Subject name: Data Analysis	Code EC: DMA05-AD
Number of hours per student: 26 h	ECTS Number: 2.5
Reference Teacher: Boutheina Nemouchi	

Generalities

Objectives *(2000 characters)*

The aim of this module is to introduce students to the main methods of multivariate statistical analysis, such as Principal Component Analysis (PCA) and Correspondence Analysis (CA).
By the end of the course, students should be able to carry out a complete exploratory analysis of a dataset by selecting the method best suited to the nature of the variables, interpreting both graphical and numerical outputs, and implementing these analyses using the R software in order to derive relevant conclusions about the structure and relationships within the data.

Description *(2000 characters)*

This module includes the following:

1. Algebraic foundations of data analysis: matrices, eigenvalues, Euclidean metrics, singular value decomposition
2. Principal axis analysis: geometric and mathematical foundations of PCA
3. Principal Component Analysis (statistical foundations)
4. Correspondence Analysis and multidimensional positioning
5. R functions dedicated to exploratory data analysis

Requirements *(2000 characters)*

This course requires mastery of the algebra curriculum from the STPI cycle, as well as the module “Introduction to Mathematical Software Tools”

Course requirements and assessments

Teaching Language *(2000 characters)*

All lectures and practical sessions (CM and TP) are taught in French.

Teaching methods *(500 characters)*

Each session consists of a lecture introducing the methodological and/or theoretical concepts covered during the session.
The practical sessions (using R, a free and open-source software) allow students to apply theory to practice by working with real or simulated datasets, thereby strengthening their understanding of the methods presented in class.

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

CM: 10h
TD:
TP: 16h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

One written exam (2/3) and a practical assessment and/or project (1/3).

Bibliography

Bibliography *(2000 characters)*

T.W. Anderson. *An Introduction to Multivariate Statistical Analysis*. Wiley, 2003.
B. Everitt, T. Hothorn. *An Introduction to Applied Multivariate Analysis with R*. Springer, 2011.
F. Husson et al. *Analyse des données avec R*. PUR, 2009.
J.D. Jobson. *Applied Multivariate Data Analysis*. Springer, 1992.
L. Lebart, M. Piron, A. Morineau. *Statistique exploratoire multidimensionnelle*. Dunod, 2006.
Rafael A. Irizarry & Michael I. Love. *Data Analysis for the Life Sciences with R*. Chapman and Hall/CRC, 2017.

Contacts

Contacts *(2000 characters)*

Boutheina.nemouchi@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Introduction to mathematical software	Code EC: DMA05-ILM
Number of hours per student: 24h	ECTS Number: 2.00
Reference Teacher: Dominique Monnet and Pierrette Chagneau	

Generalities

Objectives *(2000 characters)*

The aim of this course is to familiarize students with the language and the programming environment of several mathematical software (Matlab, R).

Description *(2000 characters)*

Overview of mathematical software (Matlab, R)
User interfaces
Data management (importation, export)
Programming languages
Graphics procedures

Requirements *(2000 characters)*

Basic understanding of algorithms and skills in programming languages

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Practical work in MATLAB
Practical work in R

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

CM:
TD:
TP: 24h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

Assignment on practical exercises

Bibliography

Bibliography *(2000 characters)*

- A. Biran, M. Breiner. MATLAB 6 for Engineers. Prentice Hall, 2002, 3th ed.
- F. Gustafsson, N. Bergman. MATLAB for Engineers Explained. Springer-Verlag, 2003.
- D.J. Higham, N. Higham. MATLAB Guide. SIAM, 2005, 2nd ed.
- T. Lyche, J.L. Merrien. Exercises in Computational Mathematics with MATLAB. Springer-Verlag, 2014.
- A. Quarteroni, R. Sacco, F. Saleri. Scientific Computing with MATLAB. Springer-Verlag, 2003.
- H.B. Wilson, L.H. Turcotte, D. Halpern. Advanced Mathematics and Mechanics Applications using MATLAB. Chapman and Hall, 2003, 3rd ed.
- J. Adler. R-L'essentiel. Pearson, 2011.
- P. Lafaye de Micheaux, R. Drouilhet, B. Liquet. Le logiciel R : Maîtriser le langage, Effectuer des analyses statistiques. Springer, 2010.
- E. Paradis. R pour les débutants. 2005.

Contacts

Contacts *(2000 characters)*

Dominique.Monnet@insa-rennes.fr

Pierrette.Chagneau@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Modeling with Ordinary Differential Equations	Code EC: DMA05-MEDO
Number of hours per student: 28.00 h	ECTS Number: 2.50 credits
Reference Teacher: Olivier LEY	

Generalities

Objectives *(2000 characters)*

The aim of this course is to introduce the tools and classical techniques to study Ordinary Differential Equations which appear in some models in physics, biology, etc. At the end of this course, the student should be able to study the existence and behavior of ODE solutions.

Description *(2000 characters)*

- Ordinary Differential Equations (ODE)
- Cauchy problem for ODEs
- Existence and uniqueness of maximal and global solutions: Gronwall Lemma, Picard-Lindelhöf Theorem,
- Stability of solutions: Lyapunov function, linearization techniques, Linear systems of ODEs in the plane.
- Modeling and detailed study of classical systems: logistic equation, pendulum, Lotka-Volterra equations.
- Euler method, first-order numerical procedure.

Requirements *(2000 characters)*

Mathematical courses from the undergraduate program of INSA (years 1-2) or equivalent skills (calculus, linear algebra).

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.

Teaching methods *(500 characters)*

Classic courses and tutorials, practical work on computers.

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

CM: 10.00 h
TD: 10.00 h
TP: 8.00 h
PR:
CONF:
Autres: including 3.00 h ST2

Evaluation *(200 characters)*

1 written exam (coefficient 2/3) and a practical exam and/or a project (coefficient 1/3).

Bibliography

Bibliography *(2000 characters)*

- V. Arnold. Équations différentielles ordinaires. MIR, Moscou, 1974.
- W. E. Boyce, R. C. DiPrima, D. B. Meade, Elementary Differential Equations and Boundary Value Problems, John Wiley & Sons 2017.
- J.-P. Demailly. Analyse numérique et équations différentielles. EDP Sciences, 2006.

Contacts

Contacts *(2000 characters)*

Olivier Ley

Other information

Other information

Awareness of sustainable development and ecological issues through the problems studied (logistics equation, prey-predator system, SIR model of epidemic propagation).

Subject name: Numerical Methods for Linear Systems	Code EC: EC-DMA05-MNL
Number of hours per student: 30 h	ECTS Number: 2.5
Reference Teacher: Mohamed CAMAR-EDDINE	

Generalities

Objectives

The aim of this course is to provide numerical tools, methods and algorithms that can be used for solving linear systems of equations and for the computation of eigenvalues and eigenvectors of matrices. At the end of this course, students should be able to implement these methods and also interpret the obtained results.

Description

Matrix norms,
Review on Gauss method,
Direct methods for linear systems,
Iterative methods for linear systems,
Conditioning of a linear system,
Spectral problems. Power method, inverse power method and deflation method,
MATLAB and/or PYTHON practical work

Requirements

Mathematical courses from the undergraduate program of INSA (years 1-2) or equivalent skills. In particular in algebra and analysis. The course “Introduction to mathematical software” is also needed.

Course requirements and assessments

Teaching Language

French

Teaching methods

Face to face

Number of hours per course type

Lectures: 12

Tutorials: 10

Practical work: 8

Evaluation

One written examination (2/3 of the final grade) and one practical test (1/3 of the final grade).

Bibliography

Bibliography

- G. Allaire, S.M. Kaber. Algèbre linéaire numérique. Ellipses, 2002.
- P. Lascaux, R. Theodor. Analyse numérique matricielle appliquée à l'art de l'ingénieur. Masson, 1987.
- A. Quarteroni, R. Sacco, F. Saleri. Méthodes numériques. Algorithmes, analyse et applications. Springer, 2007.
- M. Schatzmann. Numerical Analysis. A Mathematical Introduction. Oxford University Press, 2002.

Contacts

Contacts

Mohamed CAMAR-EDDINE

Other information

Other information

Documents are available on moodle

Subject name: Basic Mathematics Tools	Code EC: DMA05-OMB
Number of hours per student: 36h	ECTS Number: 3
Reference Teacher: Marc BRIANE	

Generalities

Objectives *(2000 characters)*

Basic mathematical tools needed for analysis and probabilities.

Description *(2000 characters)*

LEBESGUE'S INTEGRAL on R^d (9h + 9h)
Definition and properties
Convergence theorems
Integral depending on a parameter
Fubini's theorems
Change of variables theorem

METRIC AND NORMED SPACES (9h + 9h)
Definitions, examples and properties
Complete and compact spaces
Continuity and uniform continuity
Fixed point theorems

Requirements *(2000 characters)*

Mathematical courses from the undergraduate program of INSA (years 1-2) or equivalent skills.

Course requirements and assessments

Teaching Language *(2000 characters)*

French.

Teaching methods *(500 characters)*

Continuous assessment.

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

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

Evaluation *(200 characters)*

One written examination (2h) (1/2) and Continuous assessment (1/2).

Bibliography

Bibliography *(2000 characters)*

M. Briane, G. Pagès, Analyse - Théorie de l'intégration : Convolution, Transformées de Fourier et de Laplace, 8e édition, De Boeck Supérieur, 2023, 432 pages.
J.-M. Monier. Analyse MP, Dunod, Paris, 2004.
C. Derschamps, A. Warusfel, J.-F. Ruaud, F. Moulin, J.-C. Sifre, A. Miquel. Mathématiques, tout-en- un, 2ème année MP. Dunod, Paris, 2004.

Contacts

Contacts *(2000 characters)*

mbriane@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Probability	Code EC: DMA05-Proba
Number of hours per student: 44 h	ECTS Number: 3.5
Reference Teacher: Loïc HERVE	

Generalities

Objectives *(2000 characters)*

To understand the various types of convergence of random variables, the basic principles of the conditional expectation, and the Monte Carlo simulation.

Description *(2000 characters)*

PROBABILITY SPACE ANS RANDOM VARIABLE
- Definition and properties of a probability space
- Real-valued random variables (definition, probability distribution)
- Independent random variables

MATHEMATICAL EXPECTATION OF A RANDOM VARIABLE
- Definition and properties of the expectation value of a real-valued random variable
- Convergence theorems
- Classical inequalities

CONVERGENCE OF A SEQUENCE OF RANDOM VARIABLES
- Convergence in probability and weak law of large numbers
- Almost sure convergence and strong law of large numbers
- Convergence in distribution and central limit theorem

RANDOM VECTORS
- Law of a random vector
- Expectation vector and covariance matrix of a random vector
- Convergence in law for a sequence of random vectors

RANDOM GAUSSIAN VECTORS
- Definition and characteristic function of a Gaussian random vector
- Density function of a Gaussian random vector
- Multi-dimensional central limit theorem
- Properties of Gaussian random vectors

CONDITIONAL EXPECTATION
- Linear regression
- Definition for discrete and absolutely continuous random variables
- *Existence* and uniqueness *theorem* (general case)
- Properties of the conditional expectation.

Laboratory work/Project with the software R
- Standard methods for simulation of r.v..
- Illustrations of the convergence of r.v. in probability and statistics

Requirements *(2000 characters)*

First cycle

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: 18h
TD: 18h
TP: 8h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

- *Continuous assessment (Course evaluation) : 50%*
- *Personal work (solving problems and exercises) : 30%*
- *Evaluation on* practical work**/Project : *20%***

Autres: 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.

Bibliography

Bibliography *(2000 characters)*

- N. Bartoli, P. Del Moral. Simulation & Algorithmes stochastiques. Cépaduès, 2001.
- J-P. Delmas. Introduction aux probabilités. Ellipses, 1993.
- D. Foata, J. Franchi, A. Fuchs. Calcul des probabilités. Dunid, 2012. .
- *R. Durrett Probability*: Theory and Examples, Cambridge Series in Statistical and Probabilistic Mathematics

C. P Robert, G. casela. Méthodes de Monte-Carlo avec R. Springer, 2011

Contacts

Contacts *(2000 characters)*

loherve@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Python and Scientific Modules	Code EC: DMA05-PYTHO
Number of hours per student: 26 h	ECTS Number: 2.5
Reference Teacher: Pierre NAVARO	

Generalities

Objectives *(2000 characters)*

The goal of this training module is twofold. First, to provide students with the main elements of the Python language in order to get them autonomous with python coding. Provided lectures emphasis on the "pythonic" way of programming. Second this module makes a wide presentation of the large number of python modules related to science (i.e numpy,scipy,pandas,...) and graphics (i.e matplotlib,..) which are relevant for further work in the curriculum and giving readily data analysis skills. This module proposes different practical applications in two different development environment Spyder and the Ipython notebook. The proposed illustrations borrow example in various domains as : statistical analysis, geodata processing, data visualization, genealogical data processing,...

Description *(2000 characters)*

Basis of python language
Program structure
Classes (OO basic concepts)
Input/output
Handling text and binary file format
Modular decomposition
Regular expressions
Two different development environment
Interactivity : Ipython Notebook for sequential data analysis
IDE : Spyder
Extension module (mostly scientific purpose)
algebra : PyIMSL Studio, NumPy (the broadcasting concept)
modules scientifiques : SciPy (scipy.stats & scipy.interpolation)
Data vizualization : MatPlotLib
Symbolic calculus : SymPy
Data analysis : Pandas (R like module, Series and DataFrame processing)
GIS : gdal/ogr
Data format : csv, xml, beautifulsoup, json, numpy rich format
IHM : PyQt4
DataBase : psycopg2, SQLite

Requirements *(2000 characters)*

Basic knowledge in programming
Undergraduate mathematical background for being comfortable with proposed scientific illustrations.

Course requirements and assessments

Teaching Language *(2000 characters)*

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Teaching methods *(500 characters)*

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

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

Evaluation *(200 characters)*

An evaluation on Practical work

Bibliography

Bibliography *(2000 characters)*

E. Bressert. SciPy and NumPy: Optimizing & Boosting Your Python Programming. O'Reilly,2012
W. Chun. Au cÅ“ur de Python : Tome 1, Notions fondamentales. Campus Press, 2007.
W. Chun. Au Coeur de Python: Notions AvancÃ©es. Campus Press, 2007.
H. Langtangen. Python Scripting for Computational Science (3rd ed.). Springer, 2008.
W. McKinney. Python for Data Analysis. O'Reilly Media, 2012.
M. Lutz. Programming Python. O'Reilly Media, 2011.
G. Swinnen. Apprendre Ã programmer avec Python 3. Eyrolles, 2012.
M. Summerfield. Programming in Python 3. Addison-Wesley, 2009.
M. Summerfield. Rapid GUI Programming with Python and Qt. Prentice Hall, 2008.
A. Camasayou-Boucau, G. Conan, P. Chauvin. Programmation en Python pour les mathÃ©matiques. Dunod, 2012. S. Tosi. Matplotlib for Python Developers. Packt Publishing Limited, 2009.

Contacts

Contacts *(2000 characters)*

pierre.navaro@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Remediation	Code EC: DMA05-Remed
Number of hours per student: 24h	ECTS Number: 2
Reference Teacher: Loïc HERVE	

Generalities

Objectives *(2000 characters)*

To revise some important results of the mathematical courses from the undergraduate program of INSA (years 1-2) or equivalent skills (STPI-2A).

Description *(2000 characters)*

- Linear algebra : matrix reduction, Euclidean space
- Reduction of symmetric matrices and applications to bilinear algebra
- Matrix norm
- Series and generalized integrals,
- Fubini's theorem for sums and integrals
- Random variables with density

Requirements *(2000 characters)*

Mathematical courses from the undergraduate program of INSA (years 1-2) or equivalent skills (STPI-2A).

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: 12h
TD:12h, including a specific session dedicated to explaining the expectations of the projects within the department.
TP:
PR:
CONF:
Autres:

Evaluation *(200 characters)*

Continuous assessment

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Contacts

Contacts *(2000 characters)*

loherve@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Business seminar	Code EC: DMA05-SE
Number of hours per student: 26 h	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: 26
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: C Language	Code EC: ESM05-INFOC
Number of hours per student: 22 h	ECTS Number: 1.5
Reference Teacher: Marin BERTIER	

Generalities

Objectives *(2000 characters)*

Basic understanding of the C programming language.
Ability to resolve all common problems.
Find the minimal intersection of needs / C. language.
Writing and comprehension of the code. Syntax and associated semantic.

Description *(2000 characters)*

1. Introduction to C programming language:
Introduction.
Chain of production, from the code source to the executable.
2. Basic C:
Lexical entities.
Language syntax.
Variable declaration.
Predefined types.
Operators and expressions.
General structure of a program.
Basic input/output.
Control structures and instructions.
Fields: 1st form.
Functions and pass-by-value parameter passing.
3. Advanced C:
Pointers.
Functions and pass-by-address parameter passing.
Standard library functions.
Memory models for functions and pointers.
Fields : 2nd form.
New types and types constructor.
Explicit type conversion.
File input/output.
Allocation class.
Dynamic Allocation.
Pointers to functions.

Requirements *(2000 characters)*

Understanding of Algorithms Foundations

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: 6h
TD: 4h
TP: 12h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

2-hour written examination at the middle of the first semester (documents allowed).

Bibliography

Bibliography *(2000 characters)*

J.P. BRAQUELAIRE. Méthodologie de la programmation en langage C - Principes et applications. Manuels Informatiques Masson. Masson, 1993.
J.P. BRAQUELAIRE. Méthodologie de la programmation en langage C - Norme C99 - API POSIX. Sciences Sup. Dunod, 2005.
C. DELANOY. Programmer en langage C, avec exercices corrigés. Eyrolles, 1997.
B.W. KERNIGHAN and D.M. RITCHIE. Le langage C. Manuels Informatiques Masson. Masson, 1990.
J.L NEBUT. Le langage C - définition de la norme ANSI. Technical Report Cours C81, IFSIC -Université de Rennes 1, juillet 1989.

Contacts

Contacts *(2000 characters)*

marin.bertier@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Nom de la matière : Allemand	**Code EC: EC-HUMF05-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-HUM05-ANGL
Total number of hours per student : 28h	ECTS : 2
Supervisor : Philippe LE VOT	

General information

Objectives and Purposes

General Objectives:

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

Linguistic Objectives:

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

Cliquez ou appuyez ici pour entrer du texte.

Description

- **Action-oriented approach to language learning:** Learning by doing: speaking and listening, writing documents while mobilizing the ability to solve, construct, demonstrate, and persuade.
- Express oneself with precision through rigorous use of syntax and phonology. Activities involving creativity and responsiveness, such as debates, role-playing, individual oral presentations with PowerPoint or Canva support, and projects, will be based on current, scientific, and societal topics.
- Development of specific skills related to the professional world:
    - 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-HUMF05-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 5	**Code EC: EC-HUM05-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 5 focus:* comprehend the physiological principles for maintaining good health (preparation for effort, recovery, and regulation of exertion); manage emotions and stress during opposition, competition, performance, or uncertain situations
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 5 focus:* Train one's peers, demonstrate empathy, altruism, and leadership; Integrate into a team and contribute to its dynamism
Methodological Competencies: Manage complex projects by setting objectives, planning, and evaluating outcomes. Make informed decisions through observation, reflection, and feedback. *Semester 5 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

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Nom de la matière : Spanish	Code EC: EC-HUMF05-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-HUMF05-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: Gestion des risques	Code EC: EC-HUM05-RISQ
Number of hours per student: 22h	ECTS Number: 1,5
Reference Teacher: Valérie HARDOUIN DUPARC	

Generalities

Objectives *(2000 characters)*

Raising awareness that the environment in which an engineer operates is fraught with uncertainties and dangers. Engineers must nevertheless remain in control of their choices and actions within limits defined by acceptable risk in the current context of sustainable development and ecological transition.

Description *(2000 characters)*

- Sulitest: A Sustainable Development Literacy Test assesses higher education students' level of knowledge regarding the 17 Sustainable Development Goals (SDGs).

- Conference on the Risk Society: Introduction to the concept of risk – evolution of risks and the changing relationship to risk (role of the engineer, procedures/freedoms, human error, controversies, etc.).

- Occupational Health and Safety Conference: Physical and psychological risks.

- INRS Training: Serious game in occupational health and safety (psychosocial risks, workplace accidents, occupational risk assessment, risk prevention, etc.).

Requirements *(2000 characters)*

None

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Hybrid training program alternating between in-person and online learning.
Self-study Sulitest
Introduction to engineers and their relationship to the 17 SDGs: 2 hours of lectures
Course on the social sector: 10 hours
Occupational Health and Safety Conference: 2 hours
Independent INRS training: 8 hours

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

CM: 22h
TD:
TP:
PR:
CONF:
Autres:

Evaluation *(200 characters)*

1 score from the Sulitest (1/5 final grade)
1 score from the INRS modules (2/5 final grade)
1 score related to the course on the Risk Society (2/5 final grade)
Final grade

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Contacts

Contacts *(2000 characters)*

valerie.hardouin-duparc@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: ITALIAN LV2-LV3	Code EC: EC-HUMF05-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-HUMF05-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-HUMF05-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-HUMF05-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-HUMF05-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