

Undergraduate Technological Degree

INTERNET AND MULTIMEDIA TECHNOLOGIES

1. Course Objectives

In accordance with the decree of 3 August 2005 modified pertaining to the University Diploma of Technology (*DUT*) in the European Higher Education Area, the *DUT* speciality Multimedia and Internet Technologies (MIT), *formerly called Communication Services and Networks (CSN)*, provides teaching whose aim is to prepare students over four semesters for positions of technical and professional responsibility and leadership in the field of multimedia and the Internet.

Careers in multimedia and the Internet are omnipresent: from website design and creation (for companies and administrations) to community management (administering pages on social networks). The course strives to integrate the innovative dimension of this field by putting emphasis on the knowledge and skills associated with current job sectors. The notion of technology intelligence, inseparable from this course, enables the pedagogical team to adapt the teaching continuously in order to take technological developments into account and ensure the employability of the graduates.

The Programme Pédagogique Nationale of the MIT *DUT* allows the admission of students from all types of baccalaureate. This study programme is designed so that each student receives an adapted course pathway conducive to facilitating its successful completion. The MIT *DUT* thus constitutes a path to success for school-leavers with a literary baccalaureate as well as for those with a technological one, whatever its type. The NPC promotes the use of mathematical and other scientific concepts as tools supporting the acquisition of the skills necessary for the jobs in question.

The MIT course particularly emphasises project-based learning and an individualised support for the students, allowing them to discover the complexity and multi-disciplinarity of the various activity sectors.

It prepares future graduates for the constantly evolving areas of work in multimedia and the Internet that are identified on the governmental portal dedicated to Internet professions (www.metiers.internet.gouv.fr). These graduates will be given the task of putting in place internal and external communication tools within communication departments in companies, institutions, local authorities and associations, and will function as interfaces between the clients, the creative and the service providers in communication agencies.

Depending on the Personal and Professional Project of the student, it enables immediate entry into the workplace or continuation into further studies.

2. Activities and Skills Tables

a. Activity sector

Definition

The speciality MIT trains future professionals for careers in the design and creation of multimedia products and services.

MIT *DUT* graduates can be defined as a versatile specialist, insofar as their competence as a technician is based both on a solid all-round education and on specific multimedia skills.

They must therefore acquire multiple skills enabling them to play a key role both in the design of content and in the creation of products and services and their deployment. They are an internal or external interlocutor (service provider) in the communication and marketing strategy of an organisation (company, administration, association, local authority, etc.).

Activities

MIT *DUT* graduates participate actively at several levels in the design, creation and deployment of multimedia products or services:

- In the definition of functional briefs and technical specifications, in consultation with the clients or users, whilst applying the legal norms in force.
- In the elaboration of the terms and conditions of the implementation of strategic objectives (marketing, communication and technical) that this creation has to achieve.
- In the design of the architecture of multimedia products (printed materials, internet).
- In the development of aesthetic and ergonomic characteristics (website, brochure).
- In the development and programming of interactive and dynamic applications.
- They have an excellent command of web and graphic design tools and can participate in audiovisual production.
- They understand the challenges posed by communication media and are able to create and implement a communication or marketing plan.
- They develop websites and applications, create and manage databases, computer networks or network services, and ensure their maintenance and security.
- They devise graphic charters and other graphic products, create the design of websites including dynamically, and participate in the production and integration of audiovisual documents.

b. Professional context

Types of organisation

All sectors are concerned by the activities related to communication and information technology (IT), and are a source of a large number of job opportunities for MIT technicians.

An MIT *DUT* graduate is trained to work in the technical or general communication departments of all types of organisation or as a service provider. Within a small structure, their multiple skills will allow them to take charge of a project from its design to its production and deployment (IT, computer graphics, web design, audiovisual media, communication, etc.).

They carry out their activities:

- In total or partial autonomy.
- With shared responsibility within a team.
- With individual responsibility.

AREAS OF ACTIVITY	ORGANISATIONS AND COMPANIES
<ul style="list-style-type: none"> • COMMUNICATION DEPARTMENTS • THE MEDIA SECTOR • THE EDUCATION AND TRAINING SECTORS • MARKETING DEPARTMENTS • THE AUDIOVISUAL DOMAIN • IT DEPARTMENTS • THE CULTURAL SECTOR 	<ul style="list-style-type: none"> • Website creation agencies • Multimedia design agencies • Communication agencies • Audiovisual production agencies • Advertising agencies • Public and private organisations • Self-employed workers

Jobs concerned

MIT *DUT* graduates are versatile professionals called upon to achieve or participate in the achievement of multimedia projects and to act as an interface and coordinator.

They carry out functions that are extremely diverse and rapidly evolving (the following list being non exhaustive): communications officer, technology and strategic intelligence manager, community manager, web marketer, web designer, web producer, search engine optimiser, multimedia integrator, multimedia director, 2D / 3D graphic designer, Internet designer and integrator, 2D / 3D animator, multimedia developer, network administrator, interactivity designer, junior multimedia project manager, etc.

Economic and technological environment of employment

The activity of the graduate is characterized by a context of permanent evolution in the Internet and multimedia professions, due to:

- The digital convergence and the impact of Information and Communications Technology (ICT): the Internet and multimedia professions are evolving as a result of the development of new tools, new media and new computer networks. This expansion requires a capacity for adaptation in terms of the design, production and distribution of information, as well as new forms of organisation of work.
- Behavioural modifications: an attitude of constant technology watch has become a dominant feature of this job sector.
- Legal and ethical developments: ethical and legal constraints, both national and international, are more and more restrictive, particularly in the graduates' job sector, and are an integral part of the exercise of their professions.
- Internationalisation: the ability to speak, write and read foreign languages, especially the English language, as well as the ability to open to other cultures are essential to the MIT technician.
- Economical aspects: knowledge of the competition and the ability to set a budget are also indispensable for the necessary evaluation of the impact of the choices made and decisions taken.

Evolution of employment

The content of the MIT *DUT* course and the transversal pedagogical approach adopted have been designed to enable an evolution and an updating of the graduate's skills throughout their career.

The graduate will ultimately be able to envisage the setting up or the acquisition of a business, or becoming the head of a department.

c. Professional activities and tasks

THE CODES OF THE CLOSEST *ROME* (FRENCH OFFICIAL JOB

DIRECTORY) FORMS ARE:

CODE ROME	TYPES OF JOBS
E1101	• Animation of multimedia websites
E1103	• Communication
E1104	• Design of multimedia content
E1205	• Production of multimedia content
M1805	• Studies and IT development

ACTIVITIES

SKILLS

AI CREATION

BASIC ACTIVITIES :

- T1.1 elaboration of a creative concept according to the chosen medium (press, web, television, poster, video game, etc.)
- T1.2 translation of the concept and the multimedia scenario into a first visual representation
- T1.3 preparation of the content of the communication, including in foreign languages (collection, evaluation, selection, editing, etc.)
- T1.4 prototyping of the technical solution for validation by the client (standard configuration, etc.)

SPECIFIC ACTIVITIES :

- T1.5 editing of the creative concepts (visual, audio, written, etc.) According to the chosen medium
- T1.6 design of an editorial line for the publications, content of messages, communication material, etc.
- T1.7 design and editing of a message according to the medium (press, radio, television, web, etc.) And the defined campaign theme
- T1.8 design of visuals (pictures, photos, illustrations, etc.) According to the communication medium
- T1.9 design of promotional projects: patronage and sponsorship, direct marketing, sales promotion, point of sale (pos) advertising, shows/fairs/exhibitions
- T1.10 design of projects for a medium: billboard, cinema, internet, intranet, press, radio, television
- T1.11 design of an interactive multimedia application (navigation, ergonomics, accessibility, sound and visual identity, etc.)
- T1.12 determination of the technical choices concerning software and hardware

Basic activities :

- C1.1 implement the fundamentals of the languages of visual arts and of film
- C1.2 choose the techniques for drawing, computer graphics, printing
- C1.3 structure the information (website hierarchy, content, sections, links, etc.), apply the rules of ergonomics
- C1.4 structure an information system technically
- C1.5 model a computer application
- C1.6 design an algorithm

Specific skills :

- C1.7 apply a web architecture; a proprietary architecture
- C1.8 apply the techniques of compositing
- C1.9 demonstrate invention and creativity in the use of tools

architecture, and selection of technologies:
hardware, software, networks,
configurations, etc.

A2 PRODUCTION AND INTEGRATION

BASIC ACTIVITIES :

- **T2.1 Creation of written, visual and audiovisual communication products and media**
- **T2.2 Layout and enrichment of the document according to the typographic rules and visual identity guidelines**
- **T2.3 Development of multimedia applications**
- **T2.4 Selection then processing of the images**
- **T2.5 Creation and composition of the graphic elements**
- **T2.6 2D animation, modelling then 3D animation**

SPECIFIC ACTIVITIES :

- **T2.7 Creation of written communication material, including in foreign languages: catalogues, leaflets, billboards, press releases, speeches, company newsletters, reviews, press kits, etc.**
- **T2.8 Creation of visual communication material: posters, packaging, animated films, advertising films, logotypes, web pages, exhibition panels, advertising brochures, flyers, signage, etc.**
- **T2.9 Design and organisation of online mini-games and competitions**
- **T2.10 Video postproduction**
- **T2.11 Installation and configuration of Content Management Systems (CMS)**
- **T2.12 Integration of a graphic design template into a website**
- **T2.13 Development of an application linked to a database**
- **T2.14 Selection, assembly and integration of services (databases, specific developments, etc.)**

Basic activities :

- C2.1 program in computer languages, in particular for web development (html, css, etc.)
- C2.2 use the graphic process and manage the colorimetry
- C2.3 use multimedia editing software
- C2.4 use desktop publishing (dtp) software
- C2.5 manage and implement a local or network hardware and software configuration
- C2.6 use software to create images that are still or animated, vectorial and bitmap, 2d and 3d
- C2.7 use software tools to create audio and video
- C2.8 use multimedia integration tools
- (image, 2d and 3d animation, video, sound, text)

Specific competences :

- C2.9 use video and sound recording equipment
- C2.10 use database management software and tools

A3 ANALYSIS, INTELLIGENCE, TRAINING

BASIC ACTIVITIES :

- **T3.1 sector-based intelligence - cultural, regulatory, professional, technical, economic**

SPECIFIC ACTIVITIES :

- **T3.2 determination and implementation of rules of distribution and communication**

Basic activities :

- C3.1 self-train in the use of new tools, software, technologies, etc.

Specific competences :

- C3.2 conduct specific training, a meeting, including in a foreign language
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- of the information and content of a website
- T3.3 presentation of the multimedia products and applications delivered, support or training for the users

- C3.3 implement the techniques of reporting

A4 STEERING AND COORDINATION

BASIC ACTIVITIES :

- T4.1 Definition of the procedure for carrying out the project with the sponsor
- T4.2 Preparation of the functional brief (tasks, resources, deadlines, costs, etc.)
- T4.3 Assessment of the expenses, risks and means (budgets for time, personnel, costs, etc.) of a multimedia project
- T4.5 Supervision and coordination of the project execution

Basic activities:

- C4.1 Manage a project
- C4.2 Put in place a reporting system

Specific skills:

- C4.3 Establish a budget
- C4.4 Manage resources
- C4.5 Apply marketing techniques and tendering procedures
- C4.6 Apply management techniques

SPECIFIC ACTIVITIES :

- T4.6 Establishment of a team
- T4.7 Coordination of the activity of a team
- T4.8 Contingency management

A5 COMMUNICATION AND CUSTOMER RELATIONSHIP

BASIC ACTIVITIES :

- T5.1 Analysis of customer and user needs
- T5.2 Development of a network of partners
- T5.3 Presentation of the creative concept to the sponsor

Basic skills:

- C5.1 Adapt the communication to the specificities of the medium
- C5.2 Apply communication techniques, including in a foreign language
- C5.3 Use office automation tools (word processor, spreadsheet, etc.)
- C5.4 Use strategic information networks

SPECIFIC ACTIVITIES :

- T5.4 Definition of the structure's communication policy, establishment of the communication campaign budget and expenditure
- T5.5 Selection of suppliers/service providers, negotiation of the terms and conditions of the contract and supervision of the execution of the operation, of the products, etc.
- T5.6 Negotiation of the partnerships for the website (links, games, advertising, etc.)

Specific skills:

- C5.5 Justify an approach as well as aesthetic and technical choices
- C5.6 Put into practice the principles of semiotics and linguistics

A6 TESTS AND VALIDATION

BASIC ACTIVITIES :

- T6.1 Definition and execution of phases and procedures of technical and functional tests (planning, validation, etc.)
- T6.2 Verification of the compliance of the execution with the initial project and implementation of the modifications (graphics, ergonomics, navigability, etc.)
- T6.3 Analysis of technical and functional problems and proposal of corrective action, technical compliance measures, etc.

Basic skills:

- C6.1 Apply the laws pertaining to information, intellectual property and image rights
- C6.2 Comply with quality standards
- C6.3 Conform to the rules for web editing
- C6.4 Set up the layout and format according to the rules in force
- C6.5 Disseminate and communicate the information according to the rules in force
- C6.6 Apply the rules for computer and

SPECIFIC ACTIVITIES :

- **T6.4 Statistical analysis of online activity (audience measurement, reporting, etc.)**

telecommunications security

- C6.7 Apply the rules for computer file protection

Specific skills:

- C6.8 Conform to the guidelines for the creation of an organisational visual identity
- C6.9 Apply the typographic rules
- C6.10 Comply with the norms and standards for the web
- C6.11 Analyse the network protocols

A7 DOCUMENTATION, EDITORIAL

BASIC ACTIVITIES :

- **T7.1 Preparation and editing of technical specifications (technical brief)**
- **T7.2 Preparation and editing of technical documents and materials supplied to developers, users, IT departments, etc.**

Basic skills:

- C7.1 Formalise a project management process

SPECIFIC ACTIVITIES :

- **T7.3 Formalisation in a document of the graphic characteristics of a multimedia product**
- **T7.4 Creation of an execution document comprising the technical characteristics necessary for the production (printing, etc.)**
- **T7.5 Editing of an editorial charter, in particular in the event of collaborative writing**

A8 ADMINISTRATION OF MULTIMEDIA CONTENT AND SERVICES

BASIC ACTIVITIES :

- **T8.1 Carrying out of online surveys and polls of the website's users**
- **T8.2 Updating of the activity data (dashboards, statistics, etc.) and carrying out of the assessment of the communication actions**

Basic skills:

- C8.1 Use telecommunications protocols and standards
- C8.2 Use the principles of the acquisition, processing, storage, and transmission of digital information (image, sound, video, etc.)
- C8.3 Use computer operating systems

SPECIFIC ACTIVITIES :

- **T8.3 Implementation of software and hardware solutions in a local and network operating environment (servers, clients, workstations, operating systems, etc.)**
- **T8.4 Updating of the website using an administration interface**
- **T8.5 Administration of the content of a website**
- **T8.6 Participation in the monitoring and updating of knowledge bases of standard questions/answers for the website, including in foreign languages (Frequently Asked Questions – FAQ)**

A9 MARKETING, MANAGEMENT AND CUSTOMER SUPPORT

BASIC ACTIVITIES :

- **T9.1 Technical advice and support to in-house services in their communication actions**
- **T9.2 Implementation of activities of public relations and of dissemination and promotion of information**
- **T9.3 Moderation of discussion topics for Internet users and conducting of debates**
- **T9.4 Processing of answers to messages (query, complaint, sale, purchase, exchange) and to requests from Internet users**
- **T9.5 Quality control of the discussions and of the progress of the activities, forums and debates of the Internet users**
- **T9.6 Collection of information and of exchanges between Internet users and capitalisation by theme, typology, etc.**

SPECIFIC ACTIVITIES :

- **T9.7 Promotion of the economic and strategic interests of a structure or an organisation aimed at political and/or administrative institutions**
 - **T9.8 Telephone advice for Internet users about products and services, whether online or on the website (use, navigation, etc.)**
 - **T9.9 Organisation of games for Internet user communities**
 - **T9.10 Management and tracking of online purchases and orders made on the website**
 - **T9.11 Presentations, activities and guided tours for various publics (clients, partners, etc.)**
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Specific skills:

- C9.1 Comply with the laws on games, contests and competitions
- C9.2 Apply the rules and regulations pertaining to electronic commerce
- C9.3 Apply the appropriate ethical principles with respect to debates and discussions
- C9.4 Conduct specific training, a meeting, including in a foreign language

3. General organisation of the course

a. Description of the course

Objectives

The objectives of the course are to provide our students with all the academic and technological fundamentals, in order for them to be able to enter existing sectors of the job market, whilst ensuring their adaptability to a variety of professional environments. Their understanding of the work situations that they are likely to encounter and possession of extensive cultural knowledge prove to be indispensable in dialoguing with specialists and condition their ability to enter the job market and to attain positions of growing responsibility. A module designed to help the students to determine their Personal and Professional Project (PPP) aims to enable them to undertake the process of reflection essential in defining an academic and professional pathway.

MULTIDISCIPLINARITY AND THE ACQUISITION OF A DIVERSITY OF SKILLS

The interdisciplinary project that underpins the course is in direct correspondence with the professional demands involved in the design and creation of multimedia products and services. The objective is to allow the students to acquire solid skills of versatility, based simultaneously on a mastery of digital technologies and an understanding of the way they work, the challenges they pose and their limits, on the conditions of their social acceptability and on their capacity to satisfy the needs of clients and users in different usage contexts. The notion of “versatile specialist” thus refers to an interlinking between the technical and usage dimensions, leading to specific know-how and resulting in the acquisition of competences within two major fields, one technical, the other socio-economic and communicational.

THE PRACTICE OF INTERFACING BETWEEN TECHNIQUE AND USAGE

In the *DUT* MIT speciality, it is necessary to plan the act of communication in all its complexity, within a socio-technical environment: the aim being to construct relevant meaning between the “emitter” and the “receiver” using information and communication technologies, and to design services whilst taking into account the characteristics of the environment, the constraints and the expectations of the different types of user.

The communicational competence refers firstly to the ability both to design a project that is adapted to clearly formulated goals, and to convince the stakeholders involved. This is based on the capacity to interact with the numerous players present in the professional situations of communication inherent in the design of a multimedia product or service. It also represents the ability to build an argument adapted to one’s interlocutors and to express it clearly, in writing and orally.

Likewise, it calls for an aptitude for listening to and understanding the various actors of a project, as well as the users of the end product or service, in order to take account of their points of view, expectations and reservations during the realisation.

Finally, this competence makes reference to the capacity to develop and put together a communication product based on the integration of digital media, which requires an artistic and aesthetic sensibility, a command of the techniques of writing and storyboarding, and at the same time, an awareness of the processes of reception, interpretation and construction of meaning by the recipients.

A STRONG THEORETICAL AND ACADEMIC GROUNDING

A technological and vocational course, the MIT speciality is also a university study programme whose objective is to provide our future graduates with a solid and substantial foundation of skills. In a technical and economic environment as fast-evolving as that of multimedia products and services, it is essential to highlight both the methods of work and organisation and the specific technical tools which undergo rapid change.

At the same time, a large part is given over to general education and theoretical teaching. This is the case in computer sciences and technologies, focusing on the areas of information representation, processing and transport, as well as on the operating principles of digital media. It is also the case in humanities and social sciences, through an initiation in information and communication theory, in particular via the study of ICT usage and its related socio-economic, legal and political issues, as well as of the societal and organisational transformations associated with the latter. It is lastly the case in the area of artistic expression, in which raising awareness of the major aesthetic trends and principal techniques is carried out throughout the course.

THE PARTICIPATION OF PROFESSIONAL PARTNERS

Professionals contribute to the life of a department through a range of activities: presentations of areas of business and professions related to the speciality, interviews with students within the framework of the Personal and Professional Project (PPP), participation in student selection juries, diploma-issuing boards and panels charged with finding and monitoring placements, collaboration in projects. They play an active part in the teaching, with a recommendation for their input to represent 20% of the total number of hours.

With this aim in mind, it is advised that mixed educational teams be set up, composed of teaching staff and professionals who should define collectively the pedagogical objectives and progression. In this way, the professionals will provide valuable support to the teaching staff via their participation in the discussions prior to the presentation of the study areas and to the examination assessment sessions.

THE PRACTICE OF FOREIGN LANGUAGES

In the areas of work of MIT-qualified senior technicians, the command of English and the knowledge of another foreign language are considered to be among the most important conditions of employability. On this course, two foreign languages are obligatory: English and another language defined by each department according to the local context. The use of ICT for teaching enhances the student learning experience.

Curriculum description

Obtaining the *DUT* results in the granting of 120 ECTS (European Credit Transfer System) credits, 30 credits per semester validated. In each semester, the course is organised in study units (SU), themselves made up of modules.

The course pathway leading to the *DUT* is composed of a major, which guarantees the core competences of the *DUT*, and complementary modules which are an integral part of the course. These complementary modules are designed to complete the students' training, whether they wish to enter the professional world immediately or to go on to further studies in higher education.

The course's core competences correspond to the first three semesters (1560 hours of tuition), supervised project(s) and placement. The complementary modules are placed in the fourth semester (240 hours). Whatever the pathway followed by the student, these modules are an integral part of the university diploma of technology. The complementary modules described in this document are the ones leading to immediate entry into the job market. Those that aim to prepare students for further education are proposed to them within the framework of the adaptation of their academic career according to their personal and professional project. They are detailed in an appendix (*not included with this translation of the general presentation of the course*).

Developed by the University Institute of Technology on the basis of the recommendations of the National Pedagogical Commission, these modules present the same characteristics as those designed for immediate access to the job market, in terms of the number of hours of tuition and of the study unit coefficients applicable in the assessment process.

The *DUT* may be obtained via different pathways, which enable members of diverse publics,

depending on the appropriate adaptation of the organisation and timetabling of tuition, to acquire the knowledge and know-how attested by a single diploma.

These pathways are:

- Full-time initial education (four semesters)
- Initial education with apprenticeship
- Lifelong learning programme (llp)
- Full-time two-semester course (special year)

b. Summary tables of modules and SU by semester

Lectures (CM) are attended by the whole year group, Supervised work classes (TD) by groups of 26 students and Practical work classes (TP) by groups of 13, in order to guarantee high-quality monitoring of each student's progress and apply effective pedagogy.

Adaptation courses are given during semester 1. It functions in particular as a refresher course in the different topic areas dealt with during the *DUT*, and aims to provide students with an effective work method, preparing them to be autonomous and self-reliant in their learning throughout the course and beyond.

SEMESTER 1

TEACHING UNIT (TU)	MODULE REFERENCE (M)	MODULE NAME	COEF. /M	TOTAL COEF. /TU ECTS	LECTURE VOLUME	TD VOLUME	TP VOLUME	TOTAL HOURS STUDENT /TU
TU 11 : COMMUNICATION, CULTURE AND KNOWLEDGE OF THE SOCIO- ECONOMIC ENVIRONMENT: THE BASICS	M 1101	English S1	2	16		15	15	255
	M 1102	Foreign language 2 S1	1			10	10	
	M 1103	Information and communication theory S1	1		10	10		
	M 1104	Aesthetics and artistic expression S1	2		10	15	10	
	M 1105	Writing for digital media S1	2		10	10	10	
	M 1106	Expression, written and oral communication S1	3		5	20	15	
	M 1107	Project management S1	2		5	15	10	
	M 1108	PPP S1	1			10	10	
	M 1109	Legal, economic and marketing environment S1	2		15	15		
	M 1110	Pathway adaptation S1			5	10	15	
TU 12 : TECHNOLOGICAL CULTURE AND MULTIMEDIA DEVELOPMENT: THE BASICS	M 1201	Scientific culture and information processing S1	3	14	15	15	15	230
	M 1202	Algorithmics and programming S1	2		10	10	10	
	M 1203	Network services S1	3		15	15	20	

	M 1204	Computer graphics S1	2			10	20	
	M 1205	Web integration S1	2		5	5	20	
	M 1206	Audiovisual production S1	2		5	5	20	
	M 1207	Pathway adaptation S1					15	
TOTAL HOURS SEMESTER 1			30	30	105	185	210	500

SEMESTER 2

TEACHING UNIT (TU)	MODULE REFERENCE (M)	MODULE NAME	TOTAL			TOTAL HOURS STUDENT /TU		
			COEF. /M	COEF. /TU	LECTURE TD VOLUME		TP VOLUME	
TU 21 : COMMUNICATION, CULTURE AND KNOWLEDGE OF THE SOCIO- ECONOMIC ENVIRONMENT: IN-DEPTH STUDY	M 2101	English S2	2	15	15	15	255	
	M 2102	Foreign language 2 S2	1		10	10		
	M 2103	Information and communication theory S2	2		15	15		10
	M 2104	Aesthetics and artistic expression S2	1		5	10		10
	M 2105	Writing for digital media S2	1		5	10		10
	M 2106	Expression, written and oral communication S2	2		15	15		
	M 2107	Project management S2	2		5	10		15
	M 2108	PPP S2	1		10	10		
	M 2109	Legal, economic and marketing environment of organisations S2	2		10	15		10
	M 2110	Supervised project S2 *	1					
TU 22 : TECHNOLOGICAL CULTURE AND MULTIMEDIA DEVELOPMENT: IN- DEPTH STUDY	M 2201	Scientific culture and information processing S2	2	15	15	15	15	255
	M 2202	Algorithmics and web development S2	2		10	15	20	
	M 2203	Databases S2	2		5	10	15	
	M 2204	Network services S2	2		5	5	20	
	M 2205	Computer graphics S2	2		5	5	20	
	M 2206	Web integration S2	2		10	10	25	
	M 2207	Audiovisual production S2	2		5	5	20	
	M 2208	Supervised project S2 *	1					
TOTAL HOURS SEMESTER 2			30	30	95	175	240	510

* The amount of work required of students over the semester, within the overall framework of the tutored project, represents a total of 90 hours.

SEMESTER 3

TEACHING UNIT (TU)	MODULE REFERENCE (M)	MODULE NAME	TOTAL			TOTAL HOURS STUDENT /TU		
			COEF. /M	COEF. /TU	LECTURE TD VOLUME		TP VOLUME	
TU 31 : COMMUNICATION, CULTURE AND KNOWLEDGE OF THE SOCIO- ECONOMIC ENVIRONMENT: MASTERY	M 3101	English S3	2	15	15	15	265	
	M 3102	Foreign language 2 S3	1		10	10		
	M 3103	Information and communication theory S3	2		15	15		10
	M 3104	Aesthetics and artistic expression S3	1		5	10		10
	M 3105	Writing for digital media S3	2		10	10		15
	M 3106	Expression, written and oral communication S3	2		15	15		
	M 3107	Project management S3	1		5	10		10
	M 3108	PPP S3	1		10	10		
	M 3109	Legal, economic and marketing environment of organisations S3	2		25	15		
	M 3110	Supervised project S3 *	1					
TU 32 : TECHNOLOGICAL CULTURE AND MULTIMEDIA DEVELOPMENT: MASTERY	M 3201	Scientific culture and information processing S3	2	15	10	15	20	255
	M 3202	Web development S3	2		5	10	20	
	M 3203	Object-oriented and event-driven programming S3	2		5	10	20	
	M 3204	Network services S3	2		5	10	20	
	M 3205	Computer graphics S3	2		5	10	20	
	M 3206	Multimedia integration S3	2		5	10	20	
	M 3207	Audiovisual production S3	2		5	10	20	
	M 3208	Supervised project S3 *	1					
TOTAL HOURS SEMESTER 3			30	30	100	185	235	520

* The amount of work required of students over the semester, within the overall framework of the tutored project, represents a total of 90 hours.

SEMESTER 4 (COMPLEMENTARY MODULES ARE PROPOSED IN S4.)

TEACHING UNIT (TU)	MODULE REFERENCE (M)	MODULE NAME	TOTAL			TOTAL HOURS STUDENT /TU		
			COEF. /M	COEF. /TU	LECTURE VOLUME		TD VOLUME	TP VOLUME
TU 41 : COMMUNICATION, CULTURE AND KNOWLEDGE OF THE SOCIO- ECONOMIC ENVIRONMENT: PROFESSIONAL PERSPECTIVE	M 4101	Aesthetics and artistic expression S4	2	16	15	15	150	
	M 4102C	Writing for digital media S4	2		10	15		15
	M 4103C	Legal, economic and marketing environment of organisations S4	2		10	15		15
	M 4104C	Supervised project S4 *	2		10	15		15
	M 4105	Placement S4 **	2					
	M 4106	Multimedia development S4	6					
TU 42 : TECHNOLOGICAL CULTURE AND MULTIMEDIA DEVELOPMENT: PROFESSIONAL PERSPECTIVE	M 4201C	Computer graphics S4	2	14	10	15	15	120
	M 4202C	Integration content management S4	2		10	15	15	
	M 4203C	Supervised project S4 *	2		10	15	15	
	M 4204	Placement S4 **	2					
	M 4205	Aesthetics and artistic expression S4	6					
TOTAL HOURS SEMESTER 4			30	30	60	105	105	270

* The amount of work required of students over the semester, within the overall framework of the tutored project, represents a total of 120 hours.

** 10 weeks minimum, including the S4 placement and the possible placement in S1 or S2 within the framework of local adaptation of the course.

SUMMARY

TEACHING UNIT (TU)	MODULE REFERENCE (M)	MODULE NAME	TOTAL COEF. /TU ECTS	LECTURE VOLUME	TD VOLUME	TP VOLUME	TOTAL HOURS STUDENT /TU
SEMESTER 1							
TU 11 : COMMUNICATION, CULTURE AND KNOWLEDGE OF THE SOCIO-ECONOMIC ENVIRONMENT: PROFESSIONAL PERSPECTIVE			16	55	125	90	270
TU 12 : TECHNOLOGICAL CULTURE AND MULTIMEDIA DEVELOPMENT: THE BASICS			14	50	60	120	230
TOTAL SEMESTER 1 :			30	105	185	210	500
SEMESTER 2							
TU 21 : COMMUNICATION, CULTURE AND KNOWLEDGE OF THE SOCIO-ECONOMIC ENVIRONMENT: IN- DEPTH STUDY			15	40	110	105	255
TU 22 : TECHNOLOGICAL CULTURE AND MULTIMEDIA DEVELOPMENT: IN-DEPTH STUDY			15	55	65	135	255
TOTAL SEMESTER 2 :			30	95	175	240	510
SEMESTER 3							
TU 31 : COMMUNICATION, CULTURE AND KNOWLEDGE OF THE SOCIO-ECONOMIC ENVIRONMENT: MASTERY			15	60	110	95	265
TU 32 : TECHNOLOGICAL CULTURE AND MULTIMEDIA DEVELOPMENT: MASTERY			15	40	75	140	255
TOTAL SEMESTER 3 :			30	100	185	235	520
SEMESTER 4							
TU 41 : COMMUNICATION, CULTURE AND KNOWLEDGE OF THE SOCIO-ECONOMIC ENVIRONMENT: PROFESSIONAL PERSPECTIVE			16	30	60	60	150
TU 42 : TECHNOLOGICAL CULTURE AND MULTIMEDIA DEVELOPMENT: PROFESSIONAL PERSPECTIVE			14	30	45	45	120
TOTAL SEMESTER 4 :			30	60	105	105	270
DUT MULTIMEDIA AND INTERNET TECHNOLOGIES							
TOTAL COURSE :			120	360	650	790	1800

As far as « Learning Differently » is concerned, article 15 of the decree stipulates « that a number of hours of tuition of the order of 10% of the supervised teaching must be dedicated to it, and that it must be covered in each of the subjects and within specific modules ».

The transversal component of the course is made up of foreign language 1 (English), expression, written and oral communication and PPP, and represents a total volume of tuition of 275 hours, of which 140 hours are supervised work and 135 hours practical work classes.

c. Placement and supervised projects

Placement

The placement enables the acquisition of active knowledge of the professional world and the contextualised practical application of the course content. It materialises the learning of a methodology and promotes the exercise of autonomy in a professional environment in France or abroad.

Thus, by the end of the placement, the student must be able to:

- Participate in a marketing approach concerning the service or product in question
- Contribute to the planning of studies or realisations that put into application the project approach
- Master the tools necessary for the creation of communication products and services, in particular for the web
- Integrate into a cross-disciplinary team
- Analyse the techno-economic solutions that allow the identification of the most appropriate solutions to the problem posed (outsourcing, purchase of equipment, integrated service, preliminary estimate, etc.).

Positioned in the fourth semester, the placement, with a minimum duration of 10 weeks, has as its objective the participation of the student in an activity of creation of multimedia products or services. It is jointly supervised by a member of the department's teaching staff and a professional from the host organisation. The follow-up and monitoring of the placement are provided for by the department, in particular by visiting the host organisation. The placement gives rise to a written report and an oral presentation in public.

The placement calls on the skills, know-how and key qualities developed during the course, and its assessment is carried out both in SU1 and SU2 (modules M4106 and M4205).

Within the framework of a local adaptation of the course, it is possible to envisage a job shadowing placement in S1 or S2. However, in this case, the semester four placement cannot last less than nine weeks.

Supervised projects

The period dedicated to a supervised project (or more than one project), that must last 300 hours in semesters two, three and four, enables the students to experience a situation of autonomy in a professional activity. Depending on the implementation choices made by the departments, the overall volume may take the form of a single supervised project or several: one per year or one per semester.

The supervised project(s) must allow:

- The acquisition and practical application of the project management methodology (group work, worktime management, compliance with deadlines, drafting of specifications, etc.)
- The practical application of the knowledge and know-how acquired (literature search, proposal of solutions, creation of all or part of a multimedia product or service, etc.)
- The development of autonomy
- The experience of transdisciplinarity

The subjects of the projects may be supplied by the teacher-tutors or by a company, a local authority or an association. Their end purpose will be a product or service, the achievement of which mobilises the disciplines of the speciality.

The project approach is initiated from the first semester onwards by means of the « project management » module. It is continued by the setting up of teams of students who, in the following semesters, have to carry out a public presentation of the successfully-completed project.

Each team is supervised by a teacher-tutor. However, all of the teaching staff, according to their competences, must oversee the different components of the project. The students have to produce a project report and other written and oral work in communication and in project management, where appropriate.

Supervised projects are subject to a written report and a public presentation before a jury. They are assessed in a collegial fashion.

Given that the projects draw on the skills, know-how and key qualities developed throughout the course, they are assessed in both SU (in semester 2, modules M2110 and M2208, in semester 3, modules M3110 and M3208, and in semester 4, modules M4105 and M4204).

d. Personal and Professional Project (PPP)

The PPP consists of fundamental work which aims to enable each student to gain an accurate insight into the nature of jobs in multimedia and network services. It should lead them to match their own projects and aspirations with the needs of these professions.

One of the objectives of the PPP is to provide the students with methods in order for them to plan for the future and imagine their lifelong career pathway, in particular during transitional phases (after the *DUT*, job searching, career change, academic reorientation, etc.).

They must be capable of:

- Identifying the professions of multimedia and network services
- Performing a personal assessment and defining their aspirations
- Considering a career or a career area
- Defining a training pathway

The PPP is transversal; it calls on all the skills acquired or in the process of being and is part of a broader course of action of personal research. And though the transmission of information may be generalized, the materialization of the Personal and Professional Project cannot be envisaged without individual tutoring.

Three specific modules (60 hours) are reserved for the development of the PPP during the first three semesters. The PPP must start as early as possible in semester 1 and it is essential for it to mobilize the whole of the pedagogical team.

The placements and tutored projects contribute greatly to the PPP process. On the one hand they enable the students to discover the relevant job sectors and to gauge the professional skills required, and on the other hand they allow them to assess their own competences and to refine their professional choices.

The first two semesters aim to give the students a better understanding of the business sectors corresponding to the *DUT* and to facilitate the acquisition of methods and tools useful in the process of developing their PPP.

Conferences, job forums and meetings with former students may be organized, as well as anything which enables the exchange of experiences both between students of the same year group and between year groups. At the end of the first two semesters, the students must be able to identify the business sectors, jobs and professional contexts related to the diploma that they are studying for.

During semester 3, the students examine the various possible pathways, their characteristics and their aims. They will be able to make use of this research when choosing their complementary modules and to help guide their search for a placement. They have to be capable of reporting on this process, in the form of a convincing oral or written presentation to be assessed.

Thus, the choice of complementary modules corresponds to a first implementation of this PPP. It must also allow the students to look for and find an end-of-course placement that is coherent with their choices.

e. Pedagogical orientations, pedagogy by technology

The intrinsically multidisciplinary nature of multimedia tools and environments, and of their production, presupposes the mobilization of a wide range of knowledge and know-how. The implementation of the interdisciplinary project underlying the MIT *DUT* curriculum thus implies the development of connections between the two SU and, within each SU, between the different modules of the course, in the interests of transversality and of acquiring « multiple skills ».

As an example, image rights (a case study in the first SU) and the use of images of people or places in a multimedia creation (an application in a practical in the second SU) are connected. Likewise, Internet law (in particular the regulations concerning personal data in the first SU) is examined in relation to the design of databases that include nominative files (use during a practical in the second SU).

The technological object is dealt with in both SU, and care is taken to highlight the reciprocity that exists between the different modules. It is the responsibility of the teaching staff to promote an awareness of these links, within the various modules as well as in the execution of work involving several modules that are part of both study units.

Moreover, the project management module and the supervised projects play a central role in the transversality. They must enable the diverse elements to be catalyzed by means of the creation of a communication product or service.

All the aspects of the course are thus associated and linked together and its coherence appears in a more obvious way to the students. The project management modules aim to equip them with the methods that will enable them to produce this connection, with specific support for the tutored projects. These modules thus ensure that all the dimensions involved in the creation of multimedia products and services are taken into consideration. This is the case regarding the content of the tutored projects, but also in terms of the way the latter are organized; carried out by small groups of students who have to ensure the coordination, establish a schedule, and keep to strict norms for the formalization of their work and their interactions with the various stakeholders.

The course is thus built around a real project-based pedagogy, which contributes to ensuring that the students are able to work according to a common method of organizing the activities involved in the design and creation of multimedia products and services.

Lastly, the placements and projects represent an initiation in terms of professional autonomy, the role of which is essential:

- For the pedagogical progression itself, because it enables the students to test their knowledge and capacities and identify their shortcomings, to acquire new knowledge independently, and in turn to perceive more clearly the benefits of the various modules and pedagogical situations
- For the acquisition of practical skills, by ensuring that the future graduates are immediately efficient, or very quickly, as soon as they enter employment

f. Taking into account current economic issues

Beyond the technical and cultural issues inherent in the disciplinary field in question, the MIT *DUT* graduate must have a broader understanding of new challenges, both economic and social.

Over the last few years, the need to take these new challenges into account has become fundamental. For their entry into the world of work to be well-thought-out and successful, whether as an entrepreneur or employee, and more generally, in order to become responsible citizens, the MIT *DUT* graduates must be able to comprehend and decipher notions with numerous ramifications:

- Economic intelligence
- Entrepreneurship
- Rules linked to standardization
- Security of information systems
- Electronic reputation
- Protection of organizations' information capital

- Sustainable development...

The NPC of the MIT *DUT* includes in certain study modules strategies dedicated to these issues. But beyond them, the whole of the MIT *DUT* course content incorporates these dimensions in a transversal manner.

The MIT course therefore takes into account the economic challenges and others related to the business world, through various areas of study, academic or professional. Throughout the course, the students are made aware of the realities of the business world, thanks to modules dealing with enterprise management and marketing, but also via complementary modules that focus specifically on entrepreneurship. The project management modules, introduced at the very start of the course, also allow the students to be apprised of the challenges, operation and management involved in organizing work by project, as well as its difficulties and limits.

The supervised project also enables the students to test out the setting up of a working group in addition to the steering of a project, in particular with the use of specific methodological tools (budget, schedule, minutes of meetings, etc.).

The diversity of the MIT teaching staff, but also the opportunity given to involve outside experts in the course (entrepreneurs and consular chambers, the French National Institute of Industrial Property, the National Gendarmerie, the Central Directorate of Internal Intelligence, the French Network and Information Security Agency) facilitate the task of raising the students' awareness of the issues linked to security, economic intelligence and entrepreneurship.

Upon completion of the course, a graduate will therefore be able to gauge the economic viability of a web agency or of an e-commerce website.

The notion of digital reputation, linked to the identity of an organization or of a person, is associated with the perception that Internet users have of it. It can constitute a factor of differentiation but also offer a competitive advantage in the case of brands. It is shaped by the implementation of positive elements and the careful surveillance of negative ones. Economic intelligence is therefore called upon through the diverse methodological approaches which allow information to be managed effectively both inside and outside the organization (monitoring and gathering of information, management of human networks, knowledge management, lobbying, economic security). Today, information intelligence is strategic; it is dedicated to ensuring the continued existence of the digital identity and to maintaining a good digital reputation. These issues in particular are at the heart of the digital writing modules.

In a broader fashion, the MIT NPC enables the students to address more specifically the areas of editorial, web and programming standards, in an effort especially to develop accessibility, through the computer graphics, project management and programming modules, but also more generally via the rest of the modules that make up the diploma course.

The notion of sustainable development is also dealt with in a transversal manner in all of the economic and project management modules: the students must question themselves about the environmental impacts of their actions.

Finally, the students in the MIT *DUT* are made aware of the importance of the problems of health and safety at work: for example, the study of labor law allows them to know their rights and duties, while workstation ergonomics is one of the notions studied during practical work classes.