Subject name: C Language | **Code EC: INFO5-INFOC**

Number of hours per student: 22 | **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.

Subject name: Data Analysis and Data Mining	Code EC: INF05-ADFD
Number of hours per student: 28h	ECTS Number: 3
Reference Teacher: Peggy Cellier	

Generalities

Objectives *(2000 characters)*

The objective of this course is to understand and apply data analysis and data mining methods.

Description *(2000 characters)*

- Introduction to Artificial Intelligence
- Dimensionality Reduction (Principal Component Analysis, Simple Correspondence Analysis, etc.)
- Clustering Methods (k-means, hierarchical, density-based)
- Pattern Mining (itemset mining, association rules, sequential patterns)

Requirements *(2000 characters)*

- Basic undergraduate-level linear algebra concepts
- Fundamental tools in probability theory

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Need for thorough study of the course material and preparation for practical sessions

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

CM: 10h
TD:
TP: 8h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

A two-hour written exam at the end of the semester

Bibliography

Bibliography *(2000 characters)*

- Jambu - Exploration informatique et statistique des données. Dunod, 1987.
- Escofier, Pagès - Analyses factorielles simples et multiples. Dunod, 1990.
- Lebart, Morineau, Piron - Statistique exploratoire multidimentionnelle. Dunod, 1995.
- Cornéjuols, Kodratoff, Miclet- Apprentissage artificiel. Eyrolles, 2002.
- B. Ganter, G. Stumme, R. Wille. Formal Concept Analysis. Springer, 2005.
- M. Bramer. Principles of Data Mining. Springer, 2007.
- C. Aggarwal, J. Han. Frequent Pattern Mining. Springer, 2014.
- C. Aggarwal. Data Mining: the textbook, Springer. 2015.

Contacts

Contacts *(2000 characters)*

Peggy.cellier@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Concepts from logic to programming	Code EC: INF05-CLP
Number of hours per student: 36h	Nombre crédits ECTS : 2
Reference Teacher:	

Generalities

Objectives *(2000 characters)*

This course aims to provide the necessary foundations for understanding how a computer works. Combinational and sequential logic play a fundamental role in computer science, both in program construction and in system architectures. These concepts are therefore studied to analyze the behavior of processors in relation to hardware implementation.

Description *(2000 characters)*

- Understand the basic mechanisms of instruction execution
- Understand performance issues
- Understand data sizes, data access, and execution cycles
- Understand data and address buses, Arithmetic Logic Units (ALUs), Control Units (CUs), and their interfaces
- Connect these concepts to the foundational principles of computer science
- Explore coding and decoding techniques
- Understand how information is represented using numeration systems
- Discover the concepts and methods of functional programming, enabling you to develop substantial applications
- Understand how a processor's architecture interacts with low-level programming languages, such as assembly language

Requirements *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Lecture – Tutorial (learning through exercises – group work) – Practical session on emulator and on hardware platform

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

CM: 16h
TD: 14h
TP: 6h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

1 written examination of 2.5 hours.

Bibliography

Bibliography *(2000 characters)*

Guy Begin, Circuits logiques combinatoires et séquentiels, 2023
Claude Brie, Logique combinatoire et séquentielle, Ellipse, 2002
David Patterson, John Hennessy, "Computer Architecture, The hardware/software interface", 4ème édition, Morgan Kaufman
John F. Wakerly, "Digital Design: Principles And Practices", Prentice Hall, 2000.
Alex Chadwick, Welcome to Baking Pi: Operating Systems Development!, 2015

Contacts

Contacts *(2000 characters)*

Marie Babel – marie.babel@insa-rennes.fr
Karol Desnos – karol.desnos@insa-rennes.fr
François Pasteau – francois.pasteau@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: CPOO1	Code EC: INF05-CPOO1
Number of hours per student: 20h	ECTS Number: 1.5
Reference Teacher: Arnaud Blouin	

Generalities

Objectives *(2000 characters)*

Software development requires thinking ahead about the problems to be solved in order to limit development errors and therefore costs.
The aim of this module is to acquire the fundamentals of software validation and verification, and software modeling.

Description *(2000 characters)*

* Object-oriented programming
* Software validation and verification
* Software modeling (UML, Agile Methods)

Requirements *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Classes, practical sessions, working sessions on table

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

CM: 6h
TD: 4h
TP: 10h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

Exam on table.

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Contacts

Contacts *(2000 characters)*

arnaud <dot> blouin <at> irisa <dot> fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

INSA RENNES : 2025/2026

Nom de la matière : étude pratique	Code EC: INF05-EP
Volume horaire total par étudiant: 15h	Nombre crédits ECTS : 2
Responsable(s) : Valérie Gouranton	

Généralités

Objectifs, finalités *(2000 caractères)*

The main objective is to work in groups on a computer science topic with supervision.The first part of the practical study is the bibliographic section. In this analysis phase, the existing situation and context of the project are defined, along with a preliminary project study and general specifications with detailed requirements that enable the project needs to be defined. Finally, the creation of an initial prototype is required in order to understand the tools/software to be used. Independent personal work is required.

Description *(2000 caractères)*

A group of students is assigned to a topic

Pré-requis *(2000 caractères)*

Aucun

Modalités du cours et des évaluations

Langue d'enseignement *(2000 caractères)*

French and english

Modalités d'enseignement *(500 caractères)*

Per project

Volume horaire par type de cours : *(2000 caractères)*

CM :
TD :
TP :
PR : 8
CONF :
Autres : dont 2h ST²

Modalités d'évaluation / coefficient *(200 caractères)*

La partie (bibliographique et prototype) donne lieu à une soutenance en anglais.

Bibliographie

Bibliographie *(2000 caractères)*

Cliquez ou appuyez ici pour entrer du texte.

Contacts

Contacts *(2000 caractères)*

Valerie.Gouranton@insa-rennes.fr

Autres

Autres informations

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Computer Hygiene	Code EC: INF05-HI
Number of hours per student: 26	ECTS Number: 1.5
Reference Teacher: Gildas Avoine	

Generalities

Objectives *(2000 characters)*

This course aims to present the major security problems that we all face every day in our professional or personal environment. Among the topics covered, viruses, spam, passwords, information leakage, geolocation, certificates, etc. Countermeasures and best practices to keep your computer system in good health will also be presented.

Description *(2000 characters)*

The content of the course is as follows :

- Security Primer
- Information Leakage 1
- Information Leakage 2
- Fraud on Internet
- Darkweb / Tor / Tails
- Spam and antispam software
- Malware and antivirus software
- Introduction to cryptography
- Passwords
- Disk encryption
- TLS and Certificates
- Secure mailing
- Geolocation / Competitive intelligence

Requirements *(2000 characters)*

Motivated and good spirit.

Course requirements and assessments

Teaching Language *(2000 characters)*

Spoken French, but slides and written documents are in English.

Teaching methods *(500 characters)*

This course consists exclusively of ex cathedra lectures.

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

CM: 26 hours
TD:
TP:
PR:
CONF:
Autres:

Evaluation *(200 characters)*

A 2-hour written exam. Documents, personal notes, and electronic devices are prohibited during the exam.

Bibliography

Bibliography *(2000 characters)*

"Cybersécurité et hygiène numérique au quotidien", Gildas Avoine et Pascal Junod, 2024, Dunod

Contacts

Contacts *(2000 characters)*

Gildas Avoine

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Introduction to Engineering Techniques	Code EC: INF05-ITI
Number of hours per student: 40h	ECTS Number: 2,5
Reference Teacher: Muriel Pressigout	

Generalities

Objectives *(2000 characters)*

This course unit aims to introduce concepts, tools, and languages that are common across various domains and activities in computer engineering through three independent sections. Its purpose is to provide essential building blocks for third-year computer engineering students, regardless of their admission pathway, to enhance their skills throughout their academic years, during internships, and subsequently in their professional practice.

In particular, some students may be less familiar with Unix-like operating systems. Since these are widely used in certain fields and companies, not to mention in coursework, it's necessary to provide upgrading training to make engineering students self-sufficient in such environments.

Given that Python programming language and Git versionning tool are also essential, especially for projects, it's necessary to start using them early to master both Python and Git.

Description *(2000 characters)*

Each section will include both theoretical courses and practical application, either through highly guided tutorials on computer or through practical sessions that require students to apply theoretical knowledge to solve given problems.

The first part aims to present the principles, structure, and functions of Linux-type operating systems by defining basic concepts to enable proper utilization. This section constitutes the most substantial section of the course.

A second part will be dedicated to the Python programming language through lectures and three practical sessions.

Finally, the third part will introduce Git, the most widely used version control system today. Two practical sessions will reinforce the course session.

Requirements *(2000 characters)*

- Should have installed Linux on their personal computer
- General computer science and algorithms knowledge

Course requirements and assessments

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

French, Linux lab workbook in English

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

The concepts covered in class are validated through practical sessions.
Interactive quizzes are planned during classes to monitor understanding of certain concepts.
All resources are available on Moodle.

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

CM: 14h
TD: 8h
TP:18h
PR:
CONF:
Autres: dont 1h ST²

***Evaluation** (200 characters)*

A 2-hour supervised written exam at the end of the semester. All printed materials are authorized; digital devices are prohibited.

Bibliography

***Bibliography** (2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Contacts

***Contacts** (2000 characters)*

mail: surname.name @ insa-rennes.fr

Responsible of the course unit : Muriel PRESSIGOUT - office 121, building 18

- Responsible of the part Linux : Muriel PRESSIGOUT - office 121, building 18
- Responsible of the part Python : Caïo CORRO - office 117, building 18
- Responsible of the part Git : Quentin PEREZ - bureau 121, building 18

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Functional Programming	Code EC: INF05-PF
Number of hours per student: 26.00h	ECTS Number: 2
Reference Teacher: ACHER Mathieu	

Generalities

Objectives *(2000 characters)*

Present the fundamental concepts of functional programming.

The objective is to present a novel programming paradigm based on recursive functions and the the definition of algebraic datatypes.

Description *(2000 characters)*

Presentation of the concepts of functional languages using the Ocaml langage.

- Introduction to lambda-calculus (syntax and reduction semantics)
- Expressions, definitions and basic types
- The function, the central element of the language, recursive programming and higher-order functions
- The use of pattern-matching and polymorphism
- The definition of algebraic datatypes
- Presentation of standard data-structures : lists, trees and the common functions operating over those types
- The exception mechanism : declaration, throwing and catching

Requirements *(2000 characters)*

None

Course requirements and assessments

Teaching Language *(2000 characters)*

Français

Teaching methods *(500 characters)*

The course presents and illustrates the concepts necessary for the practical.

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

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

Evaluation *(200 characters)*

1 TP noté et un DS de 2 heures.

Final mark : max{1/5 TP + 4/5 DS , DS}

Bibliography

Bibliography *(2000 characters)*

"Apprendre à programmer avec OCaml - Algorithmes et structures de données", Sylvain Conchon, Jean-Christophe Filliatre, Eyrolles, 2014

"Développement d'applications avec Objective Caml", Emmanuel CHAILLOUX, Pascal MANOURY, Bruno PAGANO, O'REILLY 2000,

Contacts

Contacts *(2000 characters)*

Frédéric Besson

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Logic Programming	Code EC: INF05-PL
Number of hours per student: 28 hrs	ECTS Number: 3
Reference Teacher: Yann RICQUEBOURG	

Generalities

Objectives

The aim of this course is to present and put into practice the fundamental principles of logical programming. The basic mechanisms of the Prolog language are described from a logical and operational point of view. The course covers the manipulation of relational knowledge bases and recursive programming. It also deals with cutting and negation by failure.

Practical work is carried out using The ECLiPSe Constraint Programming System (https://eclipseclp.org). It illustrates each of the key concepts covered in class and also offers opportunities such as the creation of expert systems or game solving.

Description

1) Basic mechanisms of Prolog
- terms, clauses
- unification
- demonstration
- search tree

2) Prolog for defining and querying relationships

3) Recursive programming
- lists
- trees

4) Cut and negation

Requirements

None.

Course requirements and assessments

Teaching Language

French.

Teaching methods

Need to study the course in greater depth and prepare for practical work.

Mid-term support session for volunteer students.

Number of hours per course type:

CM: 12 hrs
TD:
TP: 16 hrs
PR:
CONF:
Autres: 2 hrs of support

Evaluation

1.5-hour examination at the end of the course.

Bibliography

Bibliography

- The Art of Prolog, Leon Sterling and Ehud Shapiro, 2nd edition, The MIT Press, 1994

- The Craft of Prolog, Richard A. O'Keefe, The MIT Press, 1990

- Programming in Prolog, William F. Clocksin and Chris S. Mellish, 5th edition, Springer Verlag, 2003

Contacts

Contacts

yann.ricquebourg@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name:	Code EC: INF05-PROBA
Number of hours per student: 20h	ECTS Number: 1.5
Reference Teacher: Laurence Rozé	

Generalities

Objectives *(2000 characters)*

This module is an introduction to probabilistic methods and models useful in computer science.

Description *(2000 characters)*

The course covers the following topics:
- Reminders: random variables, discrete and continuous laws
- Law of large numbers, central limit theorem
- Confidence intervals, mean tests, chi-square test
- Random Vectors
- Applications

Requirements *(2000 characters)*

L1 and L2 Undergraduate Mathematics Program

Course requirements and assessments

Teaching Language *(2000 characters)*

Practical woks will be done in R.

Teaching methods *(500 characters)*

Cliquez ou appuyez ici pour entrer du texte.

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

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

Evaluation *(200 characters)*

Written exam

Bibliography

Bibliography *(2000 characters)*

- H. Stecker, ´Toutes les mathématiques et les bases de l'informatiqueª, Coll. Sciences Sup, Ed. Dunod. 2002.
- Christine Decaestecker & Marco Saerens, ´ Probabilités et Statistiques: Quelques petits rappels ª, Université Libre de Bruxelles
- A. Perrut, ´ Cours de probabilités et statistiques ª, Université Claude Bernard Lyon 1, 2010
- B. Jourdain, ´ Probabilités et statistique pour l'ingénieur ª, Ecole des Ponts ParisTech, 2018
- A. Zemmari, ´ Probabilités et Statistiques pour l'informatique ª, Université de Bordeaux, 2020
- M. Métivier, ´ Notions fondamentales de la théorie des probabilités, maitrises de mathématiques ª, Dunod, 1968
- L. Wehenkel, ´ Eléments du Calcul des Probabilités ª, UniversitÈéde Liège, 2013
- R. Chachura, ´Course: Probability Theory and Statistics for Programmers ª, https://geekrodion.medium.com/course-probability-theory-and-statistics-forprogrammers-353e20202620, 2018
- M. Maumy-Bertrand, ´ Probabilités pour Statistique ª, Univ. Strasbourg, 2011- J-P. Delmas. Introduction aux probabilités. Ellipses, 1993.
- D. Foata, J. Franchi, A. Fuchs. Calcul des probabilités. Dunod, 2012.

Contacts

Contacts *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Remedial Course: Databases	**Code EC: INF05-RBD**
Number of hours per student: 12	**ECTS Number: 1**
Reference Teacher: Pascale SÉBILLOT	

Generalities

Objectives *(2000 characters)*

Enable students who have not taken courses on databases to understand the usefulness of database management systems (DBMSs), and acquire the skills necessary to create and manipulate relational databases (DBs).

Description *(2000 characters)*

The module focuses on the following concepts:

- Relational DBs;
- Querying DBs using relational algebra;
- Creating and manipulating relational DBs using SQL;
- Single-user and concurrent access (transactions, locking, access rights, etc.);
- Elements of normalization (functional dependencies, integrity constraints, etc.);
- Conceptual modelling and its translation to the relational DB framework.

Requirements *(2000 characters)*

Some knowledge about set theory and first-order logic

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Two-hour sessions generally divided into a theoretical part and a practical one, either composed of exercises or lab work

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

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

Evaluation *(200 characters)*

The active participation of the student during the sessions allows to validate the course

Bibliography

Bibliography *(2000 characters)*

- Georges Gardarin : Bases de données. Eyrolles, 5e tirage, 2003
- Jean-Luc Hainaut : Bases de données et modèles de calcul. Cours et exercices (Premier cycle, IUT, BTS) Dunod, 2002
- Handout of the *Databases* module, 2nd year, INSA Rennes

Contacts

Contacts *(2000 characters)*

Pascale Sébillot : pascale.sebillot@insa-rennes.fr

Other information

Other information

Target: students entering the 3rd year in the INFO department who have not received training in databases

Subject name: Remedial Course: Work Management	**Code EC: INF05-RGT**
Number of hours per student: 2	**ECTS Number: 1**
Reference Teacher: Pascale SÉBILLOT	

Generalities

Objectives *(2000 characters)*

Entering the Computer Science department to pursue a specialized three-year program involves changes in the work environment, the balance between different forms of teaching, and pedagogical expectations that students must be aware of and know how to adapt to. Mastering the concepts taught in class, managing the various projects to be carried out in parallel, and producing high-quality written reports and presentations to showcase internships or work completed requires effective time management and knowledge of a number of rules for producing written work and presentation materials (content and form). The objective of this course is to equip students with the skills necessary to work effectively during and outside of class, and to communicate orally and in writing in a correct, clear, and structured manner, depending on the audience and the time or space available.

Description *(2000 characters)*

The module focuses on the following subjects:

- Presentation of the environment and objectives of the three-year program
- Working methods for face-to-face teaching;
- Personal working methods;
- Writing reports and other documents;
- Preparing oral presentations.

Requirements *(2000 characters)*

None

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Two-hour course, with concrete examples of mistakes to avoid

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

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

Evaluation *(200 characters)*

No assessment for this module; attendance is mandatory

Bibliography

Bibliography *(2000 characters)*

- Jacques André. *Petites leçons de typographie*. Éditions du jobet. 2003. http://jacques-andre.fr/faqtypo/lessons.pdf
- Aude Caussarieu. *La pyramide des apprentissages*. 2021. https://aude-caussarieu.com/pyramide-des-apprentissages/ consulté le 23 août 2024
- Léa Combette. *Motivation, concentration, attention : 3 leviers indispensables pour un apprentissage réussi*. 2018. https://www.didask.com/post/motivation-concentration-attention consulté le 24 août 2024
- Vanessa Dufêtre Badja. *Le cône d'apprentissage d'Edgar Dale n'est pas celui que l'on croit…* 2019. https://www.xos-learning.fr/actualite/le-cone-dapprentissage-dedgar-dale-nest-pas-celui-que-lon-croit consulté le 24 août 2024
- Sophie Kennel. *Former / se former à la méthodologie du travail universitaire*. 2018. https://idip.unistra.fr/wp-content/uploads/2019/10/Guide_MTU.pdf consulté le 24 août 2024
- Hugues Oudart. *Méthodologie du travail universitaire et démarche scientifique MTUdS.* 2021
- Will Thalheimer. *How Much Do People Forget?* Work-Learning Research, Inc. Report. 2010. https://www.worklearning.com/catalog/ consulté le 23 août 2024
- *Lexique des règles typographiques en usage à l'Imprimerie nationale*. Imprimerie nationale. 2002

Contacts

Contacts *(2000 characters)*

Pascale Sébillot : pascale.sebillot@insa-rennes.fr

Other information

Other information

Target: all third-year students in the INFO department

Subject name: Java 1 remediation	Code EC: INF05-RJ1
Number of hours per student: 12h	ECTS Number: 1
Reference Teacher: Laurence Rozé	

Generalities

Objectives *(2000 characters)*

The objective of this course is to provide students who did not complete the first year of STPI at INSA with the necessary foundations in Java. It introduces the Java language as well as the fundamental principles of algorithmics.

Description *(2000 characters)*

The first part of this course focuses on writing Java programs involving variables, conditional structures, loops, and functions. It then continues with an introduction to the concepts of classes and objects.

Requirements *(2000 characters)*

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None

Course requirements and assessments

Teaching Language *(2000 characters)*

Frenche

Teaching methods *(500 characters)*

Cliquez ou appuyez ici pour entrer du texte.

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

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

Evaluation *(200 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Contacts

Contacts *(2000 characters)*

Laurence Rozé
roze@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Remedial course Java 2	Code EC: INF05-RJ2
Number of hours per student: 12 hrs	ECTS Number: 1
Reference Teacher: Yann RICQUEBOURG	

Generalities

Objectives

The aim of this module is to provide a refresher course on the fundamental concepts of object-oriented programming in Java.

Description

This module will cover: Memory management, Aggregation, Inheritance, Abstract class, Interface, Polymorphism, Genericity, Collection, Exception, Cloning, Internal class.

Requirements

The prerequisites for this module are: knowledge of basic algorithms and basic concepts of the Java language (see Remedial course Java 1 module).

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Course requirements and assessments

Teaching Language

French.

Teaching methods

The module will be divided into a lecture component and a practical component carried out on computer.

This practical component will be based on a small project to be developed over several practical sessions.

Number of hours per course type:

CM: 8 hrs
TD:
TP: 4 hrs
PR:
CONF:
Autres:

Evaluation

Assessment will be based on attendance at sessions.

Bibliography

Bibliography

Thinking in Java, 3rd Edition, Bruce Eckel

Contacts

Contacts

yann.ricquebourg@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Subject name: Mathematics Remediation	**Code EC: INF05-CLP**
Number of hours per student: 36h	**Nombre crédits ECTS : 2**
Reference Teacher:	

Generalities

Objectives *(2000 characters)*

The purpose of this module is to ensure a consistent foundation in mathematics for computer engineering students by revisiting essential classical concepts from the first two years of university.

Description *(2000 characters)*

- Matrix algebra and linear systems
- Definite and indefinite integrals
- Improper integrals
- Multiple integrals
- Taylor series expansions
- Probability theory: Discrete and continuous random variables

Requirements *(2000 characters)*

Mathematics program for the first two years of undergraduate studies

Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Lecture – Tutorial (learning through exercises – group work) – Practical session on emulator

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

CM:
TD: 20h
TP: 4h
PR:
CONF:
Autres:

Evaluation *(200 characters)*

Bibliography

Bibliography *(2000 characters)*

[1] Earl W. Swokowski, Analyse, 5e édition (2020), De Boeck Université
[2] Earl W. Swokowski, Jeffrey A. Cole, 2006, De Boeck Université
[3] Laurence Carassus, Probabilités, 2018, De Boeck Université

Contacts

Contacts *(2000 characters)*

Marie Babel – marie.babel@insa-rennes.fr

Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

Data Structures	Code EC: INF05-SDD
Number of hours per student: 34 hrs	ECTS Number: 3
Reference Teacher: Yann RICQUEBOURG	

Generalities

Objectives

Develop proficiency in object-oriented programming (inheritance, polymorphism and genericity).
Know how to model, select and use classic data structures (stacks, queues, heaps, lists, sets).
Learn how to use the Java collections framework.
Design data structures suited to complex models (graphs, trees).

Description

* Abstract data types
* Implicit traversal data structures (stacks, queues)
* Explicit traversal data structures and the concept of iterators (sets, lists)
* Tables
* Binary trees
* Heaps and sorting algorithms, priority queues

Requirements

Knowledge of imperative programming (preferably in Java).

Course requirements and assessments

Teaching Language

French.

Teaching methods

Flipped classroom approach based on six presentations during which students (divided into six groups) work with the teacher to prepare a presentation on a concept that they will then give to their peers.

Need to study the course material in greater depth and prepare for practical work.

Mid-term support session for volunteer students.

Number of hours per course type:

CM: 16 hrs
TD: 1 to 2 hrs (per student) of supervised work to prepare the presentation with their group
TP: 18 hrs
PR:
CONF:
Autres: 2 hrs of support

Evaluation

A two-hour written examination at the end of the course.

Bibliography

Bibliography

* Art of Computer Programming, Vol. 1-3, Knuth, Addison-Wesley, 1973.

* Structures de données et algorithmes, Aho, Hopcroft, Ullman, Addison-Wesley, 1987.

* A Practical Introduction to Data Structures, Clifford A. Shaffer, Prentice Hall 1998.

* Java Collections, John Zukowski, a! Apress 2001.

Contacts

Contacts

yann.ricquebourg@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)*

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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).

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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-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)*

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Course requirements and assessments

Teaching Language *(2000 characters)*

French

Teaching methods *(500 characters)*

Through original and varied situations, this course engages all of the student's resources — motor, cognitive, relational, emotional, and informational.
Through action and experience, students are confronted with complex problem-solving and decision-making processes.
This practice encourages students to take autonomous responsibility for their own health, understood as a state of well-being requiring continuous regulation. It also contributes to preventing risky behaviors, reducing sedentary lifestyles, and promoting social integration.
Enjoyment serves as a key source of motivation, ensuring sustained engagement in both practice and learning

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

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

Evaluation *(200 characters)*

Assessment
Students are evaluated on their participation, progress, and mastery of the competencies developed throughout the cycle.
Grading:

- 10 points for motor and cultural competencies.
- 5 + 5 points for two additional competencies selected by the instructor from personal, interpersonal and social, or methodological competencies.

Bibliography

Bibliography *(2000 characters)*

Cliquez ou appuyez ici pour entrer du texte.

Contacts

Contacts *(2000 characters)*

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Other information

Other information

Cliquez ou appuyez ici pour entrer du texte.

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