I1ANPH11 (7 ECTS credits)
Electrostatics and circuit analysis
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts):

- the difference between units and quantities
- differential calculus methods applied to measurement accuracy estimations
- use of general theorems to solve transient, DC and AC electric circuits problems
- microscopic description of electrical phenomena.
- The fundamental basis of vector field theory: the operators
-The main laws and theorems of electrostatics
-The manipulation of these entities in some common cases (e.g. capacitors)

The student will be able to:
- Design, test and analyse a simple electric circuit.
- Compute the currents flowing in all branches of an electrical network.
- Formulate these concepts in his own words and give precise examples of devices based on them.
- Master basic parameters of electrostatics
- Link mathematical formalism of electrostatics to real applications
- 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):

Quantities - Units – differential calculus
General theorems and laws of DC, AC and Transient electrical analysis
Methods for solving electrical problems.
Vector fields and operators, Gauss's law, Gauss's theorem, electrostatic potential, Poisson's law, insulators, conductors, capacitors.

Organisation:
Quantities - Units - differential calculus.
Case studies for increasingly complex networks.
Methods for transient and alternating currents
The lectures will lead the students progressively into the manipulation of vector fields and then concentrate on electrostatics. Numerous exercises are implemented.

Main difficulties for students:
- use of mathematical tools.
- Link theory to applications in real cases
- intuition of electrostatic phenomena
Assessment :
How do you assess that the objectives have been reached?
Electrical networks case studies
Lab circuit design, test and measurements.

- Written examination based on the analysis of real problems
- Lab examination
Assessment method : Written exam, Lab work
Number of hours : 25h (lectures), 35h (tutorials), 42h (lab work),
Prerequisites :
Physics (electricity) and mathematics
Unit of study coordinator : Michel BONNET
Mode of study : Initial training
Semester : 1
Bibliography :
Electricité en premier cycle universitaire.

I1ANTH21 (4 ECTS credits)
Thermodynamics - fundamentals and applications
Objectives :
At the end of this module, students should have understood and be ableto explain :

- the inductive approach, specific to thermodynamics, which is to generalize, by defining them as laws, the conditions for energy conservation and evolution of systems;
- the significance, the relevance and the application domains of the main thermodynamic functions (internal energy, enthalpy, entropy and Gibbs function).

Students should be able to:
- identify the system under study and to establish, for this system, routinely and systematically, the material balance, the energy balance and the balance of entropy ;
- use and interpret the enthalpy diagram and the entropy diagram of real fluids ;
- apply thermodynamics to the understanding and description of phase equilibria for a pure substance;
- explain the operation of thermodynamic machines (power plants, refrigeration unit, heat pump), based on the two laws of thermodynamics and on phase equilibria.

Description :
Programme (detailed contents) :

Fundamental concepts (concept of systems, evolution of a system, mathematical tools in thermodynamics, ideal gas model). Work and heat. The first law of thermodynamics and the internal energy function. The enthalpy function and the steady-state systems. Thermodynamic functions changes during reactions. Physical equilibria for a pure substance (Gibbs function, phases diagram, real fluids). Thermodynamic machines (enthalpy and entropy diagram, power plants, refrigeration units and heat pumps).
Organisation:
- E-learning platform containing the slides of the lectures, the content of the practicals and self-assessment questionnaires on each chapter. Students are encouraged to ask questions;
- Lectures focusing on the basics ;
- Tutorials illustrating and applying the concepts presented during lectures and promoting dialogue between students and teachers ;
- Handouts containing problems with partial answers to guide the individual work of students ;
- Practicals.

Documents:
- Handouts of tutorials including personal work.
- Two books written by the teaching staff and available at the school library.
- E-learning platform.

Main difficulties for students:
Related to the specificity of thermodynamics. It is an essentially inductive and deductive science; it takes time and needs regular work in order to be assimilated.
Assessment :
How do you assess that the objectives have been reached ?

- By checking the homework and the preparation of tutorials, for which the program is handed out at the beginning of the semester
- With formative assessment during the semester
- By means of a final written examination

How does your assessment system help the student to reach the objectives ?
Practice tests allow each student to continuously review his knowledge of thermodynamics.
Assessment method : Written exam, Lab work
Number of hours : 17.5h (lectures), 17.5h (tutorials), 6h (lab work), 60h (Personal work)
Prerequisites :
Concept of function of several variables and partial derivatives.

Unit of study coordinator : J.N. FOUSSARD
Mode of study : Initial training
Semester : 2
Bibliography :

- H.Debellefontaine, J.N. Foussard et S. Mathé, site intranet Thermodynamique 1èreannée, Insa Toulouse
- J.N. Foussard etS. Mathé, Mini Manuel de Thermodynamique, Dunod, 2009, ISBN : 978-2-10-052101-2.
- J.N. Foussard,E. Julien et S. Mathé, Thermodynamique - Bases et applications (2èmeédition), Dunod, 2010, ISBN : 978-2-10-053078-6.

I1ANMT21 (6 ECTS credits)
Mathematics II
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts):

analysis (function of a real variable), linear algebra and
consolidation of the training in reasoning
Description :
Programme (detailed contents):
Function of the real variable, limited developments, equivalents, differential equations with non constant coefficients, integration on a segment, generalized integration
Vector spaces, linear applications, determinant, Gauss elimination for solving systems of linear equations, reduction of endomorphisms (diagonalisation).

Organisation:

Teaching with lecture notes handouts
Tutorial class preparing for autonomy and suggestions for further work
Unsupervised homework for a personalised follow-up of student's progress
and an encouragement for group work

Main difficulties for students:
Grasping concepts and abstract objects**.**

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

Two practice exams of 1h15mins each, a final exam of 2h30mins (mark coefficients cc1: 20 %,
cc2 30 %, cc final: 50 %).
How does your assessment system help the student to reach the objectives?
Two supervised written exams with corrected and commented copies handed back to
students; the teacher draws up a global assessment of the results, three lots of non-supervised
homework to be done in pairs with corrected and commented copies handed back
allowing self-assessment.
Self-assessment test (multiple choice questions) at every end of chapter, depending
on the subject.
Assessment method : Written exam
Number of hours : 38.75h (lectures), 43.75h (tutorials),
Prerequisites :
Mathematics and Algorithmics I1ANIF11
Mathematics I I1ANMT11
Unit of study coordinator : G. QUINIO-IRUBETAGOYENA
Mode of study : Initial training
Semester : 2
Bibliography :
Mathématiques 1er année (Claude Deschamps, André Warusfel)
Cours de mathématiques spéciales (E. Ramis, C. Deschamps, J. Odoux)
Précis (bréal)

I1ANPH21 (5 ECTS credits)
Geometric optics and point mechanics
Objectives :

- Gauss's approximation, nature of objects and images, properties of optics elements and apparatus.
- Principles of relativity, kinematics and dynamics. Newton's law. Force and energy.

The student will be able to:

- Assemble simple optics elements to form an apparatus. Draw geometrical constructions of images through several optics elements. Use formulas to calculate the size and positions of images.
- Derive the expressions for position, speed and acceleration vectors in the main systems of coordinates; derive the mathematical expressions for the main forces; understand and apply Newton's laws in order to derive the equation of motion for a point mass; understand and use the theorem of kinetic energy.

Description :
Programme (detailed contents) :

- Nature of light. Colours. Laws and approximation of geometric optics. Diopters, lenses, mirrors. Magnification. Combination of elements.
- Kinematics, trajectory and reference frame. Expression of the position, speed and acceleration vectors in a Cartesian coordinate system, cylindrical and spherical system of coordinates. Relative movement and change of reference frame. Dynamics, Newton's laws and theorem of kinetic moment. Impacts and elastic shocks. Work done by a force and energy, theorem of kinetic energy and principle of conservation of momentum. Potential barriers and potential wells.

Organisation:
17 projects sessions, 2 lectures, 5 lab-work sessions
7 lectures, 11 tutorials, 1 project session
Main difficulties for students:
Deriving vector expressions as a function of time. Methods for the resolution of differential equations.
.
Assessment :
How do you assess that the objectives have been reached ?

- 3 mini-exams, several written reports, 1 oral presentation,
- 3 written exam, 1 lab-work exam

How does your assessment system help the student to reach the objectives ?
The combination of multiple forms of teaching (lecture, tutorials, lab-work and projects) as well as the different forms of examination allow the use of a large panel of teaching approaches, in close relation with the topics covered (theoretical or experimental).
Assessment method : Written exam, Lab work
Number of hours : 11.25h (lectures), 15h (tutorials), 18h (lab work), 21.25h (Project), 60h (Personal work)
Prerequisites :

- Methods of resolution of linear differential equations of first and second order.
- System of coordinates Cartesian, cylindrical and spherical.

Unit of study coordinator : J. CARREY - W. ESCOFFIER
Mode of study : Initial training
Semester : 2
Bibliography :
E. Hecht, Physique, ITP DeBoeck Université (1999)
H. Beson, Physique 1 mécanique, De Boeck Université (1999)
E. Amzallag, J. Capriani, J. Ben Aïm & N. Piccioli, La physique en FAC,Mécanique 1ere et 2eme année, EdiScience-Dunod (2003)
J. Capriani & H. Hasmonay, Mécanique et énergie, Librairie Vuibert(1997)
J.P. Faroux & J. Renault, Mécanique 1, Dunod, 4ème édition (1996)
Alonso & Finn, Physique Générale 1, mécanique et thermodynamique,InterEditions, 2nd édition (1994)
J. Bergua & P. Goulley, Résoudre un problème de mécanique, Bréal, (1996)
J.-P. Parisot, P. Segonds & S. Le Boiteux, Coursde Physique ? Optique, Dunod (2003)
J. Taylor, Incertitudeset analyses des erreurs dans les mesures physiques, Dunod (2000)

I1ANTI11 (3 ECTS credits)
Industrial techniques
Objectives :
At the end of this module, the student will have understood and be able to explain the main concepts concerning various aspects of the design and industrialization of an industrial product.

The student will be able to:

1 - **Module CSM** (Design of Mechanical Systems) (level 3) *
Identify the components of a simple mechanism using the rules of technical drawing.
Conceptualize and assemble simple parts.
2 - **Module TdP** (Production Techniques) (level 2) *
Identify the different steps in the manufacturing process of simple parts.
3 - **Module EM** (Study of Materials) (level 1) *
Identify the basic characteristics of metallic or composite materials.
Description :
Program (detailed contents):

This unit is divided into 3 modules with a common theme: wind turbine used during S2 in Study of Systems
1 - **Module CSM** (Design of Mechanical Systems) 23h + 1h Exam = 24h
A - Presentation with videos on the life cycle of an industrial product. Presentation of the wind turbine.
B – Introduction to the European projection standard for technical drawing. Starting from a kinematic diagram, design a double joint to be inserted in the wind turbine
C - simulate using industrial software, assembly and motion, including the simulation of the collapse of the wind turbine mast by means of a pneumatic jack.
Lecture related to **Production Techniques** and **Materials Science** 1, a 3h session
2 - **Module TdP** (Manufacturing Techniques) 8 h
Learning Production Techniques in order to manufacture some of the parts designed during the CSM module: double joint for the wind turbine. Initiation for safety positions and measures.
3 - **Module EM** (Materials Study)
Metallic materials, composite Materials and Thermal treatments
9 h: Metallurgy of steels after slow cooling, Implementation and characterization of a composite material (ceramic polymer), Study of quench hardening effect on steel alloys.
Organization:
- introductory course
- tutorials in groups
- lab works in small groups

Main difficulties usually met by students:
not to underestimate the preparation work and personal effort
Assessment :
How do you assess that the objectives have been reached ?
- written examination,
- evaluation of the student autonomy,
- successfully solving problems
- reports for practical work

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

- milestones, linked to indicators (appreciation or marks), allow student self-testing
- the teaching methods encourage good preparation and maximum involvement

Form of evaluation (written, report, presentation, ...):
- written exam, evaluation of student behaviour: reactivity and oral involvement,
- the evaluation mark is mostly individual, or sometimes by pairs, depending on available equipment

Assessment method : Written exam, Oral exam, Report, Lab work
Number of hours : 3h (lectures), 38h (lab work),
Prerequisites :

These are introductory courses, no prerequisites, excepted final-year High-School Science stream
Unit of study coordinator : Jean-Claude LAFFITTE
Mode of study : Initial training
Semester : 1
Bibliography :

1 - Module CSM (Conception des Systèmes Mécaniques) :
Polycopié : Guide du dessinateur
Polycopié : Introduction à Pro-Engineer
2 - Module SdP (Sciences de la Production) :
Polycopié
3 - Module EM (Etude des Matériaux) :
Polycopié

I1ANIF11 (3 ECTS credits)
Mathematics and algorithms
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts):

- concepts of algorithm and typing (assigning by type).
- Logic and the main reasoning methods.
- Set theory and operations on sets

The student will be able to:
- Rigorously prove mathematical statements.
- Handle abstract sets.
- Design an algorithm to solve a simple problem and translate it into the Ada language.

Description :
Programme (detailed contents):

Logic, reasoning methods, sets.
Foundations for algorithms: control structures, variables, functions and procedures
Organisation:
Lectures with handouts.
Tutorial classes must be prepared by students. Extra exercises for personal work are provided.
Practical sessions using the Ada language in aeronautics, applying concepts covered in lectures and tutorials.
Main difficulties for students:
Handling abstract concepts. Constructing rigorous statements or proofs. Correctly applying theorems or typing rules by checking the hypotheses.

Assessment :
How do you assess that the objectives have been reached?
A written exam as well as self-evaluation using Moodle. A lab session which will be marked

How does your assessment system help the student to reach the objectives ?
Self evaluation using Moodle helps students identify their weaknesses.
Assessment method : Written exam, Lab work
Number of hours : 12.5h (lectures), 13.75h (tutorials), 13h (lab work),
Prerequisites :
Common sense, rigour.
Unit of study coordinator : Didier LE BOTLAN
Mode of study : Initial training
Semester : 1
Bibliography :
Structures de données et algorithmes, Aho,Hopcroft et Ullman
Initiation à l'algorithmique et aux structures de données, Courtin, Kowarski
Programmer en Ada 95, Barnes
Analyse 1, Jean-Marie Monnier, Dunod
Alice au pays des merveilles, Lewis Caroll

I1ANMT11 (5 ECTS credits)
Mathematics I
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts):
Complex, polynomial and rational functions, binary relations, functions and applications, finite sets and enumeration, real numeric sequences, limit and continuity, derivation, differential equations.

The student will be able to:
Understand the concepts and to apply the main results.
Description :
Programme (detailed contents):

Complex: complex exponentials, applications to trigonometry, resolution of equations in C.
Polynomial functions: Definitions, Euclidean division, factoring of polynomial functions (links between roots and factoring, properties of roots, decomposition into irreducible polynomial functions).
Rational functions: Definitions and decomposition of rational functions.
Binary relations: Equivalence, ,order,, properties of the set of real numbers.
Functions and applications: Restriction and extension of a function, image, inverse image, injection, surjection, bijection, inverse functions.
Finite sets and enumeration: finite and countable sets, cardinals, unions, intersections, product space, permutations, combinations.
Real number sequences: Operations, convergence, divergence, operations on limits, non-decreasing sequences, recurrent sequences.
Limit and continuity: basics on topology, left and right limits, limit properties, continuity at a point and over an interval.
Derivation: at a point, over an interval, derivatives of high order, derivation of inverse functions.
Differential equations:first and second order with constant coefficients
Organisation:
Lectures with handouts.
Tutorial classes must be prepared by students.
Extra exercises for personal work are provided.
Assessment :
How do you assess that the objectives have been reached?

Three lots of homework written with a partner (to foster reasoning)
Three written examinations regularly throughout the semester.
.
Assessment method : Written exam
Number of hours : 22.5h (lectures), 32.5h (tutorials), 43h (Personal work)
Prerequisites :
High-School science stream
Unit of study coordinator : Fabien PANLOUP
Mode of study : Initial training
Semester : 1
Bibliography :
Analyse 1, Jean-Marie Monnier, Dunod.

I1ANBC11 (6 ECTS credits)
Chemistry and biotechnology
Objectives :

At the end of this module, the student will have understood and be able to explain (main concepts):
- Molecular structure and bond formation between atoms.
- Theoretical and practical study of ionic equilibrium in aqueous solution.
- Chemical and biological laboratory experiments.
- An overview of modern biology for a better understanding of the evolution of life sciences and of their impact on society and economy.

The student will be able to:
- Analyse molecular structures and explain bond formation and the geometry of molecules.
- Analyse a problem of ionic equilibrium in aqueous solution and identify the substances in solution.
- Calculate concentrations.
- Describe and Analyse biological molecules and the molecular processes involved in reproduction.
- Design and carry out a chemical or biological experiment, analyse the experimental results and write a report about experiment.

Description :
Programme (detailed contents):

Electronic structure of atoms - atomic orbitals - periodic table of the elements - Periodicity of the properties - Covalent bonds - Molecular orbitals - pH of aqueous solutions - Solubility, precipitation - Complexation - Oxidation, reduction.
Presentation of the three major domains of living organisms: the Bacteria, the Archaea and the Eukaryotes - The cell factory - The evolution of biotechnology (Archeobiotechnology -Paleobiotechnology - NeoBiotechnology) - Basic concepts of molecular biology - Genes - Human and microbial genomics.
Laboratory work: Set of eight experiments, introducing the use of basic laboratory equipment - Titration by acid-base and oxidation-reduction reactions - Titration by precipitation reactions - Spectrophotometric and potentiometric titrations (pH-metric, silver electrode) - Study of solubility - Equilibrium of affinity by ion exchange.
Organisation:
- Lectures focusing on the basics.
- Tutorials illustrating and applying the concepts presented during lectures and promoting dialogue between students and teachers.
- Written framework consisting of problems with partial answers guiding the individual work of students.
- E-learning platform containing the slides of the lectures, the content of the practicals and self-assessment questionnaires on each chapter.
- Practicals.

Main difficulties for students:
A lack of regular work that does not allow a progressive assimilation of the knowledge.

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

- By checking the homework and the preparation of tutorials, for which the program is given at the beginning of the semester.
- By checking the homework and the preparation of practicals.
- By testing during the semester.
- By means of a written examination at the end of the unit.

How does your assessment system help the student to reach the objectives?
Formal assessments (written assessment and practicals) allow each student to continuously review the situation of his knowledge.
Assessment method : Written exam, Lab work
Number of hours : 22.5h (lectures), 23.75h (tutorials), 30h (lab work), 90h (Personal work)
Unit of study coordinator : S. MATHE
Mode of study : Initial training
Semester : 1
Bibliography :
https://moodle.insa-toulouse.fr/course/view.php?id=51 Chimie Physique; P. Arnaud ; Dunod
Le monde du vivant - Traité de Biologie. ; W.K. Purves, G.H. Horians et H.C. Heller. ; Sciences Flammarion. 1994.
Biotechnologie-Principes et méthodes. ; M. Larpent-Gourgaud et J.J. Sanglier. ; Doin Editeurs.1992.
Brock, Biology of microorganisms, ninth Edition, 2000, M.T. Madigan, J.M. Martinko and J. Parker.

I1ANSY21 (6 ECTS credits)
Study of systems
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts):

1 - System - The concept of system, the general concepts and laws related to it and used in different fields.
- The importance of a formal modelling approach to understand, predict and control the behaviour of systems.

2 - Algorithms
The concept of an array, a matrix, how to navigate through them, and combine them with record types to build complex data structures.

3 - Industrial Techniques:
Application of science to the life cycle of an industrial product.

The student will be able to:

1 - System
Model different types of dynamic systems (continuous / discrete variables, steady-state / discrete, deterministic / probabilistic)
Analyse the behaviour of these systems (transient / steady-state, stable states).

2 - Algorithms
Given an algorithmic problem, design a suitable data structure and code the solution in Ada.

3 - Industrial Techniques:
3.1 - **Module CN** (digital control) (level 3) * To interpret and to write a normalized program. To implement a dimple manufacturing process.
3.2 - **Module ADSM (**Assembly Of Mechanical Systems) (level 3) * To identify, apply and test several structural assembly techniques.
3.3 - **Module ASM** (Analysis of Mechanical Systems) (level 3) * To identify the moving parts of a mechanism. To identify the elements responsible for transmission and transformation of motion. To make a diagram of the mechanism showing the law of input/output for movements.
3.4 **Module ESMA** (Study of the Automated Mechanical Systems) (level 3) * To interpret, make a diagram and build automatisms using combinational and sequential logic.

Description :

Programme (detailed contents):

1 - System
- The concept of system: components, interactions, purpose, environment.
- Dynamic Systems: Input / output, state, deterministic and probabilistic behaviour, feedback, regulation, transient and steady state.
- System modelling, analysis, simulation, control, performance evaluation.
- Examples for various systems.

2 - Algorithms:
- Arrays, matrices
- Mixed data structures
- Standard algorithms (search for min, max, averages) on these structures.

3 - Industrial Techniques - Description
Common theme: wind turbine used during lab work in ESMA
This UF is divided into 4 modules:
3.1 - **Module CN** (digital control)
1 h Tutorial + 6 h Lab work = 7 h
Further to the study accomplished in the module Manufacturing Techniques, simulation, programming and implementation of digitally-controlled didactic machines. Trajectories for wind turbine parts.
3.2 - **Module ADSM** (Assemblage Of Mechanical Systems)
6 h Lab work
Introduction to the techniques of oxyacetylene and arc welding .
Analyse of inherent problems of welding processes (heat affected zone, distortions),
Introduction to bonding techniques, choosing the type of adhesive according to the assembling materials,
Characterization of different bonding techniques (adhesive, riveting, pinning, fitting).
3.3 - **Module ASM** (Analysis of Mechanical Systems)
6 h Lab work
Mechanism mobility when dealing with transmissions and transformations of motion. Kinematic diagrams for mechanisms
3.4 - **Module ESMA** (Study of Automated Mechanical Systems)
12 h Lab work
3.4.1 - Sequential and combinational logic using pneumatic technology - The wind turbine is used for a systems approach.
3.4.2 - Sequential and combinational Logic using programmable logic controllers.
3.4.3 - Using teaching robots to create trajectories, learning and managing the displacement of objects through programming.

Organization:
introductory course
tutorials in groups
lab-work in small groups
small projects
remedial course
Main difficulties usually met by students:
- not to underestimate the preparation work and personal effort

Assessment :

How do you assess that the objectives have been reached?
- written examination,

- evaluation of the student autonomy,
- successfully solving problems
- reports for practical work
- final evaluation for individual lab work.

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

- in algorithms, continuous auto-evaluation with *Moodle*
- milestones, linked to indicators (appreciation or marks), allow student self-testing
- the teaching methods encourage good preparation and maximum involvement

Assessment method : Written exam, Lab work
Number of hours : 16.25h (lectures), 13.75h (tutorials), 43h (lab work),
Prerequisites :

Basic principles acquired in the first semester of the first year: logic, binary relations, combinational analysis, functions, differential equations, algorithms, Industrial Techniques(I1ANMT11, I1ANIF11, I1ANTI11).

Unit of study coordinator : Didier Le BOTLAN
Mode of study : Initial training
Semester : 2
Bibliography :

W. R. Ashby Introduction to Cybernetics, Londres, Chapman and Hall, 1956.
- D.G.Luenberger. Introduction to Dynamical Systems : Theory, Models and Applications. John Wiley & Sons, 1979
- H.A.Simon , La Science des systèmes, science de l?artificiel Paris, Epi, 1974.
- J.W. Polderman, J.C.Willems. Introduction to Mathematical System Theory : A behavioural approach. Springer, 1998
- Aide-mémoire ADA
- Support de cours et TD Systèmes
- Support de cours Commande Numérique
- Support de cours Etude des Systèmes Mécaniques Automatisés

I1ANGE21 (4 ECTS credits)
Information, management, communication - principles and methods for the engineer
Objectives :
At the end of this module, the student will have understood and be able to explain (main concepts) :

· Main principles and tools for documentary methods
· Methods for writing well-structured professional documents
· Methods for giving effective oral presentations with visual aids
· Introduction to company management
The student will be able to:
· Work out a bibliographic search strategy
· Write a bibliography
· Use basic information search tools
· Write logically structured reports with an appropriate lay-out
· Make oral presentations with visual aids - Powerpoint
· Write a resume and a cover letter for a work placement
· Describe a management process
· Describe a decision-making process
· Analyse a company's environment
· Find one's place in the company the work placement
Description :
Programme (detailed contents) :

- Main stages in information search
- Different types of documents
- Information search tools: the Internet, business databases, catalogues
- Analysis of the relevance and reliability of a document
- General information on copyright and plagiarism
- Quotation rules and writing a bibliography
- Introduction to oral and written communication techniques
- Report writing methods
- Help with CV and cover letter writing for a work placement application
- Preparing the first-year work placement
- Introduction to management: standards, procedures, jobs
- The company's environment: structure, functions and description
Organisation:
Lectures and tutorials
Assessment :
How do you assess that the objectives have been reached ?
Oral assessment :
Oral report in teams
Written assessment :
Information search and report writing
Tests to check learning and understanding, business case studies
How does your assessment system help the student to reach the objectives ?
Assessment grids and feedback will help students check their mastery of oral and written expression techniques, as well as their understanding of the main principles covered in class.
Assessment method : Written exam, Oral exam, Report
Number of hours : 13.75h (lectures), 25h (tutorials), 35h (Personal work)
Unit of study coordinator : Valérie DUPUY
Mode of study : Initial training
Semester : 2
Bibliography :

- Handout (in class): oral presentation
- Handout (in class): writing the project report
- Handout on information search
Resources:
- online course: moodle
- Cocula F. (2008), Introduction générale à la Gestion, 4ème édition, Collection Les Topos, Dunod, Paris.
- De Fabrègues M. (2008), Introduction à la Gestion, Collection Connaissance du Droit, Dalloz, Paris.
- Robbins S. et DeCenzo D. (2004), Management. L'essentiel des concepts et des pratiques, 4ème édition, Pearson Education, Paris, 523 p. Bib.INSA: 658.4 ROB
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*- **INFOSPHERE***
Service des Bibliothèques de l'Université du Québec à Montréal
http://www.bibliotheques.uqam.ca/InfoSphere/index.html