I2MAMT11 (6 ECTS credits)
Algebra and analysis
Objectives :
At the end of this module, the student will have understood and be able to :

- Determine the different kinds of convergence for number series. Series of functions, power series.
- Find block diagonalization matrix of an endomorphism, manipulate scalar products and understand the notion of orthogonality in euclidean spaces. Express quadratic forms as sums of squares.

Description :
Programme (detailed contents) :

Analysis
· Number series, sequences and series of functions, power series,
· Normed vector spaces.
Algebra
. Block diagonalization of matrices,
· Euclidian and hermitian spaces,
· Quadratic forms.
Organisation:
Analysis and Algebra lectures take place in parallel throughout the 1st semester to highlight the links between 2 subjects.
Main difficulties for students:
Students confuse sequences and series, linear applications and symmetric bilinear forms. They have difficulty distinguishing the different kinds of convergence, and tend to manipulate vectors as real numbers. They have difficulty understanding properties in infinite dimensional spaces, e.g. that commutativity does not hold for infinite sums. They also encounter difficulties in understanding that a single matrix can represent very different objects.
Assessment :

How do you assess that the objectives have been reached ?
Through homework and intermediate tests.
How does your assessment system help the student to reach the objectives ?
Students can evaluate their progress during the semester.
Assessment method : Written exam
Number of hours : 30h (lectures), 33.75h (tutorials),
Prerequisites :
Analysis and algebra lectures of first year (UV2, UV3 and UV4 : I1ANMT20, 30 and 40).
Unit of study coordinator : Florent CHAZEL
Mode of study : Initial training
Semester : 1
Bibliography :
F.Pécastaings, J. Sevin, Chemin vers l?analyse TOME 2, Vuibert, 1985,ISBN : 2-7117-2174-4.
J.Rivaud,Analyse,Séries ;équations différentielles,Vuibert,1973,ISBN : 2-7117-2133-7.
J. Grifone, Algèbre linéaire,Cépaduès-Edition, 2002, ISBN : 2-85428-239-6
F.Pécastaings,Chemin vers l?algèbre TOME 2, Vuibert, 1986,ISBN : 2-7117-2187-6.

I2MAPH11 (4 ECTS credits)
Nanophysics - from wave propagation to photonics and nanotechnologies
Objectives :
At *the end of this module, the student will have understood and be able to explain (main concepts) :*

- The fundamentals of wave propagation and quantum physics that are necessary for the understanding of modern electronic devices and analytical techniques
- The principle of analytical techniques commonly used in laboratories and the molecular mechanisms of quantum physics

The student will be able to:
- Formulate in his own words some nano-scale mechanisms and give concrete examples of micro and nano-devices together with well-known analytical methods using these mechanisms
- Master elementary phenomena of nano-scale physics
- Select the best method for a specific characterisation on the basis of the acquired concepts.
- Carry out some nano-scale characterisation methods
- Link mathematical formalism of quantum physics to real applications
- Grasp the necessary approximations that are required in quantum physics
- Bring together these different concepts to assimilate them, extract them from their context in order to apply them to real situations.

Description :
Programme (detailed contents) :

Wave phenomena, interferences and diffraction. Particle phenomena. The dual nature of waves and particles, application to electron microscopy. Quantum physics laws. Quantum effects and applications. Scanning tunnelling microscope, quantum wells and quantum dots, application to radioactivity, harmonic oscillator, vibrations of molecules and Infrared spectroscopy, kinetic momentum and its application to molecular rotation spectroscopy, spin and its applications in NMR and MRI. Atomic and molecular orbitals. X-rays . Lasers. Crystalline solids, concept of energy bands, application in semiconductor electronic devices.

Organisation:
Based on an epistemological approach, the lectures lead the students progressively towards modern physics which is at the core of nanotechnologies.

Main difficulties for students:
- Link formalism to applications (devices or techniques based on quantum physics or wave propagation)
- Solve differential equations involved in the resolution of the Schrödinger equation

Assessment :
How do you assess that the objectives have been reached ?

- Written examination based on the analysis of real problems
- By monitoring the experimental lab work
- Through a written report showing how students have grasped the main techniques

How does your assessment system help the student to reach the objectives ?
- Formative assessment

Assessment method : Written exam
Number of hours : 28.75h (lectures), 12.5h (tutorials), 15h (lab work), 45h (Personal work)
Prerequisites :

- 1st year Mechanics, Electrostatics, Optics and Mathematics

Unit of study coordinator : Christophe VIEU
Mode of study : Initial training
Semester : 1
Bibliography :
Mécanique Quantique, edition Berkeley
Introduction à la Physique Quantique, JP Barrat, Dunod Université 1985

I2MAIF11 (4 ECTS credits)
Computer science and hardware
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts) :

- The concepts of combinational and sequential logic systems.
- The concepts of synchronous and asynchronous logic systems (or circuits).
- The design methods of logical systems and their implementation.
- The technologies of the most commonly used logic circuits
- The principle of analog to digital and digital to analog conversions.
- The different building-blocks making up a computer and how they work together.
- Information coding

The student will be able to:
- Represent and minimize logic functions.
- Design a combinational or synchronous logical system.
- Correctly use and know how to interface the most common logic families.
- Know how to process an analog signal before A/D or after D/A conversion.
- Know when the use of synchronous logical circuits becomes necessary.
- Understand the operating principles of a computer
- Design an instruction set

Description :

- *The first part* of this course is about combinational logic. Boolean algebra, logic functions and various minimisation methods are first introduced. The general structure of a sequential system as well as that of elementary sequential systems (flip-flops, counters) are also investigated. A design method intended for sequential and synchronous systems based on the use of flip-flops will be presented.
- *The second part* of this course deals with the hardware. The most common logic circuits are presented, their input and output levels for the "true" or "false" states, their input and output capability and static or dynamic power consumption. Three-state logic will also be considered. The setup, holding and propagation times for logic gates and synchronous or asynchronous flip-flops will be considered. Finally, the principles of A/D and D/A conversion will be presented.
- *The third part* of this course deals progressively with the different elements of a computer. Focus will be given to data coding techniques, arithmetic and logic unit, memory circuits, data and address buses and the central processing unit.

Assessment :
How do you assess that the objectives have been reached ?

- Observation of the individual behaviour during the lab-work sessions (autonomy, success,..)
- Written exams

Assessment method : Written exam
Number of hours : 23.75h (lectures), 17.5h (tutorials), 13.75h (lab work), 38h (Personal work)
Prerequisites :

Fundamentals of electricity, Kirchhoff's laws, basic theorems, concepts of voltage and current sources and of input and output impedances.
Unit of study coordinator : Audine SUBIAS, Gwendoline LECORRE
Mode of study : Initial training
Semester : 1
Bibliography :
« Fundamental of logic design », A.Friedman, Computer science press , 1986
#Contemporary Logic Design#, R.H. Katz, The Benjamin/Cummings Publis.Comp 1994
« Architecture des ordinateurs ». J.L. Hennessy et D. A. Patterson, ¨ Thomson Publishing, 1996
Circuits Numériques, R.J. Tocci, Dunod, 2ème édition

I2MAEL11 (6 ECTS credits)
Concepts and circuits for signal processing
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts) :

- the main concepts, mathematical methods and tools used for signal processing
- the main concepts of modern analog electronics encountered in signal processing
as well as for generating deterministic signals
The student will be able to:
- decompose periodic signals into Fourier series
- determine the spectrum of deterministic signals
- calculate the transfer function of a continuous, invariant linear filter and calculate
the output signal of that filter for a given input
- design and build either a wide-band or selective amplifier stage
using an operational amplifier
- design an analog multiplier stage as well as the adequate passive output filter which is
needed
- design and realise a basic signal generator using operational amplifiers.
Description :
Programme (detailed contents) :

Fourier series and Fourier transform - linear invariant filtering - transfer function
- Laplace transform - Bode plots and charts - Sampling - Shannon's theorem -
Operational Amplifier (OA) as a basic component - Main basic circuits involving OAs -
Analog Multipliers and passive filters - Fundamentals of signal generation.
Organisation:
Lectures, tutorials and lab work
Duplicated lecture, tutorials and lab work notes will be provided
Assessment :
How do you assess that the objectives have been reached ?

2 short specific tests (1h25 each)
1 final exam covering all material (duration 4h)
Assessment method : Written exam
Number of hours : 30h (lectures), 30h (tutorials), 16.5h (lab work), 55h (Personal work)
Prerequisites :
Analysis and algebra I2MAMT11
Electrokinetics I1ANPH..
Unit of study coordinator : Etienne SICARD
Mode of study : Initial training
Semester : 1

I2CCGE31 (5 ECTS credits)
Company knowledge and communication
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts) :

· how to give an oral presentation in English and write an abstract.
· how to produce a structured written summary in French.
· how to write a training period report and present it orally.
· the basics of general and cost accounting.
The student will be able to:
In French
· write the summary for a set of press articles and present it orally with Powerpoint visual aids
· write a training period report and give an oral presentation describing a particular company, reporting on and analysing a work experience.
In English:
· give a Powerpoint oral presentation on a scientific, economic or technical subject, answer questions and trigger a debate
· write the abstract of an oral presentation
In Management:
· draw up a company's basic operations in a balance sheet and an income statement
· Analyse a company's direct, indirect, fixed and variable costs
· Calculate cost prices with the help of variable, direct and complete cost methods
· Calculate a company's break-even point
Description :
Programme (detailed contents) :

Oral:
· Oral presentation: general skills in English and advanced skills in French
· Use of language skills for the oral presentation in English
· Study of pronunciation and intonation (English)
· Help in preparing oral presentation of 1st-year training period (French)
Writing:
· How to write summaries in French
· Note-taking techniques
· Help in preparing written report of 1st-year training period (French)
· How to write an abstract in English
Management:
· Income statement
· Cost
· Break-even point
Organisation:
Tutorials
Main difficulties for students:
Difficulties with English pronunciation, intonation and fluency.
Difficulty in producing a concise and precise piece of writing in English.
Assessment :
How do you assess that the objectives have been reached ?

Oral:
Team oral presentations in English and in French
Individual oral presentation of training period
Writing:
Written summary in French
Written abstract in English
Marked written exercises in management
Written training period report
How does your assessment system help the student to reach the objectives ?
Evaluation grids and feedback will assess the evolution of written and oral skills and the understanding of the notions studied in class.
Assessment method : Written exam, Oral exam, Report, Oral presentation
Number of hours : 69.75h (tutorials), 50h (Personal work)
Prerequisites :
Information, management and communication (INFOGECOM)
Unit of study coordinator : Laure FABRE
Mode of study : Initial training
Semester : 1
Bibliography :
Livret jaune d'aide à la rédaction du rapport de stage ouvrier, disponible sur Moodle :
https://moodle.insa-toulouse.fr/course/view.php?id=75
H. Laffont / P. Bachschmidt : *L'anglais pour l'ingénieur : Guide de la communication scientifique et technique*. Ellipses, 2009.
Comscience :
https://moodle.insa-toulouse.fr/course/view.php?id=239
STEP in English :
http://step.inpg.fr/GB/index.htm
D. Bell : *Passport to Academic Presentations*. Garnet Education, 2008
M. Vaughan-*Rees* : *Test your Pronunciation*. Longman, 2002
B. & F. Grandguillot : *Comptabilité Générale*. Gualino Editeur
F. Pottier : *La compta...sans comptes* . Ed EMS
C. Collette / J. Richard : *Comptabilité Générale*. Ed Dunod
T. Saada, A. Burlaud, C. Simon : *Comptabilité analytique et contrôle de gestion*. Ed Vuibert

I2CCGA11 (5 ECTS credits)
Improving autonomy and building a professional project - level 2
Objectives :
At the end of this module, the student will have understood the mains concepts and will be able to :

- build a coherent and effective project team,
- widen his knowledge and improve his skills,
- become familiar with all aspects of the profession.

The student will be able to:
- Analyse a problem in a group, stating its scope and the various ways to consider it in interaction with others. The students will take into account criteria such as organisation, physical involvement, technical capacities, strategy, motivation, self confidence and confidence in others.
- Make decisions as a team, listen to other people's position and adapting to the general view.
- Find out about the team's capacities, developing a critical analysis and identifying the strengths and weaknesses in oneself and in others.

Description :
Programme (detailed contents) :

Physical education,
Personal Project,
Specially adapted courses for top level **musicians, athletes and dancers.**
Organisation:
Yearly organisation with regular courses, projects and training sessions.
Main difficulties for students:
Listening to others and accepting other people's positions,
Overcoming prejudices and representations.
Assessment :
How do you assess that the objectives have been reached ?

Improvement in technical skills, quality of individual and group actions, involvement in activities, enjoying physical activities.
How does your assessment system help the student to reach the objectives ?
Assessment grids, formative assessment, self assessment, continuous testing, regular interactive reviews.
Assessment method : Oral exam, Lab work
Number of hours : 102.5h (tutorials), 25h (Personal work)
Semester : 1

I2MAPH21 (3 ECTS credits)
Electromagnetism
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts) :

Introduce the essential elements of classical electromagnetism theory, covering
Maxwell's equations, electromagnetic waves, static field equations, inductance

Description :
Program (detailed contents) :

Magnetostatics. Induction phenomena. Maxwell's equations in vacuum.
Electromagnetic wave propagation. Plane waves. Electromagnetic energy.
Energy propagation.
Assessment method : Written exam, Lab work
Number of hours : 20h (lectures), 10h (tutorials), 8.25h (lab work), 30h (Project),
Unit of study coordinator : Xavier HEBRAS
Mode of study : Initial training
Semester : 2
Bibliography :
J.-M. Bauduin, *Électromagnétisme*, Ellipses, Paris, 2001
M. Hulin & J.-P. Maury, *Les Bases de l'électromagnétisme*, Dunod, Paris, 1991
L. Landau & E. Lifshitz, *Théorie du champ*, éd. Mir, Moscou, 1966
J.-M. Osborne, *Électromagnétisme*, Vuibert, Paris, 2000
C. Cohen-Tannoudji, B. Diu & F. Laloë, *Mécanique quantique*, Hermann, Paris, 1977

I2MAIF21 (4 ECTS credits)
Computer programming - Operating Systems
Objectives :

At the end of this module, the student will have understood and will be able to explain (main concepts):
- breakdown into functions: designing procedures, passing parameters
- differences between basic data structures: arrays, records, pointers and linked lists
- recursive algorithms
- basic algorithms for searching, sorting, and merging arrays
The student will be able to:
- analyse an advanced problem
- breakdown it into subprograms
- choose appropriate data structures
- specify (recursive) algorithms
- implement algorithms in ADA language
- specify and develop test cases
Operating system section
At the end of this module, the student will be able to use the UNIX command-line interface on his own. He will be expected to find and learn how to use new commands, not covered in lessons.
Description :

Algorithms and Programming section
Programme (detailed contents):
- breakdown into sub-programs
- constrained and unconstrained arrays
- recursive algorithms: principle, examples
- pointers and linked lists
Organisation:
For each main concept:
a) one or two tutorials in small working groups
b) one lecture with all the class
c) one or two lab-works in computer rooms
Given documents: handouts of lecture notes, tutorial exercises and practical studies
Main difficulties for students:
- insufficient design phase: choosing sub-programs, data structures, special cases
- lack of method and rigour during coding and debug phases
Operating system section
Programme (detailed contents):
- The shell command interpreter, the variables, iterative and control structures
- Shell programming (mainly bash)
- File system commands ,particularly the permissions (read, write, execute)
- Management of users (uid, gid, home directory, etc)
- input/output redirections and pipes
- Some basic information about documentation, compression and some network commands
Organisation:
The concepts are presented during the lectures and are gone into more deeply during tutorials.
Given documents: handouts of lecture notes, tutorial exercises and practical studies
Main difficulties for students:
- shell programming, in particular using shell variables, is difficult for the students
- lack of autonomy in understanding the documented commands (with the 'man' command), partially due to the fact that this documentation is in English
Assessment :

Algorithm and Programming section
How do you assess that the objectives have been reached ?
Reviewing the algorithms and subprograms
Operating system part
How do you assess that the objectives have been reached ?
With a marked individual tutorial, covering all material

Assessment method : Written exam
Number of hours : 16.25h (lectures), 23.75h (tutorials), 16.5h (lab work),
Prerequisites :
1st year algorithm lecture
Unit of study coordinator : Guillaume AURIOL - Thierry MONTEIL
Mode of study : Initial training
Semester : 2
Bibliography :
P. Breguet L. Zaffalon « Programmation Séquentielle avec Ada95 », PPUR, 1999, 2880744040.
Programmation sous UNIX, J.M. Riflet.

I2MAAU11 (3 ECTS credits)
Feedback systems
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts) :

The design of closed-loop control laws for linear time-invariant systems described by their transfer function
The student will be able to:
To design closed-loop control laws based on specifications of
steady state behaviour (precision) and on transient behaviour (settling time)
Description :
Programme (detailed contents) :

Programme (detailed contents):
The course presents the models for linear time-invariant systems, in particular the differential equation and the transfer function. The main methods for analysis of linear systems are then studied (frequency and time responses) and the concepts of open loop and closed loop stability introduced. After defining the main indicators in terms of transient and steady-state behaviours, the design of lead and lag control laws are developed. The PID controller with the main methods of design are then presented
Organisation:
1) Introduction
2) Models
3) Responses
4) Stability
5) Specifications
6) Lead and lag controllers
7) PID
Main difficulties for students:
No particular difficulty
Assessment :
How do you assess that the objectives have been reached ?

By the classroom exercises, the lab work and the exam
Assessment method : Written exam, Lab work
Number of hours : 15h (lectures), 15h (tutorials), 8.25h (lab work), 30h (Personal work)
Unit of study coordinator : Germain GARCIA
Mode of study : Initial training
Semester : 2
Bibliography :
B. Pradin et G. Garcia : Modélisation, analyse et commande des systèmes linéaires. PUM (presses universitaires du Mirail. 2010

I2MAPH31 (5 ECTS credits)
Materials physics and applications in microelectronics
Objectives :
At the end of this module, the student will be able to :

- Describe the main macroscopic properties of materials (mechanical, electronic, thermal, magnetic, dielectric and optical) and relate them to microscopic structure - the atomic and electronic effects.
- Master the basics of semi-conductor physics and the physical and chemical processes in microelectronics.
- Simulate, manufacture (in cleanroom) and test an elementary component, such as a PN junction.

These three objectives involve both experimental training and theoretical courses.
Description :
Programme (detailed contents) :

The teaching is divided into two parts: firstly, an introduction to the physical properties of materials and their applications; secondly, an introduction to technologies for integrated circuits.
Part I: Introduction to the physical properties of materials
Introduction / Structures and ordering in condensed matter / Mechanical properties of crystallized materials / Glasses and amorphous materials / Electronic properties of materials and their applications (electronic and thermal conduction, dielectric, magnetic and optical properties).
Part II: ITEI
An introduction to the physics of semiconductors, operation of the PN junction and microelectronics (diffusion, oxidation, photo, etching,...), the lecture is followed by lab-work in a cleanroom for the manufacture of a silicon diode with characterisation of each step and final electrical test. There follow two tutorials on calculating other semi-conductors parameters: doping, mobility, lifetime, diffusion length, effective mass, dielectric relaxation, influence of doping on resistivity, conductivity and finally make use of the results obtained from the diode PN-cleanroom experience.
The cleanroom practical work (TP) covers the manufacture, testing and assembly of a PN diode and a practical introduction to computer aided design (CAD): ATLAS (circuit simulation), ATHENA (layout + technological steps).
Organisation:
Part I: 25h lecture with course material given to students, alternating with 12h30 of TD
Part II: Lectures and tutorials represent 6h15 and 2h30 respectively. Handouts of lecture notes are given to students.
Practical work consists of two parts:
- One lab session in microelectronics clean room (AIME) organised as 2 half days per student (7h), with a final test of the device done in pairs together with other pairs throughout the week.
- Practical work of one-half day (3h) per student covering computer aided design CAD.

A handout for clean room practical work describes the procedures to be carried out and some theory relating to physical and chemical processes.
This course may possibly be opened in an "e-learning" version, depending on the student audience and the difficulties they encounter. This course is available online on the Moodle platform of INSA Toulouse: https://moodle.insa-toulouse.fr/login/index.php
Assessment :
How do you assess that the objectives have been reached ?

Continuous evaluation is done using written tests of short duration. The evaluation of the lab-work is based on observations of the behaviour and actions of the student during the experiment.
How does your assessment system help the student to reach the objectives ?
Continuous evaluation is intended to verify that the student regularly prepares lectures and lab-work.
It also lets teachers understand the difficulties of students. The final exam can highlight gaps in the student's knowledge and may lead to future changes of the unit.
Assessment method : Written exam, Oral exam
Number of hours : 31.25h (lectures), 15h (tutorials), 10h (lab work), 41h (Personal work)
Prerequisites :

No required knowledge
The materials course and ITEI must be completed before the cleanroom AIME lab-work. The ITEI tutorials will use the results from the AIME lab-work. They must be done after the lab-work.
Unit of study coordinator : Bertrand RAQUET et Jérémie GRISOLIA
Mode of study : Initial training
Semester : 2
Bibliography :

Handout (whole course) (Part II)
Science et Génie des matériaux, W.D. Callister, Ed Dunod
Introduction à la science des matériaux, Traité de matériaux Vol1, W. Kurz & al. Ed Presses Polytechniques et Universitaires Romandes
Dispositifs et circuits intégrés semiconducteurs; A. Vapaille et R. Castagné; Dunod - 1987 - ISBN 2-04-016522-3.
Physique des semiconducteurs et des composants électroniques : H. Mathieu, ed. Dunod ISBN10: 2-10-051643-4, ISBN13 : 978-2-10-051643-8,
Semiconductor Devices: Physics and Technology, 2nd Edition, Simon M. Sze, ed. Wiley ISBN-10: 0471333727, ISBN-13: 978-0471333722

I2MAMT21 (5 ECTS credits)
Analysis and probability
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts) :

Multidimensional functions, differentiability and integration.
Probability spaces, random variables, introduction to statistics.
The student will be able to handle multidimensional functions and random variables.
Description :
Programme (detailed contents) :

Multidimensional functions, continuity, differentiability, change of variables, one-parameter integrals, multiple integrals.
Probability spaces, conditional probability and independence, real and multidimensional random variables, limit theorems, statistical estimation.
Organisation:
Lectures. Exercise sessions. Personal work. Computer session with Matlab.
Main difficulties for students:
Computations using all the prerequisite concepts. Understanding of the various notions of convergence for random variables
Assessment :

Three written exams to test the knowledge and the understanding of the module
Assessment method : Written exam
Number of hours : 25h (lectures), 37.5h (tutorials), 2.5h (lab work), 50h (Personal work)
Prerequisites :
All the previous modules of mathematics
Unit of study coordinator : Mélanie FRAISSE et Simona GRUSEA
Mode of study : Initial training
Semester : 2

I2CCLA31 (5 ECTS credits)
Communicating in Foreign Languages Level 3
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts) :

LV1 Module (English):
· how to produce a written account of written or oral documents in formal English
· how to understand information on general subjects with a scientific, technical, economic or sociological approach
· how to express their opinion
The student will be able to:
· understand scientific, economic, technical or sociological documents (articles, audio or video) in order to:
- orally summarize their main ideas
- express an opinion in a group
- produce a written account
LV2 Module:
The objectives defined with reference to the CERL for the 5 language skills are specific to the language being studied - German, Spanish, Chinese-and the student's level.
The objectives can be consulted:
https://moodle.insa-toulouse.fr/course/view.php?id=44
Additional English
This module is available to students in certain very specific cases, as a substitute for LV2.
Description :
Programme (detailed contents) :

LV1 Module (English):
· Methodology of summary writing
· Practice of language skills for summary writing
· Practice of language skills for discussions
· Work on pronunciation and intonation
Organisation:
Tutorials
LV2 Module:
The programme and the activities are set according to the level of the group and the objectives to be reached in each language skill that has been chosen.
https://moodle.insa-toulouse.fr/course/view.php?id=44
Organisation:
Tutorials
Main difficulties for students:
English:
Producing a clear, precise and concise piece of writing, understanding speech, using efficient pronunciation and intonation and speaking fluent English.
Other languages:
Oral expression skills (individually or in group)
Assessment :
How do you assess that the objectives have been reached ?

LV1 Module (English):
· Final exam: written summary (35%)
· Continuous assessment: practising summarizing orally (15%)
LV2 Module:
Continuous assessment (25%): Oral expression (individually or in group)
Final exam (25%): Listening, written comprehension, written expression
How does your assessment system help the student to reach the objectives?
Detailed correction in class and individual feedback
Assessment method : Written exam, Oral exam
Number of hours : 56.25h (tutorials), 50h (Personal work)
Unit of study coordinator : Laure FABRE
Mode of study : Initial training
Semester : 2
Bibliography :

· John Eastwood : *Oxford Practice Grammmar*. Oxford, 2006
. Peter Strutt : *Longman Business English Usage.* Longman, 1992
. H.Laffont P. Bachschmidt : *L'anglais pour l'Ingénieur : Guide de la communication scientifique et technique*. Ellipses, 2009

I2CCGA21 (5 ECTS credits)
improving autonomy and building a professionnal project - level2
Objectives :

At the end of this module, the student will have understood the mains concepts and will be able to :

- build a coherent and effective project team,

- widen his knowledge and improve his skills,

- become familiar with all aspects of the profession.

The student will be able to:

- Analyse a problem in a group, stating its scope and the various ways to consider

it in interaction with others. The students will take into account criteria such as

organisation, physical involvement, technical capacities, strategy, motivation, self

confidence and confidence in others.

- Make decisions as a team, listen to other people's position and adapting to the general view.

- Find out about the team's capacities, developing a critical analysis and

identifying the strengths and weaknesses in oneself and in others.

Description :

Programme (detailed contents) :

Physical education,

Personal Project,

Specially adapted courses for top level **musicians, athletes and dancers.**

Organisation:

Yearly organisation with regular courses, projects and training sessions.

Main difficulties for students:

Listening to others and accepting other people's positions,

Overcoming prejudices and representations.

Assessment :

How do you assess that the objectives have been reached ?

Improvement in technical skills, quality of

individual and group actions, involvement in activities, enjoying

physical activities.

How does your assessment system help the student to reach the objectives ?

Assessment grids, formative assessment, self assessment,

continuous testing, regular interactive reviews.

Assessment method : Oral exam, Lab work
Number of hours : 102.5h (tutorials), 25h (Personal work)
Semester : 2