Subject name: Digital Communications 2	**Code EC: DET08-CNUM2**
Number of hours per student: 38h	**ECTS Number : 2.5**
Reference Teacher: Philippe MARY	

Generalities

Objectives *(2000 characters)*

This module follows on from Digital Communications 1 and covers
band-limited digital transmissions and associated receivers, as well as various transmission errors. In addition, the basic techniques of OFDM are also presented in this module. At the end of this module, students will be able to obtain the zero forcing and MMSE equalizers in a white Gaussian noise and multipath channels. They will be able to give the expression of the equalizer in the case of simple channels and will be able to calculate the error probability after equalization in these cases. Students will also know how to implement ZF equalization in MATLAB. They will be able to predict the impact of synchronization errors (carrier, phase, sampling) on a constellation. Students will also be able to size an OFDM system in various propagation environments.

Description *(2000 characters)*

1. Review of Nyquist's criterion, transmission in a band-limited channel
2. Equivalent discrete channel and different types of channels
3. Reception: matched filtering, optimal receiver (MLSE). Linear equalization (ZF, MMSE)
4. Synchronization: carrier and timing recovery, digital PLLs.
5. Introduction to OFDM. Constituent equations, filter bank-based architectures, FFT/IFFT-based architectures, gua cyclic prefix. Equalization in a multipath channel. Dimensionning of an OFDM system.

Requirements *(2000 characters)*

DET05-SPB, DET06-SSPB, DET06-COMSYS, DET07-CNUM1, DET07-DETIC

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Study of class content. Practical exercises and lab work

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

CM: 20h
TD:
TP: 18h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

one written exam of two hours

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

S. Beneddeto, E. Biglieri, V. Castellani, "Digital transmission theory", Prentice Hall International Editions
H. Meyr , M. Moeneclaey , "Digital communication receivers, volume 2 : synchronization, channel estimation and
signal processing"
J. G. Proakis., "Digital communications", 6th Edition, Mc Graw-Hill Int. Editions, 2003.
Communication systems, S. Haykin, John Wiley & Sons, 2001
Éléments de communications numériques, J. C. Bic, D. Duponteil, J. C. Imbeaux , Dunod. CNET ENST, 1987
Communications numériques, A. Glavieux, M. Joindot, Collection pédagogiques des Télécommunications, Masson, 1996.
Signal et communication numérique. Egalisation et synchronisation, Jean-Marc Brossier, Collection Traitement du signal,Hermès, Paris, 1997

Contacts

Contacts *(2000 characters)*

Philippe.mary@insa-rennes.fr

Other information

Other information

4th year E&T

Subject name: Methods for digital computing	**Code EC: DET08-MNUM**
Number of hours per student: 26h	**ECTS Number : 2.5**
Reference Teacher: Gheorghe ZAHARIA	

Generalities

Objectives *(2000 characters)*

Digital resolution techniques (mathematics). Theoretical basics for modelling, analysis and optimisation problems. Implementation of digital methods with calculators. Algorithm design using the MATLAB language.

Description *(2000 characters)*

1. Linear regression analysis. Application to radio communications and electronics. Upper rank regression analysis
2. Polynomial interpolation. Lagrange base. C1 and C2-class cubic spline modelling using Bernstein base. Natural Application to electronics.
3. Mathematical tools for the resolution of non-linear equations. Order of a method. Convergence rapidity.
4. Numeric integration. Lagrange base, quadrature formula order. Rectangle, trapezium methods. Simpson, Gauss-Legendre methods. Application to probability and signal theory (link between analog and digital convolution Applications.
5. Digital derivative. Progressive, retrograde, centred differences. Differential equations. Choice of discretisation ste Z-transform. Transfer function associated with a discretisation method, stability. Comparison between the results of bilinear transform and the analog method.

Requirements *(2000 characters)*

Basic skills in analog and digital processing signals, integral and derivative computing, probabilities.

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

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

CM: 12h
TD: 14h
TP:
PR:
CONF:
Autres:

Evaluation *(200 characters)*

Two-hour written examination.

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

1. J. Rappens, M. Picasso "Introduction à l'analyse numérique", Presses polytechniques et universitaires romandes, 1998
2. H. R. Schwartz "Numerical Analysis - A comprehensive introduction", Wiley, 1989
3. H. Urkowitz "Signal theory and random processes", Artech House, 1983

Contacts

Contacts *(2000 characters)*

Gheorghe.zaharia@insa-rennes.fr

Other information

Other information

4th year E&T

Subject name: MicroWaves	**Code EC: DET08-MW**
Number of hours per student: 34h	**ECTS Number : 2**
Reference Teacher: Raphaël GILLARD	

Generalities

Objectives *(2000 characters)*

- Investigate coupled transmission lines - Study main applications of passive microwave circuits (filters, power dividers and couplers) and associated topologies - Give basics of non linear functions (with a focus on power amplifiers).

Description *(2000 characters)*

1- Theory of coupled lines,
2- Microwave filters,
3- Power dividers and couplers (applications),
4- Power dividers and couplers (topologies),
5- Non linear functions,
6- Power amplifiers

Requirements *(2000 characters)*

DET05-WTLB (Waves and Transmission Lines Basics)
DET06-EWAB (Electromagnetic Waves and Antennas Basics)
DET07-MB (Microwaves 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: 24h
TD:
TP:
PR: 10h
CONF:
Autres:

Evaluation *(200 characters)*

Cliquez ou appuyez ici pour entrer du texte.
 2-hour written exam - Possible short random exams during lectures to capitalize bonus marks. Marks for project.

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

 - "Microwave Engineering", D.M. Pozar, Addison Wesley
 - "Electromagnetic Waves and Antennas", S.J. Orfanidis, http://www.ece.rutgers.edu/~orfanidi/ewa/

Contacts

Contacts *(2000 characters)*

Raphael.gillard@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Electronics Students projects	**Code EC: DET08-PROJ**
Number of hours per student: 50h	**ECTS Number : 2.5**
Reference Teacher: Christophe LEMOINE	

Generalities

Objectives *(2000 characters)*

Realization of the project defined during the first semestria. Achivement of the solutions. demonstrations

Description *(2000 characters)*

during this semestria, students have to realized what they have proposed during the first semestria (DET07-CDC)
- test on unitary part
- integration
- analyse of the schedule
For each group, a legacy professor assists them in order to help to find solutions, to give contacts, to analyse the propose additionnal tests

Requirements *(2000 characters)*

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

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

CM:
TD:
TP:
PR: 20h
CONF:
Autres:

Evaluation *(200 characters)*

Cliquez ou appuyez ici pour entrer du texte.
3 evaluations :
- the report
- the presentation
- the demonstration

Bibliography

Previous projects, lessons from teachers, internet

Contacts

Contacts *(2000 characters)*

Christophe.lemoine@insa-rennes.fr

Other information

Other information

4th year E&T

Subject name: Radiocommunications-2	**Code EC: DET08-RADIO2**
Number of hours per student: 13h	**ECTS Number : 1**
Reference Teacher: Ghaïs EL ZEIN	

Generalities

Objectives *(2000 characters)*

Study of radio propagation on indoor and outdoor links.

Characterization and modeling of the propagation channel.

Statistical and regression analysis of measurement data.

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.
des antennes, bilans de liaison, interférences.

Requirements *(2000 characters)*

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

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

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

CM: 2h
TD: 2h
TP: 9h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

One-hour written examination.

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Introduction aux radiocommunications, G. El Zein, document polycopié. Caractérisation de la propagation radioélcetrique à l'intérieur des bâtiments à 2,4 GHz. G. Zaharia, document polycopié TP.
Liaison numérique radiomobile à 910 MHz en site urbain, M. Crussière, G. El Zein, document polycopié TP.

Contacts

Contacts *(2000 characters)*

Ghais.El-Zein@insa-rennes.fr

Other information

Other information

4th year E&T

Subject name: Work Placement	**Code EC: DET08-STAGE**
Number of hours per student:	**ECTS Number : 8**
Reference Teacher: Ghaïs EL ZEIN	

Generalities

Objectives *(2000 characters)*

This summer work placement must allow the student to acquire practical experience in a professional environment. The student will aim to develop his teamwork, communication and observation skills, and improve his capacity to integrate a business environment

Description *(2000 characters)*

- Work placement with agreement (assistant engineer level).
- At least 8 weeks duration.
- In France or abroad.
- Can be carried out in the interim between the 3rd and 4th year or between the 4th and 5th year of studies

Requirements *(2000 characters)*

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

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

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

Evaluation *(200 characters)*

Cliquez ou appuyez ici pour entrer du texte.
The training report is reviewed and evaluated thanks to an assessment form

Bibliography

Contacts

Contacts *(2000 characters)*

Ghais.El-Zein@insa-rennes.fr

Other information

Other information

4th year E&T

Subject name: Radar Systems	**Code EC: DET08-SYRAD**
Number of hours per student: 26.5h	**ECTS Number : 1.5**
Reference Teacher: Stéphane MERIC	

Generalities

Objectives *(2000 characters)*

Provide students with an overview of pulse and continuous wave radar systems.

Description *(2000 characters)*

1. Basic principles of radar. Classification of systems. Direct problem of wave diffraction by an obstacle, radar equivalent surface. Definition of the radar signal and the Doppler effect. Detection of target, probabilities of detection and false alarm. Link balances, signal-to-noise ratio, radar equations.
2. Pulse radars: surveillance radars, tracking radars, range tracking, angular tracking by conical scanning, single-pulse methods. Continuous wave and frequency modulation radars, speed measurement, combined range and speed measurement. Pulse Doppler radars: principles, distance ambiguities, blind speeds, elimination of 'fixed echoes'. Correlation radars, pseudo-random coding, other coding methods. Applications.
3. Half-day thematic simulation: installation of an outdoor pulse radar, calibration on a set of trihedrals, measurements on 'fixed obstacles' (buildings, vegetation), measurements on moving obstacles (vehicles), target fluctuations, Doppler effect.

Requirements *(2000 characters)*

SRC06-ONDE, SRC06-PROPA and SRC07-ESNL.

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Revision of lecture and practical exercise notes. Preparation of the half-day session.

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

CM: 16h
TD: 6h
TP: 4.5h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

Two-hour written examination.

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.
Principes de traitement des signaux radar et sonar - F. LE CHEVALIER - Masson Editeur
Radars - Bases modernes - M. CARPENTIER - Masson Editeur
Physique et théorie du radar - J. DARRICAU - Editions PGI Bagneux
Technique du radar classique - R. BENTEJAC - Masson Editeur
Initiation aux techniques modernes des radars - L. THOUREL - CEPADUES Editions

Contacts

Contacts *(2000 characters)*

Stephane.meric@insa-rennes.fr

Other information

Other information

4th year E&T

Subject name: **Radar and Sonar Signal Processing**	Code EC: **DET08-TSRS**
Number of hours per student: **26.5h**	ECTS Number : **2**
Reference Teacher: **Stéphane MERIC**	

Generalities

Objectives *(2000 characters)*

Raise students' awareness of the importance of choosing a radar signal to control uncertainties in distance and speed measurements, train them in anechoic chamber measurement techniques, and provide them with basic knowledgeof side-looking radars and sonar systems.

Description *(2000 characters)*

1. Uncertainties in distance and speed measurements, ambiguity functions in distance and speed, generalised ambiguity function, uncertainty principle. Properties of ambiguity functions associated with the pulse signal with and without frequency shift-keying, finding the ideal radar signal for a given application. Pseudorandom sequence radar and pulse compression radar.
2. Principles of measurement in an anechoic chamber, structure and qualities of anechoic chambers, ultra high frequency absorbers, scalar and vectorial measures, influence of polarisation, Fraunhofer area, measurement of impulse responses, windowing, holographic measurements, localisation of stationary phase centres. Introduction to electromagnetic imaging.
3. Practical half-day : measurements of RCS (Radar Cross Section) in anechoic chamber.
4. Seminar on radar remote sensing separated into two large-scale subjects: (a) physical (propagation, wave-matter interaction, and polarisation) and (b) processing (radar image design, pulse compression and synthetic aperture).
5. Principle of active and passive sonar, notions of submarine acoustics, propagation, reverberation. Characteristics of a sonar signal, carrier noise and transmission environment. Sonar equations.

Requirements *(2000 characters)*

Modulus DET06-EWAB, DET06-SSPB, DET07-ESNL, DET07-SYRAD

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Revision of lecture and practical work notes. Preparation of the practical "half-day".

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

CM: 16h
TD: 6h
TP: 4.5h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

Two-hour written examination.

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.
Traitement des images de RSO"" (sous la direction de Henri Maître), Traité IC2, collection Hermès, 2001

Contacts

Contacts *(2000 characters)*

Stephane.meric@insa-rennes.fr

Other information

Other information

4th year E&T

Subject name: Wavesguides and Antennas	**Code EC: DET08-WA**
Number of hours per student: 36h	**ECTS Number : 2**
Reference Teacher: María GARCIA-VIGUERAS	

Generalities

Objectives (2000 characters)

- Complement the electromagnetism theoretical concepts by the study of waveguides
- Be able to analyse and design conventional waveguides and resonant cavities
- Know the main antenna technologies
- Be able to design a basic antenna
- To have a basic knowledge of the metrology in the field of microwae circuits and antennas

Description (2000 characters)

I) 3D waveguides (16h, lectures and exercises)
a) Guided propagation : propagation equation and solutions, propagation modes (TEM, TE, TM, etc.), losses.
b) Usual waveguides : rectangular and circular, coaxial and planar lines.
c) Resonant cavities : resonance frequency, electromagnetic analysis.

II) Antenna technologies (10h, lectures and exercices)
a) Wire antennas : dipoles, loops, Yagi, log-periodic, feeding techniques.
b) Radiating apertures : horns and reflectors.
c) Printed antennas basics.

III) Practical work (10h)
Microwave and antenna metrology : spectrum analysis, waveguide and microwave circuit S parameters
 (vector network analyser), antenna gain and radiation pattern.

Requirements (2000 characters)

DET05-WTLB (Waves and Transmission Lines Basics)
DET06-EWAB (Electromagnetic Waves and Antennas Basics)
DET07-MB (Microwaves Basics)

Course requirements and assessments

Teaching Language (2000 characters)

French

Teaching methods (500 characters)

Number of hours per course type: (2000 characters)

CM: 26h
TD:
TP: 10h
PR:
CONF:
Autres:

Evaluation (200 characters)

Cliquez ou appuyez ici pour entrer du texte.
2 hour exam including questions on practical works.

Bibliography

- "Microwave Engineering", D.M. Pozar, Whiley- "Antenna Theory, analysis and design", C.A. Balanis, Whiley- "Electromagnetic Waves and Antennas", S.J. Orfanidis, http://www.ece.rutgers.edu/~orfanidi/ewa/

Contacts

Contacts (2000 characters)

Maria.garcia-vigueras@insa-rennes.fr

Other information

Other information

4th year E&T

Subject name: Data Networks	**Code EC: DET08-RES2**
Number of hours per student: 18h	**ECTS Number : 1**
Reference Teacher: Joumana FARAH	

Generalities

Objectives *(2000 characters)*

Routing protocols and TCP level 4. VLAN.

Description *(2000 characters)*

1- routing protocols;
2- TCP and congestion;exercices during the lessons
3- Mechanisms in IP network; VLAN.
Lab : 6H, builds a complete network, using wired and wireless equipments, routers, and servers

Requirements *(2000 characters)*

DET06-RES1

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

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

CM: 12h
TD:
TP: 6h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

Two-hour written examination.

Bibliography

Bibliography *(2000 characters)*

Fun platform and OpenClassroom - Cisco labs

Contacts

Contacts *(2000 characters)*

Joumana.farah@insa-rennes.fr

Other information

Other information

4th year E&T

Nom de la matière : Allemand	**Code EC: EC-HUMF08-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-HUM08-ANGL**
Total number of hours per student : 28h	**ECTS : 2**
Supervisor : Philippe LE VOT	

General information

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

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

Cliquez ou appuyez ici pour entrer du texte.

Description

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

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

Course and Evaluation Modalities

Language of Instruction
English

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

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

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

Hours by Course Type

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

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

Bibliography

Bibliography
Any English-language materials, whether technical or otherwise.

Contacts

Contacts

plevot@insa-rennes.fr

Subject name: CHINESE LV2-LV3	**Code EC: EC-HUMF08-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: PHYSICAL EDUCATION (EPS) SEMESTER 8	Code EC: EC-HUM08-EPS
Number of hours per student: 20H	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 8 focus : Participate in a creative process and generate innovative solutions. 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 8 focus:* Demonstrate the appropriate behaviors to maintain group safety. 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 8 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; Manage and oversee the progress of a collective project.

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-HUMF08-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-HUMF08-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
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/

Subject name: ITALIAN LV2-LV3	**Code EC: EC-HUMF08-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-HUMF08-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-HUMF08-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)*

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.

Subject name: Intercultural Modul	**Code EC: EC-HUMF08-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:
TD: 20 h par semestre
TP:
PR:
CONF:
Autres:

Evaluation *(200 characters)*

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

---

Bibliography

Bibliography *(2000 characters)*
Books
Camus, Albert. *The Stranger*. Translated by Stuart Gilbert. New York: Vintage Books, 1942.
Dostoevsky, Fyodor. *Crime and Punishment*. Translated by Constance Garnett. New York: Modern Library, 1866.
Flock, Elizabeth. *The Furies: Women, Vengeance, and Justice*. New York: Harper, 2024.
Malm, Andreas. *How to Blow Up a Pipeline: Learning to Fight in a World on Fire*. London: Verso Books, 2021.
Manne, Kate. *Down Girl: The Logic of Misogyny*. Oxford: Oxford University Press, 2017.
Motz, Anna. *If Love Could Kill: The Myths and Truths of the Women Who Commit Violence*. New York: Knopf, 2024.
Thoreau, Henry David. *Civil Disobedience*. Boston: David R. Godine, 1849.
Zinn, Howard. *A People's History of the United States*. New York: Harper & Row, 1980.
Articles and Essays
King, Martin Luther, Jr. "Letter from Birmingham Jail." April 16, 1963.
Schwartz, Alexandra. "When Women Commit Violence." *The New Yorker*, 2024.
Zinn, Howard. "The Problem is Civil Obedience." Speech delivered at Johns Hopkins University, Baltimore, November 1970.
Films and Television
Bong Joon-ho, dir. *Parasite*. Seoul: Barunson E&A, 2019.
Coen, Joel, and Ethan Coen, dirs. *Fargo*. Los Angeles: PolyGram Filmed Entertainment, 1996.
Coen, Joel, and Ethan Coen, dirs. *No Country for Old Men*. Los Angeles: Miramax Films, 2007.
Demme, Jonathan, dir. *The Silence of the Lambs*. Los Angeles: Orion Pictures, 1991.
Fincher, David, dir. *Gone Girl*. Los Angeles: 20th Century Fox, 2014.
Fincher, David, dir. *The Girl with the Dragon Tattoo*. Culver City: Columbia Pictures, 2011.
Fincher, David, dir. *Zodiac*. Los Angeles: Paramount Pictures, 2007.
Gilligan, Vince, creator. *Breaking Bad*. Los Angeles: AMC, 2008–2013.
Kelly, Richard, dir. *Donnie Darko*. Los Angeles: Newmarket Films, 2001.
Lanthimos, Yorgos, dir. *The Killing of a Sacred Deer*. London: A24, 2017.
Lynch, David, and Mark Frost, creators. *Twin Peaks*. Los Angeles: CBS Television Distribution, 1990–1991, 2017.
Martin, Steve, and John Hoffman, creators. *Only Murders in the Building*. Los Angeles: Hulu, 2021–.
Miller, George, dir. *Furiosa: A Mad Max Saga*. Burbank: Warner Bros., 2024.
Miller, George, dir. *Mad Max: Fury Road*. Burbank: Warner Bros., 2015.
Penhall, Joe, creator. *Mindhunter*. Los Gatos: Netflix, 2017–2019.
Pizzolatto, Nic, creator. *True Detective*. Los Angeles: HBO, 2014.
Tarantino, Quentin, dir. *Kill Bill: Vol. 1* and *Kill Bill: Vol. 2*. Los Angeles: Miramax Films, 2003–2004.
Wan, James, dir. *Saw*. Santa Monica: Lions Gate Films, 2004

Contacts

Contacts *(2000 characters)*

Other information

Other information

Subject name: Russian	**Code EC: EC-HUMF08-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

Subject name: Economic, legal and social issues	**Code EC: EC-HUM08-TEJS**
Number of hours per student: 10	**ECTS Number: 1**
Reference Teacher: Adeline Le Mabec	

Generalities

Objectives *(2000 characters)*

The module's main objective is to raise students' awareness of economic, legal, and social issues. Key learning outcomes include: developing analytical skills for understanding current economic, legal, and social topics; grasping the underlying logic and mechanisms; and cultivating curiosity and critical thinking skills.

Description *(2000 characters)*

The topics covered may vary depending on the speakers and current events.

Some examples include: the financial and monetary system, discrimination and inequality, quality of work life (QWL) – leadership and responsible management, legal status of businesses and public subsidies, media and information, wealth and common goods...

Requirements *(2000 characters)*

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Lectures/Conferences/Tutorials or mini-projects. References to current issues using a variety of media (press articles, videos, MOOCs, serious games, world café, etc.). Particular attention will be paid to the use of active learning methods.

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

CM:
TD: 10
TP:
PR:
CONF:
Autres:

Evaluation *(200 characters)*

```
Continuous assessmen
```

Bibliography

Bibliography *(2000 characters)*

```
Presentation materials and bibliographic references will be made available by the
speakers on the Moodle platform.
```

Contacts

Contacts *(2000 characters)*

Adeline Le Mabec : adeline.le-mabec@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.