER J.-L., 1992, " Cours d'automatique - tome 2 : asservissement, régulation et commande analogique ", Eyrolles ;
- KUO Benjamin C., 1995, " Automatic control systems ", Prentice Hall International Editions ;
- DE LARMINAT Ph., 1993, " Automatique, commande des systèmes linéaires ", Hermès ;
- BORNE P. et al., "Analyse et régulation des processus industriels", Tome 1, Régulation continue, Technip (Paris) ;
- JAUME D., 1989, « Applications du formalisme d'état à la commande des systèmes continus », Eyrolles ;
- GILLE J.-C., CLIQUE M., 1990, « Systèmes linéaires - Equations d'état », Eyrolles..

# Contacts

**Contacts** *(2000 characters)*

Sylvain GUEGAN

# Other information

***Other information***

Intended audience : 3EII & 3GPM

| | |
|---|---|
| **Nom de la matière : Allemand** | **Code EC: EC-HUMF06-ALL** |
| **Volume horaire total par étudiant:  21heures** | **Nombre crédits ECTS :** |
| | 1,5 ECTS |
| **Responsable(s) : Cecile Hölzner-Jacques** | |

## Généralités

***Objectives, aims** (2000 caracters)*

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 caracters)*

*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.
IAutonomous 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.

| ENGLISH | Code EC: EC-HUM06-ANGL |
|---|---|
| **Total number of hours per student : 28h** | **ECTS : 2** |
| | |
| **Supervisor : Philippe LE VOT** | |

## General information

**Objectives and Purposes**
**General Objectives:**
Improve the ability to express oneself, understand, and interact in everyday situations, with a particular emphasis on professional and social life.

**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:** Learning by doing: speaking and listening, writing documents while mobilizing the ability to solve, construct, demonstrate, and persuade.
- Express oneself with precision through rigorous use of syntax and phonology. Activities involving creativity and responsiveness, such as debates, role-playing, individual oral presentations with PowerPoint or Canva support, and projects, will be based on current, scientific, and societal topics.
- Development of specific skills related to the professional world:
  - o Writing emails and abstracts linked to the EPA (Engineering Problem Analysis) course.
  - o Notions of interculturality.
  - o Sustainable development.

**Prerequisites**
A good mastery of the STPI program is essential: B1/B2 level.

## Course and Evaluation Modalities

**Language of Instruction**

English

**Teaching Methods**
The classes are two hours long and take place in rooms equipped with projectors and sound systems. We also have two multimedia language labs and a Computer Resource Center to provide students with a stimulating teaching environment.

- Educational resources include press articles, audio, and video documents from the web.

- Regular personal work is required. Students are expected to remain curious and 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 + 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

| | |
|---|---|
| **Subject name: CHINESE LV2-LV3** | **Code EC: EC-HUMF06-CHI** |
| **Number of hours per student:  21 hours** | **ECTS Number: 1,5** |
| | |
| **Reference Teacher:  Cécile Hölzner-Jacques** | |

## 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.

| | |
|---|---|
| **Subject name:** CREATIV | **Code EC: EC-HUM06-creativ** |
| **Number of hours per student:  16h** | **ECTS Number: 1.5** |
| **Reference Teacher: Fanny GOURRET** | |

# Generalities

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

The module aims to raise students' awareness of the challenges of innovation within companies and to place them in situations where they can generate ideas for launching new economic activities.
It serves as preparation for the *"Entrepreneurship & Innovation"* module in Semester 7.

Main learning outcomes:
- Understand the challenges and implications of an innovation strategy,
- Be able to use specific analytical tools and the associated vocabulary,
- Demonstrate creativity,
- Work effectively in a team: make collective decisions and produce deliverables within given deadlines.

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

Workshops are organized in project groups to enable students to:
• Explore inspiring practices through benchmarking,
• Identify opportunities and key challenges to be addressed,
• Develop innovative solutions using design thinking methods,
• Assess potential risks,
• Present and effectively pitch their project.

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

Non

# Course requirements and assessments

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

french

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

Cliquez ou appuyez ici pour entrer du texte.

☐ Work based on real cases of innovative companies (either in the start-up or development phase).
☐ Creative project built around an innovative idea (in groups).

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

*CM:*
*TD: 16*
*TP:*
*PR:*
*CONF:*
*Autres*

*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)*

Cliquez ou appuyez ici pour entrer du texte.

Provided during the course

## Contacts

*Contacts (2000 characters)*

Fanny GOURRET, Philippe MENKE

## Other information

*Other information*

Cliquez ou appuyez ici pour entrer du texte.

| **Subject name :** Introduction to Sustainable Digital Technology | **Code : EC-HUM06-IND** |
|---|---|
| **Number of hours per student:  21 H** | **ECTS Number : 1.5** |
| | |
| **Reference Teacher: Thibaut MARTY** | |

## Generalities

**Objectives** *(2000 characters)*

The aim of this course is to raise awareness of the sustainable development challenges facing the electronics and digital industries. The course presents the impacts of these industries on environmental, societal, and technical aspects. The course provides an understanding of how information and communication technologies interact in today's world, and an overview of the scale of their use and impact.

**Description** *(2000 characters)*

The module consists of lectures, e-learning, and six hours of tutorials specific to each department.

**Requirements** *(2000 characters)*

None

## Course requirements and assessments

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

French

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

Lectures, e-learning, and tutorials.

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

*CM : 12 H*
*TD : 6 H*
*TP :*
*PR :*
*EP :*
*CONF :*
*Other : 5 H CM-SPOC*

*Evaluation* *(200 characters)*

The module is validated by attendance at conferences and completion of the e-learning course.

## Bibliography

*Bibliography* *(2000 characters)*

.

## Contacts

*Contacts* *(2000 characters)*

Thibaut MARTY

## Other information

*Other information*

Intended audience: 3EII, 3E&T, 3INFO, 3DMA

| Subject name: PHYSICAL EDUCATION (EPS) SEMESTER 6 | Code EC: EC-HUM06-EPS |
|---|---|
| Number of hours per student:  24H | ECTS Number: 1 |
| | |
| Reference Teacher: Gérard VAILLANT Yvan HINAULT Maïté LOSCHETTER | |

## 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 6 focus:* comprehend the physiological principles for maintaining good health (preparation for effort, recovery, and regulation of exertion); 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 6 focus:* Adjust verbal and non-verbal communication to suit the group context.

**Methodological Competencies:** Manage complex projects by setting objectives, planning, and evaluating outcomes. Make informed decisions through observation, reflection, and feedback. *Semester 6 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

| | |
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| ***Requirements*** *(2000 characters)* | |
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## 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-HUMF06-ESP** |
| **Volume horaire total par étudiant: 21h** | **Nombre crédits ECTS :** 1,5 ECTS |
| **Responsible(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

# Autres

***Autres informations***

Cliquez ou appuyez ici pour entrer du texte.

| Subject name: French foreign language | Code EC: EC-HUMF06-FLE |
|---|---|
| **Number of hours per student: 21 hours (or 2 x 21 hours for the Exchange programme)** | ECTS Number: 1,5 |
| | 3 credits for the Exchange |
| **Reference Teacher: FOURE Dominique** | |

## 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<br>Courses range from beginner to advanced levels.<br>Each student will be placed in a group corresponding to their level and needs<br>- based on a test at the beginning of the year for new entrants<br>- 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:*<br>*TD:*<br>*TP:*<br>*PR:*<br>*CONF:*<br>*Autres:* |

| *Evaluation* (200 characters) |
|---|
| Continuous assessment in line with the skills to be validated: CE, CO, PE, PO<br>INSA student programme:  21 hours/semester (1.5 credits)<br>Exchange programme: Students studying for a semester at INSA Rennes have the opportunity to obtain a total of 4 credits<br>- 1 Language Project (7 hours/semester)   = 1 ECTS<br>- 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/

| | |
|---|---|
| **Subject name: ITALIAN LV2-LV3** | **Code EC: EC-HUMF06-ITA** |
| **Number of hours per student:  21h** | **ECTS Number: 1,5** |
| **Reference Teacher: Cécile HÖLZNER-JACQUES** | |

## 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

## Other information

**Other information**

| | |
|---|---|
| **Subject name: Japanese** | **Code EC: EC-HUMF06-JAP** |
| **Number of hours per student:** | **ECTS Number: 1.5** |
| | |
| **Reference Teacher: Cécile Hölzner-Jacques** | |

## 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*

| | |
|---|---|
| **Nom de la matière : Language Project** | **Code EC: EC-HUMF06-LV2P** |
| **Volume horaire total par étudiant: 7 hours /semestre** | Tous semestres |
| | **Nombre crédits ECTS : 0,5** |
| **Responsable(s) : C.Hölzner, M.Amargos, D.Fouré** | |

## 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)*

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**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.

| | |
|---|---|
| **Subject name: Intercultural Modul** | **Code EC: EC-HUMF06-LV2-OI** |
| **Number of hours per student:  21h par semestre** | **ECTS Number: 1.5** |
| | |
| **Reference Teacher: Cécile Hölzner-Jacques** | |

# 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:_<br>_TD: 20 h par semestre_<br>_TP:_<br>_PR:_<br>_CONF:_<br>_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***

| | |
|---|---|
| **Subject name: Russian** | **Code EC: EC-HUMF06-RUS** |
| **Number of hours per student:  21h** | **ECTS Number: 1,5** |
| **Reference Teacher: Cécile HÖLZNER-JACQUES** | |

## 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 exercices 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*