Subject name: Database	**Code EC: DMA06-BD**
Number of hours per student: 34h	**ECTS Number: 3**
Reference Teacher: Peggy Cellier	

Generalities

Objectives *(2000 characters)*

This course has several objectives. It aims to strengthen and expand students' skills in database manipulation and modeling. Finally, it provides an introduction to the concepts of the Semantic Web, in particular how linked data on the web are represented (RDF) and how they can be queried (SPARQL).

Description *(2000 characters)*

Course Content

- Functional dependencies and normal forms
- NoSQL databases
- XML and XQuery
- Data warehousing
- Introduction to the Semantic Web (RDF, RDFS, SPARQL, OWL)

Requirements *(2000 characters)*

Second-year course on Databases

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: 14h
TD: 6h
TP: 14h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

A two-hour exam.

Bibliography

Bibliography *(2000 characters)*

- M. Jarke, M. Lenzerini, Y. Vassiliou, P. Vassiliadis. *Fundamentals of Data Warehouses*. Springer-Verlag, 2000.
- G. Gardarin. Bases de données. Eyrolles, 5e tirage, 2003.
- R. Ramakrishnan, J. Gehrke. *Database Management Systems*. McGraw-Hill Higher Education, 2003.
- XML, langage et applications, A. Michard, Eyrolles, 2000
- XML, des bases de données aux services Web, G. Gardarin, Dunod, 2002
- Le web sémantique, F. Gandon, C. Faron-Zucker, O. Corby, Dunod, 2012

Contacts

Contacts *(2000 characters)*

Peggy.cellier@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Markov Models	Code EC: DMA-MM
Number of hours per student: 36 h	ECTS Number:3
Reference Teacher: LEDOUX James	

Generalities

Objectives *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.
Upon completion of this program, the student will be familiar with discrete time Markov evolutions and their use in simulation, and with basic concepts on partially observed Markov models.

Description *(2000 characters)*

MARKOV CHAINS WITH DISCRETE STATE SPACE
- Markov dynamics
- Application to stochastic operation research

MARKOV CHAIN MONTE CARLO (MCMC) METHODS
- Metropolis algorithm. Gibbs sampling

MARKOV CHAINS WITH CONTINUOUS STATE SPACE
- Markov kernel. Some examples.
- Linear gaussian model and Kalman filter.

PRACTICAL WORK WITH R SOFTWARE

Requirements *(2000 characters)*

Mathematical courses from the undergraduate program of INSA (years 1-2) or equivalent skills; « Introduction to probability » (STPI-2A), « Introduction to mathematical software » and « Probability » (DMA05)

Course requirements and assessments

Teaching Language *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Teaching methods *(500 characters)*

Cliquez ou appuyez ici pour entrer du texte.

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

CM: 12
TD:16
TP:8
PR:
CONF:
Autres:

Evaluation *(200 characters)*

One written examination (DS), continuous assessment (CC), Practical work/Project (PW). Score=3/4*max (N,DS) + 1/4 PW with N=(CC+2*DS)/3

Bibliography

Bibliography *(2000 characters)*

Bibliography :

P. Brémaud. Markov chains (Gibbs fields, Monte Carlo simulation, and queues). Springer, 1999.
J-F. Delmas, B. Jourdain. Modèles aléatoires : Applications aux sciences de l'ingénieur et du vivant. Springer, 2006.
C. Robert, G. Casella. Monte Carlo statistical methods. Springer, 1999.
B. Séricola. Chaînes de Markov. Hermès, 2003
K. Trivedi. Probability and Statistics with Reliability, Queuing, and Computer Science Applications. Wiley, 2001.

Contacts

Contacts *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Other information

Other information

The 8 hours of practical work dedicated to simulation activities provide an opportunity to raise engineering students' awareness of digital efficiency, which aligns with the objectives of developing professional skills. The emphasis placed on the digital efficiency of the code has been strengthened in the assessment

Subject name: Numerical methods, Non Linear case	Code EC: DMA06-MNNL
Number of hours per student: 36 h	ECTS Number: 3.00 credits
Reference Teacher: Othmane JERHAOUI	

Generalities

Objectives

This course aims at initiating students to basic notions in numerical analysis: compute the approximated solution of non-linear equations and systems of equations, interpolate a sequence of points in a plan, numerically approximate the derivatives of a given function, numerically approximate an integral, numerically solve differential equations.

Description

- Polynomial interpolation.
- Numerical integration
- Resolution of non-linear equations.
- Ordinary differential equations: explicit methods, implicit methods, one step methods, multi-step methods.
- Practical work with MATLAB.

Requirements

- Analysis and algebra (STPI).
- Numerical methods for linear systems (S5).
- Introduction to mathematical software (S5).
- Modelling with ordinary differential equations (S5).

Course requirements and assessments

Teaching Language

French.

Teaching methods

Classic courses and tutorials, practical work on computers.

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

CM: 12.00h
TD: 12.00h
TP: 12.00h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

1 written exam (coefficient 1/2) and a project (coefficient 1/2).

Bibliography

Bibliography

- A. Quarteroni, F. Saleri, P. Gervasio, Calcul Scientifique. Cours, exercices corrigés et illustrations en MATLAB et Octave. Springer, 2008.

- J. Rappaz, M. Picasso, Introduction à l'analyse numérique. Presses polytechniques et universitaires romandes, 2004. - F. Filbet, Analyse numérique. Algorithme et étude mathématique. Dunod, 2013.

- T. Lyche, J.L. Merrien, Exercises in Computational Mathematics with MATLAB. Springer, 2014.

Contacts

Contacts

Othmane Jerhaoui

Other information

Other information

N/A

Subject name: Linear regression model	Code EC: DMA06-MRL
Number of hours per student: 38 hours	ECTS Number: 3
Reference Teacher: Jean-François DUPUY	

Generalities

Objectives *(2000 characters)*

The linear model is often the first regression model implemented in a mathematical engineering curriculum. It is therefore during this course that the many issues that will be encountered in general regression problems are introduced. The objective of this course is therefore twofold: i) to introduce the general issues of modeling, statistical inference in a regression model, variable selection, model validation, prediction, and critical interpretation of results; and ii) to introduce the specific tools of the linear model (least squares estimation, inference in the Gaussian linear model, model selection, the concept of residuals, etc.).
At the end of this course, students should be able to build a linear regression model, implement it in R, interpret its outputs (in particular, provide a reading accessible to a non-statistics specialist), use it to make predictions, and identify its scope of use.

Description *(2000 characters)*

The teaching is structured around concrete examples from various fields (e.g., study of ozone pollution, forestry, air transport), allowing the first simple models, then develops the notions of simple linear model, Gaussian linear model, multiple linear model. The associated inference methods are then introduced: point estimation (least squares and maximum likelihood methods), estimation by confidence intervals, hypothesis tests, as well as model selection, model validation tools, prediction. The particular case of analysis of variance (or ANOVA) is finally the subject of specific treatment.

Requirements *(2000 characters)*

This course requires the following prerequisites: linear algebra (undergraduate level/STPI), probability calculus (undergraduate level/STPI), inferential statistics tools (point estimation, confidence intervals, hypothesis tests).

Course requirements and assessments

Teaching Language *(2000 characters)*

French (the course may be given in English if the presence of non-French-speaking students requires it).

Teaching methods *(500 characters)*

Each session is structured around a lecture portion (introduction to the methodological and/or theoretical concepts that will form the theme of the session), followed by an application in the form of exercises, allowing for the immediate application of the concepts introduced.
The practical work (in R, a free and open-source software) is provided by a lecturer from an industrial company, who invites students to work on real data from concrete business problems.

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

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

16 hours out of the 38 are provided by an external speaker (company engineer)

Evaluation *(200 characters)*

Students are assessed using a written examination - WE (to assess their level of understanding of the methodology and tools of the linear regression model) and a group project (modeling and forecasting work, conducted on real data). Coefficients: WE (75%) and group project (25%).

Bibliography

Bibliography *(2000 characters)*

- J.-M. Azaïs, J.-M. Bardet. Le modèle linéaire par l'exemple. Dunod, 2012.

- P.-A. Cornillon, E. Matzner-Lober. Regression avec R. Springer, 2010.

- G.A.F. Seber, A.J. Lee. Linear regression analysis. Wiley, 2003.

Contacts

Contacts *(2000 characters)*

Jean-François DUPUY, jean-francois.dupuy@insa-rennes.fr

Other information

Other information

5 hours are devoted to the societal aspects of statistical modeling (ethical aspects of processing regression data, bias issues).

Subject name: Continuous Optimization	Code EC: DMA06-OC
Number of hours per student: 34 h	ECTS Number: 2.50
Reference Teacher: Dominique MONNET	

Generalities

Objectives *(2000 characters)*

This course gives a general introduction to optimization problems and the various algorithms to solve them numerically. This course focuses on problems with continuous variables and differentiable objectives and constraints. Classical optimization algorithms are covered, and students will learn to use a modelling language dedicated to optimization problems.

Description *(2000 characters)*

- Non-linear optimization: existence and unicity conditions, convexity, …
- Unconstrained optimization: gradient descent, Newton and quasi-Newton methods.
- Line-search and Trust-region frameworks.
- Constrained Optimization: optimality conditions (first order), projected gradient method, Penalty methods
- Introduction to a modeling language: JUMP (Julia language)

Requirements *(2000 characters)*

- Linear algebra (STPI program)
- ILS
- Numerical Methods for linear systems

Course requirements and assessments

Teaching Language *(2000 characters)*

The course is taught in French if the students are French-speaking. The speakers can give the course in English if necessary. Slides are in English.

Teaching methods *(500 characters)*

Classic courses and tutorials, practical work on computers.

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

CM: 12.00 h
TD: 12.00 h
TP: 10.00 h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

1 written exam (coefficient 1/2) and a practical exam and/or a project (coefficient 1/2).

Bibliography

Bibliography *(2000 characters)*

- J.F. Bonnans et al. Optimisation numérique. Aspects théoriques et pratiques. Springer, 1997.
- J.F. Bonnans. Optimisation continue, Cours et problèmes corrigés. Dunod, 2006.
- J. Nocedal, S.J. Wright. Numerical Optimization, Second Edtition. Springer, 2006.

Contacts

Contacts *(2000 characters)*

Dominique Monnet

Other information

Other information

Subject name: Discrete optimisation	**Code EC: DMA06-OD**
Number of hours per student: 28h	**ECTS Number: 2,5**
Reference Teacher: Rozenn Texier-Picard	

Generalities

Objectives *(2000 characters)*

The aim of the course is to give a general presentation of problems and methods in discrete optimisation. It aims to develop the following skills:

- modelling a situation as an optimisation problem on a graph
- Proposing and implementing basic methods for approximating solutions
- Prove the convergence of an algorithm to the expected solution
- Evaluate the complexity of a method
- Reflect on the ethical and societal issues involved in the practice of mathematical modelling practices.

Description *(2000 characters)*

- Algorithms and basic concepts in graph theory, trees, width-first and length-first search, shortest path
- Max-flow problems, spanning trees
- Min-cost affectation problem
- Introduction to Integer Linear Programming
- Ethics and modelling
- Implementation with Julia Language and introduction to a language for mathematical modelling (JuMP)

Requirements *(2000 characters)*

- Mastery of fundamental mathematical logics and set theory

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

The lectures and tutorials give the opportunity to present the main concepts and methods and use them on simple examples.
The lab sessions aim to a practical construction of graph problem instances, an implementation of algorithms and an analysis of their numerical performance.
A session allows participants to lay the foundations for reflection on the ethical and societal issues of mathematical modelling through an introduction to some elements of philosophy of science, the reading of scientists' testimonials and the study of practical cases.

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

CM: 10h
TD: 8h
TP: 10h, including 2h of ethics
PR:
CONF:
Autres:

Evaluation *(200 characters)*

One 2-hour written exam (50%)
A project by groups of 2-3 students (50%)

Bibliography

Bibliography *(2000 characters)*

[1] M. Gondran, M. Minoux. Graphes et algorithmes. Eyrolles, 1978.
[2] M. Minoux, Programmation mathématique : théorie et algorithmes, 2e édition. 2008

Contacts

Contacts *(2000 characters)*

Rozenn Texier-Picard

Other information

Other information

2 hours are dedicated to an ethical reflection, regarding environnemental and social issues in mathematical modelling.

Subject name: Business seminar	Code EC: DMA06-SE
Number of hours per student: 20	ECTS Number: 1.00
Reference Teacher: Jean-François DUPUY, Mounir HADDOU, Olivier LEY	

Generalities

Objectives *(2000 characters)*

This module is an open forum for stakeholders of the business world. It covers all semesters of the engineering curriculum and aims at providing the students a broad-spectrum engineering culture. This module will constitute a unique opportunity for students to discover the different career profiles of mathematical engineering. Through this module, the students will also acquire some useful technical, managerial and juridical skills and a solid operational expertise. Finally, this module will help the students raising their awareness to the challenges of sustainable development and to the societal aspects of their future profession of engineer.

Description *(2000 characters)*

The module will offer (among others) : - presentations of various career profiles and employment sectors of mathematical engineers ; - specific mathematical skills (Bayesian networks, sensometry...), computational and software-related skills (specific softwares, computation codes, database management tools for heterogeneous, massive and unstructured data), specific operational skills (clinical trial protocol, banking regulations...) ; - some awareness to managerial issues (such as business creation, industrial property...) and societal aspects (sustainable development, ethic...) of the profession of engineer.

Requirements *(2000 characters)*

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Different kind of presentations and interventions.

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

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

Evaluation *(200 characters)*

The assessment is based on some report delivery.

Bibliography

Bibliography *(2000 characters)*

Contacts

Contacts *(2000 characters)*

DUPUY Jean-François, HADDOU Mounir, LEY Olivier

Other information

Other information

Subject name: Inferential statistics	Code EC: DMA06-SI
Number of hours per student: 36h	ECTS Number: 2.50
Reference Teacher: Boutheina NEMOUCHI	

Generalities

Objectives *(2000 characters)*

The purpose of this module is to provide students with a rigorous and practical understanding of the fundamental principles of statistical inference. It aims to enable them to analyze and model data using robust theoretical tools (sufficiency, completeness, information, estimation, testing), while developing the skills necessary to design reliable decision-making procedures in uncertain contexts.

Description *(2000 characters)*

This module presents the theoretical foundations and essential methods of inferential statistics. It introduces the principles for extracting relevant information about a population or underlying probabilistic model from a sample. The concepts of completeness, information, point estimation, confidence intervals, and hypothesis testing are developed, with particular attention paid to mathematical rigor and practical applications.

Requirements *(2000 characters)*

This course requires proficiency in probability courses from the undergraduate program of INSA (STPI), courses of “probability” and “Introduction to mathematical softwares”.

Course requirements and assessments

Teaching Language *(2000 characters)*

All components of the course (lectures, tutorials, and practical sessions) are taught in French

Teaching methods *(500 characters)*

The teaching combines lectures for presenting fundamental concepts, tutorials for applying methods through progressive exercises, and practical sessions enabling the numerical implementation of statistical inference techniques. The approach alternates between theory, problem-solving, and data manipulation to foster both conceptual understanding and the development of operational skills.

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

CM: 16h
TD: 16h
TP: 4h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

One written examination (DS) of 2h (1/3) and one a assessment examination of 1h (1/3)

Bibliography

Bibliography *(2000 characters)*

- D. Fourdrinier. Statistique inférentielle. Dunod, 2002.
- M. Lejeune. Statistique. La théorie et ses applications. Springer, 2010.
- Monfort. Cours de statistique mathématique. Economica, 1997.
- Prum. La démarche statistique. Cepadues, 2010.
- J. Shao. Mathematical statistics. Springer, 2010.- P. Tassi. Méthodes statistiques. Economica, 2004.

Contacts

Contacts *(2000 characters)*

boutheina.nemouchi@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

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).

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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:
    - Writing emails and abstracts linked to the EPA (Engineering Problem Analysis) course.
    - Notions of interculturality.
    - 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 : 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

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-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
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-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

INSA RENNES : 2025/2026

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:
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-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