OM – Organiser – Manager (à traduire)

▶ EV00 Introduction to the Environment and Environmental Problems

C **14**	
TD **28**	
THE **38**	

AUTUMN
SPRING

4 CREDITS

OBJECTIVES:
► Give students basic skills in the field of the environment

SYLLABUS:
► Introduction to structure and functioning of ecosystems
► Problems caused by human development, land management and natural areas
► Waste management
► Pollution and its impact on ecosystems
► Legal and institutional framework for international and national environmental management

▶ GE01 Management Fundamentals

C **14**	
TD **28**	
THE **38**	

AUTUMN
SPRING

4 CREDITS

OBJECTIVES:
► Introduce first, second and third year students to concepts and basic tools for company management.

SYLLABUS:
► Companies, entrepreneurs, markets and marketing
► Organisation
► Accounting systems

MG00 — Industrial Firms

C	30
TD	28
THE	22

AUTUMN

4 CREDITS

OBJECTIVES:
- A better knowledge of companies, their diversity, their workings and constraints.
- Better understanding of the role of engineers in companies, relative to their varying tasks and responsibilities.

SYLLABUS:
- History of the company
- Current company typology
- Company performance
- Industrial management basics
- An engineer's place in the company

MG03 — Business Simulation: Using Accountancy and Economic Tools

C	14
TD	28
THE	38

AUTUMN
SPRING

4 CREDITS

Prerequisites :
EC04, GE01

OBJECTIVES:
- Apply basic accountancy and economic principles to manage a restaurant (KIWI game) and a manufacturing company (SIMGEST game) in a competitive and uncertain computer−simulated market.

SYLLABUS:
- Marketing strategy (choosing niche, price, managing sales force, location)
- Production (managing infrastructures, equipment level, overtime, labour, salary policy)
- Financial management (selecting finance and cash management)
- Company environment (business outlook, available forecasts and competitor's choices)

TI02 — Oral Expression and Public Speaking

TD	28
TP	14
THE	38

AUTUMN
SPRING

4 CREDITS

OBJECTIVES:
- Give all participants the experience and tools necessary for oral communication in as diverse contexts as possible. The tutorials and practicals use video (in groups and individually) and group work as a foundation.

Acquire skills and gain experience in communicating and public speaking

SYLLABUS:
- Oral communication and its principal obstacles
- The stakes when speaking
- Managing stress
- Vocal techniques
- Expressing emotions
- Non−verbal communication (kinesics/proxemics)
- Managing speaking in public
- Presenting individually or in groups
- Computer−aided presentations

QC – Questionner – Créer (à traduire)

▶ EI03 — International Security and Global Challenges

C	14
TD	28
THE	38

SPRING

4 CREDITS

Prerequisite :
LE03

OBJECTIVES:
► This course presents a comprehensive view of the most important issues the international community is facing nowadays. Solutions from decision makers in governments and international institutions and from private sector and civil society will be discussed.

SYLLABUS:
► Introduction
► International Security
► Post–Conflict–Reconstruction
► Proliferation Prevention
► Terrorism and International Threats
► Demography and Population
► Energy
► Global Warming
► Medium
► Human Rights and Security
► Technology Policy
► Trade and Economics
► Current Affairs Topic

▶ MR00 — Méthodologie recherche (Tronc commun)   Translation in progress

THE	80

AUTUMN
SPRING

4 CREDITS

Prerequisites :
Avoir validé deux
UV de CG (Toutes
les UV LF ne sont
pas considérées
comme des...

OBJECTIVES:
► Initier l'étudiant à une méthodologie de recherche, voire une pratique sur un sujet relevant des objectifs de la culture générale (approche contextualisée, mise en perspective, réflexion structurée et critique...).

SYLLABUS:
► Cadrage du sujet avec l'enseignant responsable pour validation par un jury
► Etablissement d'un cahier des charges (objectifs, moyens) et d'un échéancier
► Recherche d'informations issues de sources différentes (ouvrage, internet, enquête, archives...)
► Rédaction du rapport (problématique, déclinaison des travaux, apports critiques...)
► Soutenance orale du travail effectué

utbm

De la psychologie cognitive à l'ergonomie cognitive

C   **14**
TD   **28**
THE   **38**

AUTUMN
SPRING

4 CREDITS

OBJECTIVES:
► Décrire et expliquer les principales activités mentales (perception, mémoire, ...).
► Sensibiliser l'élève ingénieur à l'intérêt de la prise en compte de ces activités mentales dans la conception de systèmes et d'interfaces.

SYLLABUS:
► Introduction générale
► Entre sensation et perception
► Les types de mémoires
► Comprendre l'intérêt de l'ergonomie des interfaces par des études de cas réels
► Intérêt d'une bonne répartition des taches entre homme et système
► Réalisation d'un projet de recherche expérimentale

Prerequisite : Some UVs require that previous UVs must have been successfully completed. Some UVs have several prerequisites.

ACM : Actuators and Mechatronic Control Systems Specialisation.

C : Lecture

Category : Each UV is classed in one of the following categories:
- CS Scientific Knowledge;
- TM Techniques and Methods;
- EC Expression and Communication;
- CG General Education;
- RN Revision;
- EX Exterior.

CDP : Product Design and Development Specialisation

CIM : Design and Material Innovation Specialisation

UV Code : Code designating a UV

ECTS Credit : The value of a UV in the ECTS system (European Credit Transfer System)

CSM : Mechatronic System Design Specialisation

CSP : Production Systems Design Specialisation

Department : Teaching Department

Dept. Teaching Department

DIC : Industrial Design Specialisation

EDD : Energy and Sustainable Development Specialisation.

EDIM : Ergonomics, Design and Mechanical Engineering Department

EIC : Ergonomics, Design and Innovation Specialisation

EnE : Energy and Environment Specialisation.

ESE : Electronics and On–Board Systems Specialisation

Specialisation : Specialisation within a department

GESC : Electrical Engineering and Control Systems Department

UV Guide : The UV Guide catalogues all UVs taught at UTBM during an academic year.

HUMA : Humanities Department

IIRV : Image, Interaction and Virtual Reality Specialisation

ILC : Software and Knowledge Engineering Specialisation

IMAP : Manufacturing Management and Engineering Department

INFO : Computer Science Department

IP : Product Industrialisation Specialisation

Language (teaching) : Language in which a UV is taught in.

LEIM : On–Board Software and Mobile Computing Specialisation

MC : Mechanical Engineering and Design Department

MOM : Numerical Modelling in Mechanics.

MPL : Management of Production and Logistics Specialisation

Level : Level of UV within degree courses. From 01 to 06

Basket : Contains the UVs chosen by a user to create a personalised catalogue

PISP : Managing and Computerising Production Systems Specialisation

Recognition : Level of recognition within a specialisation or department (0, 1 or 2) for a UV :
- 0: the UV has no link with the specialisation. It does not count as part of the department?s degree course, but rather as an additional UV.
- 1 or *: the UV is related to the department?s degree course but is not part of the group of key skills to be acquired for the specialisation.
- 2 or **: the UV is part of the group of key skills to be acquired for the specialisation.

R&T : Networks and Telecoms Specialisation

Semester : Indicates during which semester a UV is taught

Timetable Organisation : The way in which a UV is divided up into its constituent parts (TD, TP, Lecture, THE)

TC : Common core. Equivalent to first two years of an Engineering Degree

TD : Tutorials

THE : Unsupervised work. The number of hours of personal work necessary to complete a UV

TP : Practicals

TSE : Transport and Drive Systems Specialisation.

UV (Course Credit) : Course taught at UTBM. A Course Credit is taught within a department or department specialisation

Key

1. C : Lecture
2. TD : Tutorials
3. TP : Practicals
4. THE : Unsupervised work. The number of hours of personal work necessary to complete a UV.
5. Prerequisite : Some UVs require that previous UVs must have been successfully completed. Some UVs have several prerequisites.
6. EIC : Ergonomics, Design and Innovation Specialisation
7. DIC : Industrial Design Specialisation
8. ECTS Credit : The value of a UV in the ECTS system (European Credit Transfer System)
9. Language (teaching) : Language in which a UV is taught in.

▶ CP92 — Design and Dimensioning of Complex Shapes

C	TD	TP	THE					*DIC *EIC
32	28	18	42	🇫🇷	SPRING	6 CREDITS		Prerequisite CP80

OBJECTIVES:
▸ Gain awareness in the modelling of complex shapes.
▸ Students should be able to model objects and their associated interfaces using ergonomic and aesthetic criteria.

SYLLABUS:
▸ Impact of aesthetic, ergonomic, material and manufacturing constraints on product shape
▸ CAD surfaces in advanced software
▸ Mathematics applied to geometry (splines, Bézier curves, Nurbs')
▸ A–class complex surfaces