



**IMFUTURE: International Master's Degree for the FURNiTURE
Sector**

Agreement Number: 2016-1-UK01-KA203-024438

IO3: Learning Platform

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<http://www.im-future.eu/>

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1 The aim of the IMFUTURE project

The field of Higher Education has been recognised as one of the key drivers within the EU2020 Strategy to overcome the socioeconomic crisis, to boost growth and jobs and to foster equity and inclusion. Moreover, one of the key priorities for HE is the reinforcement of the “Knowledge Triangle”, through the support of innovation, entrepreneurship and university-business cooperation. This specifically applies to those traditional sectors, such as the furniture and woodworking sectors, where changes in education and training are required to equip the future workforce with the new skills for the new demands generated by the changing patterns of furniture consumption (e.g.: ageing population/assisted living). Staff qualifications along with the ageing workforce and the inability to attract young workers remain one of the crucial points in these industries. This project intended to boost the training of competent staff in the furniture sector.

The aim was to develop an International Master’s Programme for the furniture sector in Europe. The new Master’s programme offers an adapted curriculum to equip the young generation with the specific, basic and transversal competences currently required in the furniture, woodworking and related industries. This international Master Programme provides students with opportunities to gain additional skills by studying and training abroad.

For these reasons, this Strategic Partnership developed a flexible learning pathway in line with the needs of learners and companies in the furniture, woodworking and related sectors. The project provided a joint study program between Higher Education and Vocational Education and Training that are providing enterprises innovation, expertise and added value.

IM-FUTURE was a Strategic Partnership composed of seven entities from regions that are highly influenced by the furniture and woodworking industry: Four universities, two technical research and training centres and one furniture industry representatives.

The consortium developed a Study Report on current skills needs on the European Furniture and Woodworking industry, a Joint Curriculum together with a learning content and an e-Learning platform that is freely and widely distributed. Four Multiplier Events have been conducted at the end of the project.

IM-FUTURE contributes to the modernisation and reinforcement of education aligned to the needs and opportunities offered by traditional industries.

The project provides, assesses, and seeks the recognition of basic skills needed in the furniture and wood working sector. IM-FUTURE also addressed transversal skills, such as entrepreneurship, foreign languages and digital competences. HE students and staff, and also everyone involved in the development of this initiative had the chance of increasing their sense of initiative and entrepreneurship, their competences in foreign languages and, of course, increasing their skills and capabilities for employability in an industrial sector which is the main key driver in many European regions. It is estimated that in the next five years there will be about 500 students benefiting directly from the educational materials developed within the project. These will become better equipped to contribute to the development of the furniture sector, to fulfil the demand of highly qualified staff, to foster entrepreneurship in the

sector, to support the professional development of existing specialists. The fact that the Programme is taught in English facilitates the mobility of staff from one EU country to another and through this the integration is facilitated.

2 Short description of IO3

The prototype of the e-learning platform comes from a free online training platform based on a free software tool called CHAMILO. This is an open-source (under GNU/GPL licensing) e-learning and content management system, aimed at improving access to education and knowledge globally. It is backed up by the Chamilo Association, which has goals including the promotion of the software, the maintenance of a clear communication channel and the building of a network of service providers and software contributors. The objectives within IO3 were:

- To obtain an e-learning platform
- To define platform specifications.
- Architectural adjustment of the platform.
- Customisation of the contents.
- Testing and improving the platform.
- To release the pilot platform.

The most important work was conducted while preparing functional and non-functional specifications (O3-A1). CETEM started preparing the guidelines (O3-A4) once specifications were elaborated and they were completed at the early stages of the content integration (O3-A2) and the test release and training improvement.

The activities within IO3 were

IO3-A1- Elaboration of functional and non-functional specifications.

IO3-A2- Guidelines on how to use e-Learning Platform.

IO3-A3- Test release and platform improvement.

3 Short description of modules

3.1 Module 1

Production technology, process and maintenance module is exploring engineering: origins, methods and context. It explores some key principles of engineering, while helping you to improve your study skills and develop as an independent learner. Scientific and mathematical skills are both essential tools for engineering. They form a major part of this module and are included and practiced throughout, with the engineering topics providing a clear context for their application. Engineering is all about innovation, engineers are also required to work to many standards, and health and safety are essential considerations. This module examines examples of standards and introduces some key principles of production technology and process. The module explains how the materials used in manufacturing products are obtained and transformed, from extraction from natural resources through to final use. This module also includes aspects of engineering analysis, design and modelling methods, and uses appropriate mathematical software for each. Analytical, communication and learning skills necessary for all engineering disciplines are developed in a context that provides grounding for higher-level, more specialised study.

3.2 Module 2

The Production-Scheduling and Planning module is a basic material for the management and direction activities in companies that work in the furniture sector, and therefore its knowledge is fundamental for the training of the students that take this course.

The main objective of the subject is to transmit the knowledge of the production area, which is the heart of the company, and that if it can be handled properly; it can achieve great competitive advantages.

The Production Scheduling and Planning module aims to be a subject that shows the main types of Production Programming problems at an operational level both for a long-time horizon (year or year and a half), and for a relatively short time (weeks or days) and that gives the student tools and capabilities to solve them.

The module has a theoretical and practical approach since, on the one hand is intended that students understand the complexity of the problems to solve it and difficulties to address it and on the other you are offered tools, both academic and originating in the business reality, to obtain solutions to them.

3.3 Module 3

Innovation, production & process improvement systems. In a globalized environment like the current one, in which the importance of information and knowledge inside the organization is increasingly important, managing them efficiently can be the greatest of our competitive advantages.

This growing complexity of the business environment is forcing both commercial and scientific organizations, private and public, to have suitable information management systems according their information needs environment. However, organizations are affected by their ability to manage and take advantage of both information and strategic knowledge, so it is vital to identify what they really need, know it, catch it, analyze it, and disseminate and prioritize correctly in the organization, in order to guide, in a proper way, the policy-making and detect new business opportunities.

Technological surveillance is, therefore, an essential tool for detecting opportunities about technological innovation and new ideas to facilitate the introduction of improvements in the processes, products and / or organization services.

Technological surveillance is a systematic business practice, oriented to the search and to the analysis of scientific and technological information, that information about the environment could be useful in the moment of taking certain decisions, and increasing the chances of anticipating possible changes and improving the business.

It is an indispensable practice that is often perform without being totally aware of it, and, therefore, it is made in an unstructured way, for that, learning to manage it is crucial for the s organization strategy.

3.4 Module 4

Fundamentals of enabling technology applications

The goal of a higher industrial automation, integrating new production technologies to improve working conditions and to increase productivity and quality of the plants, is summed up with the term Industry 4.0. This latter applies to a set of rapid transformations in design, operation and service in the area of manufacturing systems and products. Designation 4.0 indicates that it is the fourth world industrial revolution, the successor to the three previous industrial revolutions that brought about great advances in productivity and changed the lives of people around the world. More in detail, the objective is the complete transformation in few years of the entire spectrum of industrial production, through the fusion of digital technology and the Internet with the conventional industry. In short time, everything in or around manufacturing

operations (suppliers, plant, distributors, even production itself) will be digitally connected, offering a value chain with a high level of integration. The concept of a new industrial revolution originated in Europe, but it overlaps extensively all over the world each time we speak about smart factories, the Internet of industrial goods, smart industry, advanced manufacturing and so on. Industry 4.0 depends on a series of new and innovative technological developments:

- The application of information and communication technologies (ICT) to digitize information and integrate systems at all stages of product creation and use (including logistics and procurement).
- Physical Cyber-Systems that use ICT to monitor and control physical processes and systems.
- Network communications involving wireless and Internet technologies that serve to link machines, labour products, systems and people, both within the manufacturing plant and with suppliers and distributors.
- Simulation, modelling and virtualization of product design and installation of production processes.
- Collection of large amounts of data, and their analysis and exploitation, either immediately on the ground or through analysis of big data and cloud computing.
- Broader ICT-based support for workers, including robots, augmented reality and intelligent tools.

The transformations planned for the coming years will bring about changes in different areas and several issues will be faced such as high costs for SMEs, big data management, web security, property rights and new professional skills: about this latter issue, Employers will need personnel with creativity and decision-making.

By 2020, labour markets in the EU could need as much as 825.000 ICT professionals; this shortage may be even more pronounced in advanced manufacturing settings where big data analysts and cybersecurity experts are required.

The objective of Module n. 4 is trying to provide a general overview of all new technologies suitable for a furniture company dealing with the current industrial revolution.

3.5 Module 5

Quality Control. Generally the consumer who wants to buy a new product gets information by sellers, advertisements and people. In parallel, information concerns aesthetical features (shape and colour) and prices.

On the other hand, the consumer does not know if a product is dangerous for health, its weight resistance, if there is an associated risk for children, the response to safety tests; moreover, the technical fiche related to a specific product is not so easy to be understood. For these reasons, the European Union, since 30 years, has been defining a project of economic politics with the aim to increase the level of trust between consumers and producers and in order to have a progressively higher quality level of products. The necessary subjects for the realization of this project are: regulatory boards, testing laboratory and institutions for system and product certification. The regulatory boards for the issue of the Technical Standards in national and international spheres are recognized by the public authorities and charged with the aim of ensuring the participation of all stakeholders: producers, traders, consumers, research institutes, governments, etc.

For each reference context, there is a specific of technical standards (World: ISO; European EN; Italy: UNI; France: ANFOR; Germany: DIN; UK: BS; U.S.A.: ANSI / BIFMA).

The importance of technical standards is related to identify, define and uniform the measurement criteria of technical features of products. Technical Standards is therefore a common language made available to technical and commercial operators in order to facilitate the free movement of products with defined and agreed characteristics.

It should be borne in mind and emphasized that the technical standards, national or international, are not a law; their legal force takes over when they are included as a clause in a supply contract or when national legislator organs turn them into laws, decrees and regulations of the state.

About quality control, the testing laboratory is generally an internal or external supporting structure, strictly connected with the company: each phase of the internal process such as design and manufacturing, in fact, can be related to a specific activity carried out by the laboratory.

This latter, operates to ensure the quality of manufacturing processes and finished products according to the technical standards. In this regard, in 2001 a European directive on general product safety was published; from that point, the subsequent legislative decrees on different issues (emissions of toxic substances, safety of workers, children and students, etc.) strengthen the bond with the technical rules, in order to increase the benefits both for producers and for consumers. A product, in fact, can be considered as safe when it complies with national and sectorial laws, as well as technical European standards; in case this latter are missing, the main reference are the national standards in force within the country where a product is commercialized.

This specific module will be focused mainly on quality processes to be implemented in a furniture company, a necessary prerequisite to manufacture quality products and then for a higher competitiveness on the market.

3.6 Module 6

Subject1-Furniture design history. Any engineer who is involved in furniture industry should have a basic understanding of the history of furniture design and manufacturing. Furniture design has been a part of the human experience since the beginning of history. Evidence of furniture survives from as far back as the Neolithic Period in the form of paintings, wall Murals discovered at Pompeii, in sculpture and examples have also been excavated in Egyptian Pyramids and found in tombs in Ghiordes (modern day Turkey).

Subject 2-Furniture design. This module outlines the main advancements, developments, styles and materials in furniture design highlighting the identifying features of each period, the materials used and show images of some of the most significant pieces of furniture ever designed. The concept of Design Movement” is understood here as a tendency or style in art with a specific common philosophy or goal, followed by a group of artists during a restricted period of time, or, at least, with the heyday of the movement defined within usually a number of years.

Integrated product policy (IPP) is an initiative at the European Union (EU) level aimed at reducing the environmental burden of products and services throughout their life cycles by using a toolbox of policy instruments to ‘green’ markets through ‘greening’ both the demand side (consumption) and the supply side (product development). IPP is part of a growing trend within environmentally advanced countries in Europe towards product-oriented environmental policies. As such, it represents a new shift in thinking towards ‘front-of-pipe’ solutions (e.g. the greening of product development and design). Generally, existing environmental policy approaches have tended to focus on point sources of pollution (i.e. production sites and production processes), using ‘end-of-pipe’ technologies and ‘middle-of-pipe’ solutions such as waste minimisation, cleaner production and pollution prevention. By focusing on the product development and design phase, IPP aims to tackle the stage at which many of the environmental burdens of products are determined, thus reducing non-point source problems further in the lifecycle. IPP considers the product development process from idea generation to product management and reverse logistics (i.e. ‘end-of-life’ management [EOLM]).

3.7 Module 7

Subject 1 Materials. Materials are an indispensable element of the furniture making process. Due to their significance in that framework, they are classified as: Basic:

materials of fundamental importance, which create the basis for final product, i.e. a ready piece of furniture (they include materials of solid wood such as sawnwood, veneers, glued furniture panels), composite wood materials (wood-based panels), and wood composites (wood and wood-based materials combined with non-wood materials) Complementary: finishing materials, which improve functional and aesthetic properties and design of furniture (foils, lacquers, wood stains etc.).

The selection of appropriate materials for the production of furniture has a bearing on the quality, durability, the possibility of renovation and application of final product.

Materials for the furniture industry can contain “novelties” of different nature. They can be connected with the changes of the production technology and material structures or properties and applications. T

It’s important to highlight that technical specification are required: in case of materials or final products a document containing technical requirements must be available. Sometimes technical specification also contains procedures for the evaluation whether the requirements are fulfilled.

Materials can also benefit of the application of digital technologies to improve logistics efficiency and operator activity through systems for their identification and location in warehouse operations, thus facilitating the preparation of production orders, storage of goods, replacement management, inventories, etc.

Subject 2 Furniture production techniques. This subject describes general information about whole process of furniture manufacturing. At the beginning, the basic materials used for the production of furniture are presented, it means solid wood and its delivery. Main characteristics of structure and properties of softwood and hardwood towards their use is explained. Wood based materials (panels / boards) from less to most transformed are distinguished. There are described: block-board, plywood, oriented strandboard (OSB), particleboard, medium density fibreboard (MDF), lightweight panel, high density fibreboard (HDF). Next tools and machinery are presented. The presentation of tools and machinery it is connected with their application. There are wood chip-less cutting and wood chip cutting in raw wood, dry wood and panels processes. Furthermore, particular subject of solid wood processing is described. Hence the next topic related to solid wood furniture follows. Basing on subject of wood based materials most popular furniture are presented: kitchen, office and children room. Decoration of wood based materials together with technology of their use is described. Then finishing of materials is in the next chapters: sanding, gluing and furniture

components. The subjects end with the last stages of furniture production: assembling and safe handling with storage. Units are connected with each other if they concern a similar topic.

3.8 Module 8

Subject 1. Logistics, warehouse, distribution and supply chain management. The subject of “Logistics, Warehouse, Distribution and Supply Chain Management” is a basic material for the exercise of activities of management and direction of the logistics department in companies that work in the furniture sector, and therefore their knowledge is fundamental for the training of the students who take this course.

The area of Logistics currently represents one of the areas of greatest growth and interest for the furniture sector. Logistics includes all the activities necessary to move products and the flow of information among the members of a supply chain. These chains, which in complex cases become real networks, are the system used by companies to provide goods, services and information to their external and internal customers. The efficient management of this chain or logistics network is today a great challenge for most companies given its importance in business competitiveness. For this reason, logistics has advanced to the operational management of warehouse and transportation to the strategic direction of the company.

In the current supply networks, there is a tendency to reduce manufacturing centers and increase warehouses; this can be clearly seen in the furniture sector. Therefore, the purpose of this module is to provide the student with a global and practical view of the operation of the stores, so that they can take responsibility for its management and improvement.

Subject 2. Marketing, sales in furniture sector. In this module we have established a rationale for responsible marketing and look at some of its components. Responsible marketing, at its most fundamental, means to consider carefully and deal responsibly with any ethical issue arising from marketing practice. At one level, it can be viewed in terms of the duty manufacturers have towards their customers to ensure their products are safe and reliable and live up to the promises made before sale. But more broadly – and more commonly – responsible marketing can be considered as a subset of CSR; and the basic rationale that applies to CSR also applies to responsible marketing. It is this aspect of responsible marketing that we will consider next. We will be discussing ‘What do we mean by responsible marketing?’ before looking at the rationale for—and key dimensions of— CSR. We will then make a link between brand reputation and responsible marketing.

3.9 Module 9

Subject 1. Workplace, leadership & personal effectiveness competences. This subject familiarizes the students with basic concepts of the workspace, leadership and service management theories and the evolution of management processes. It provides knowledge on basic management functions, and thru some synthetic information on soft skills related to the topic, helps to solve problems related to the management of the most important areas of business. Goal: Provide theoretical background to manage company's workspace as a leader in accordance to current knowledge on human communication, interpersonal skills and leadership practices. Objectives: (specific objectives in connection with competences) Learn to recognize others' strength and weaknesses and build a work team; Learn how to build and maintain professional relationship; Ability to lead the group.

Subject 2. Industrial Property Rights. In all legal systems, intellectual property law is related to the field of civil law, because these are intangible personal goods. In addition, already 150 years ago the need to harmonize the provisions relating to the outcome of human thought was noticed and thanks to the Berne, Paris or Stockholm Conventions it was possible to introduce supranational regulations. The above agreements established certain international standards and provided for all signatories of those legal acts in the scope of intellectual property protection with the principle of equal treatment of all entities assembled in it. According to the principle that "each Member shall grant entities of other Members a treatment no less favourable than that which is granted to own entities in the field of protection of intellectual property" [Paris Convention, art. 2]. Therefore, intellectual property law is a specific field which system of sources of international law currently covers 191 countries, regardless of their geographical location.

3.10 Module 10.

Subject 1 Information search and retrieval. The purpose of the subject is to familiarize the student with basic concepts and principles related to the information search and retrieval, such as the different models of indexing the information, ways to search and retrieve it, evaluation procedures, etc. *Adequate language skills:* Student is able to acquire, critically evaluate and creatively process information from the scientific literature databases, and other properly chosen sources.

Adaptability: acknowledgement of the constant need to learn new skills and new concepts in a changing environment;

Logical reasoning abilities: problem identification, creative search for solutions (both well-known ones and new ones), ability to follow logical inferences and elaborate formal reasoning in issues related with the information search and retrieval. Student is able to identify different model of information indexing; Student has knowledge of the methods of input and output information;

Student has the ability to distinguish all categories of documents; Application of the tools of information search and retrieval; Student is aware of the importance of the normalization procedures; Student understand and can use impact indexes.

Subject 2 Research methodology. The purpose of the subject is to familiarize the student with basic concepts and principles related to the scientific research methodology, such as the different research methods, their stages, the ethics of scientific research, the information retrieval from the Internet, etc. On successful completion of the module, the students are expected to acquire a number of generic and specific competences: Generic competences: *Adequate language skills:* Student is able to acquire, critically evaluate and creatively process information to analyse it. *Adaptability:* acknowledgement of the constant need to learn new skills and new concepts in a changing environment; *Logical reasoning abilities:* problem identification, creative search for solutions (both well-known ones and new ones), ability to follow logical inferences and elaborate formal reasoning in issues related with the information search and retrieval. Specific competences: Student is able to identify and apply different methods of scientific research; Student has knowledge of the research process from its beginning until the publication; Student has the ability to elaborate a research in any field; Student knows how to write a scientific publication; Student understand and respect the ethics of research; Student is aware of the importance of the normalization procedures; Student understand and can use impact indexes.

4 Accessing the learning materials

Learning materials have been developed for each of the modules in the form of:

1. A manual edited in Word that contains text, images, a glossary, and references for further reading.
2. PowerPoint documents containing text, images and links to relevant webpages. These are available for trainers using either a face-to-face or a blended learning approach for the delivery of the modules that are relevant to them.
3. Questions that the individual learner can use in the interactive platform to test their knowledge and understanding on the e-Learning platform.

The e-Learning platform is available through the following webpage:
<http://imfuture.cetem.webfactional.com/>

5 Guide on how to use the platform –for the Lecturer

5.1 Introduction to IM-FUTURE training platform

The Strategic Partnership of IM-FUTURE proposes the creation of a flexible learning pathway in line with the needs of learners and companies in the furniture, woodworking and related sectors. It will provide a joint study program between Higher Education and Vocational Education and Training that will capitalize companies with prepared youth, providing enterprises innovation, expertise and added value.

IM-FUTURE arises from a Strategic Partnership composed of seven entities with the aim to develop an international master degree for the furniture sector. This training will offer an adapted curriculum to equip the young generation with the specific, basic and transversal competences currently required in the furniture, woodworking and related industries. This international Master Degree will provide students with opportunities to gain additional skills by studying and training abroad.

IM-FUTURE is divided in 5 specialization: Production, Design, Business, Research and General Master. Depending on the chosen specialization, students will take 4 main modules and 6 optional ones with Practices and Dissertation:

- Production: In this specialization the student will receive training on how the piece of furniture is produced.
- Design: This specialization is focused on how a piece of furniture is thought and how it is created the draft or model according to that idea.
- Business: In this option the student will receive training to management of the company.
- Research: This specialization is for students who want to investigate in the furniture field.
- No specialization (General Master): Developed for those students who don't want to specialize in a concrete field, but rather have a general knowledge of the furniture sector.

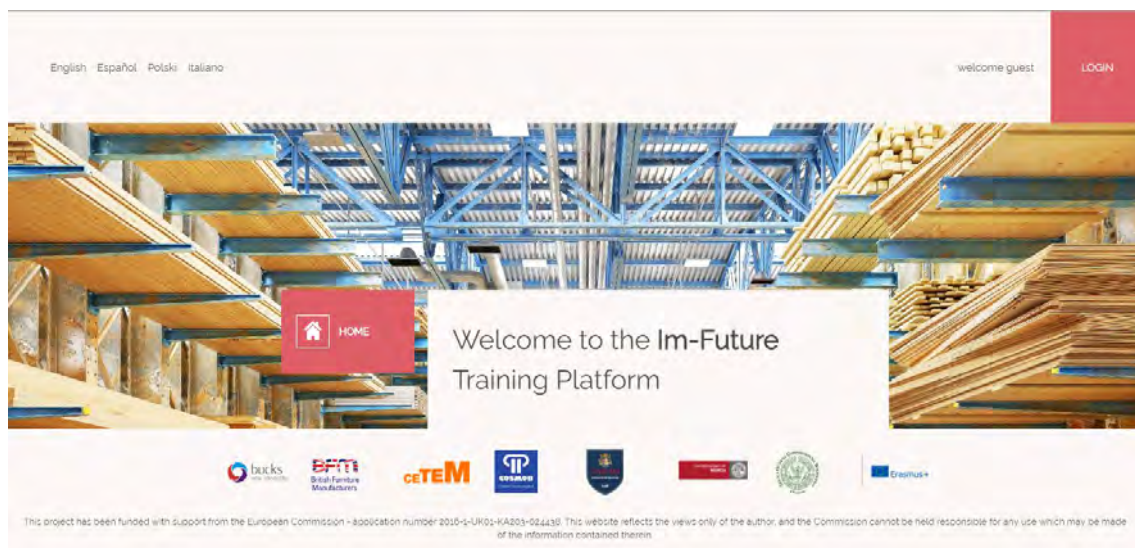
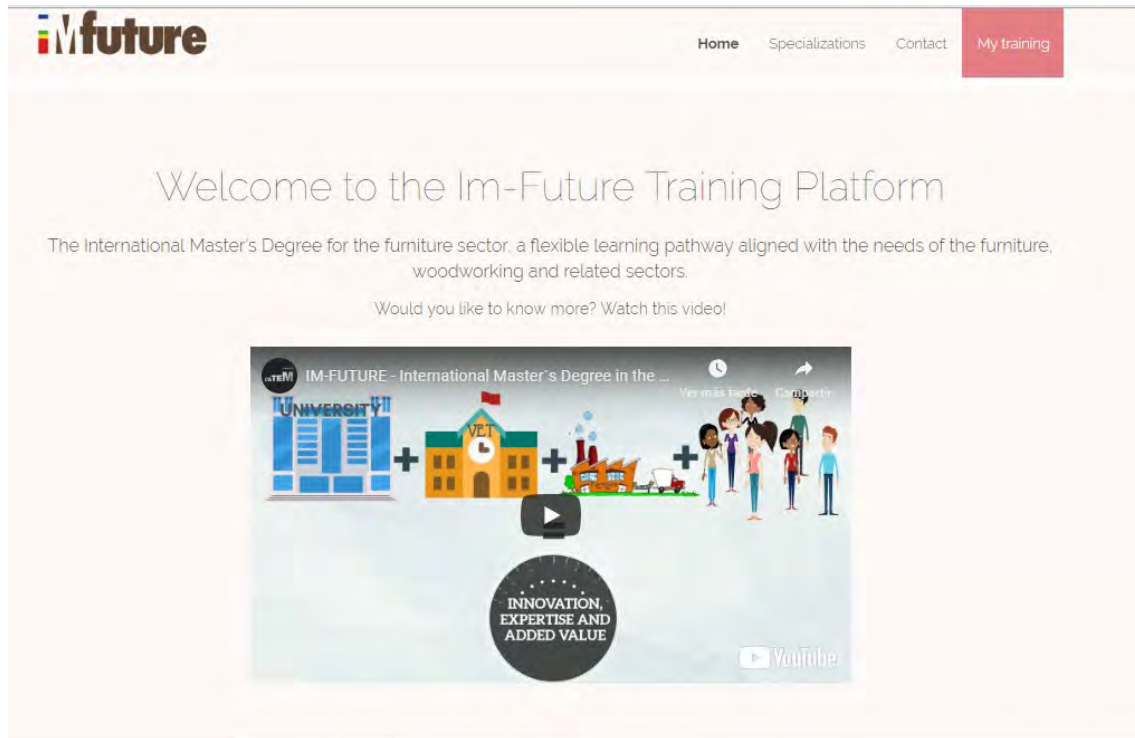
5.2 Global architecture

This section presents the global architecture of IM-FUTURE Training Platform, based on Opigno and defines the terminology used. The following sections will present its use in more detail.

Report:

IO3-E-learning Platform

The main page of IM-FUTURE (<http://imfuture.cetem.webfactional.com/>) is as follows.



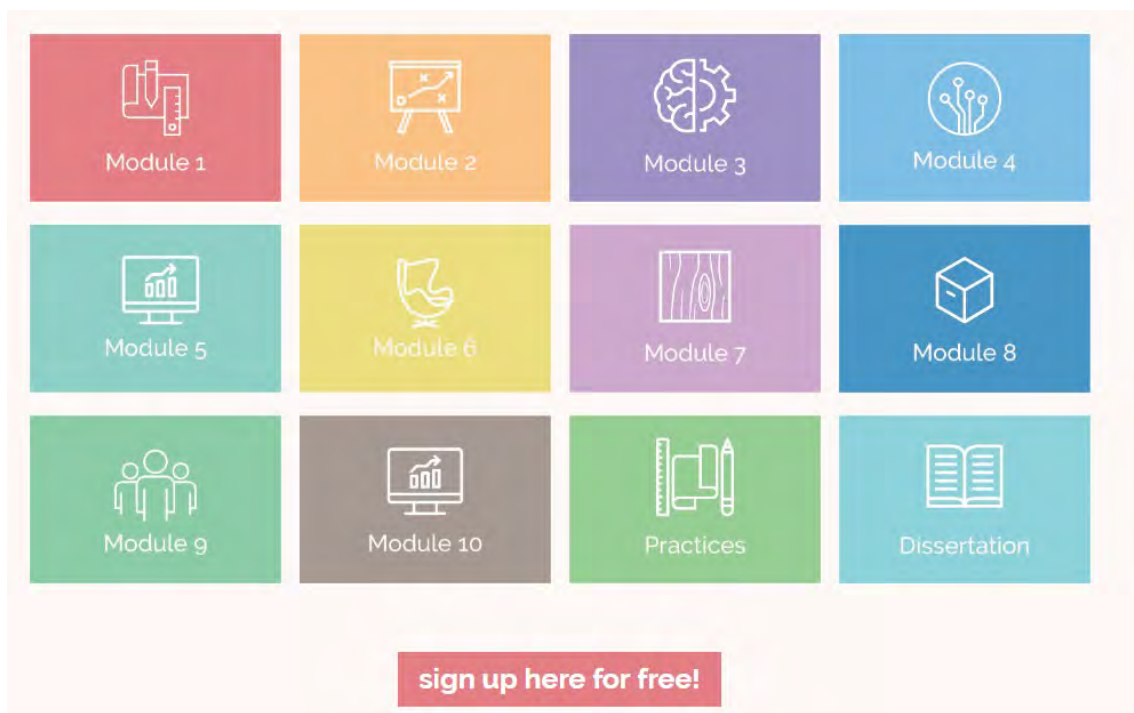
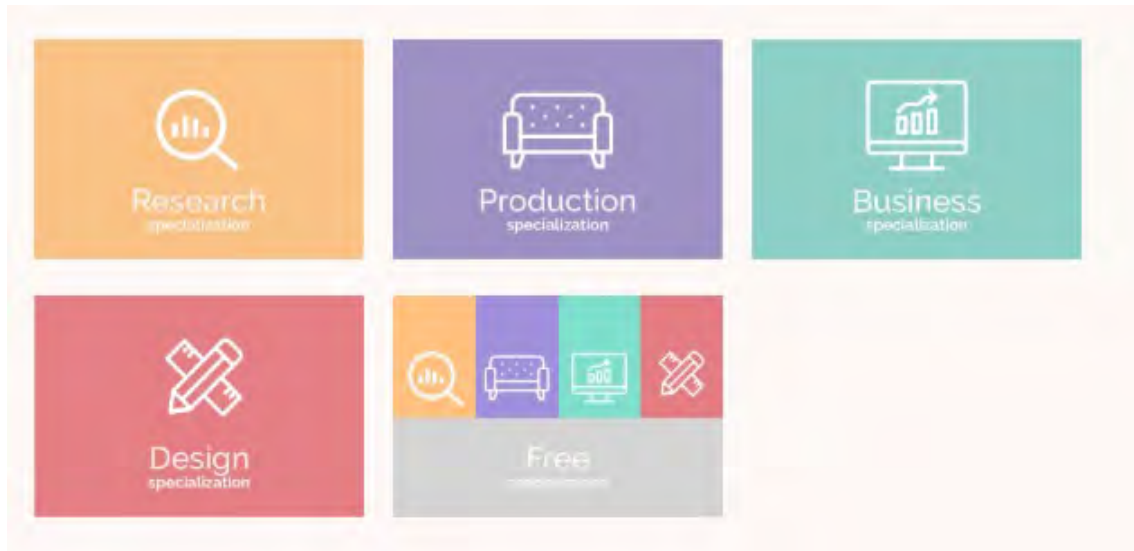
Here the users will find general information about this International Master Degree, detailed explanations about each specialization both in texts and videos, a contact formulary and the link for register or login into the platform.

Report:

IO3-E-learning Platform

Registered and not register users are able to read a complete description of each option before subscribing to any group.

The IM-FUTURE Master Degree has been developed mainly in English. Nevertheless, each training path and module include a summary in Spanish, Polish and Italian.



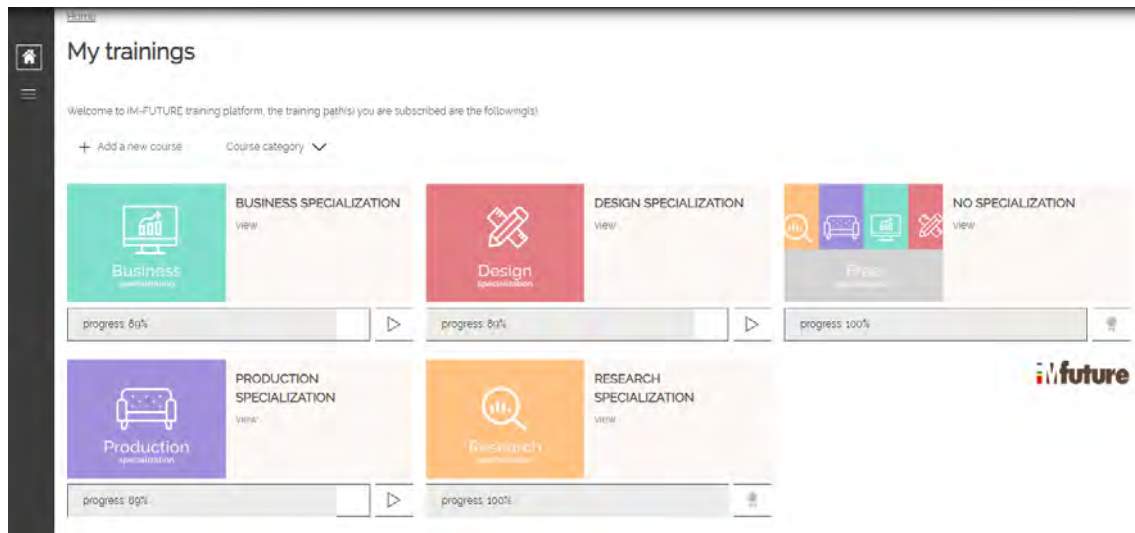
5.2.1 *Training interface and navigation*

Report:

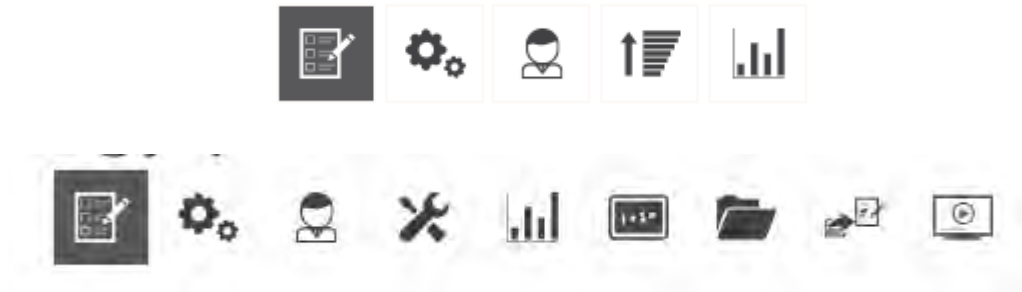
IO3-E-learning Platform

Users should access into the platform clicking on the right of the screen (My training) in order to be identified; they must have previously registered. Then, they will be redirected to the platform.

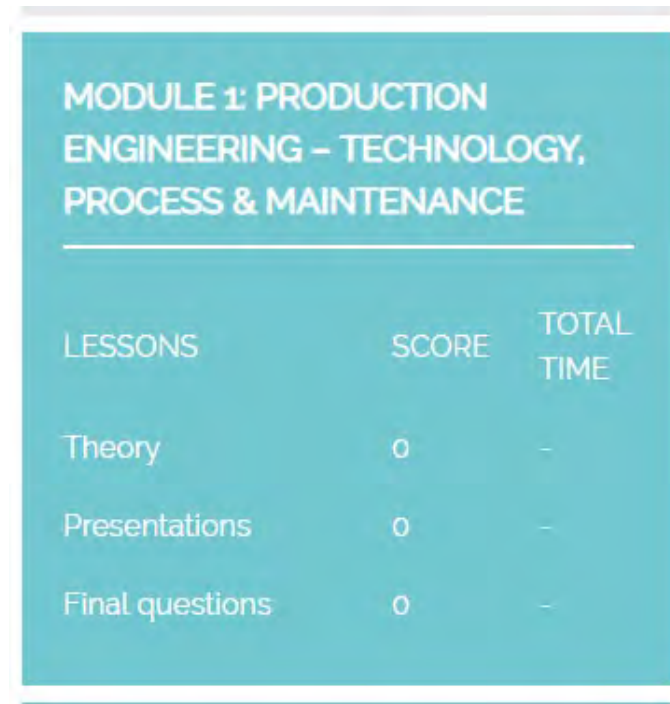
The interface looks like follows:



On the top bar there is a panel with many buttons related to all the tools available for this course (settings, users, tools, group statistics, lessons, files, quiz import, video, etc.)



On the left side of the screen, a global structure of the training is displayed with the list of online lessons. For each of them, the duration (or time spent for online lessons) and the score or status obtained are displayed.



MODULE 1: PRODUCTION ENGINEERING – TECHNOLOGY, PROCESS & MAINTENANCE		
LESSONS	SCORE	TOTAL TIME
Theory	0	-
Presentations	0	-
Final questions	0	-

The main part of the screen contains the training contents (slides, videos, quizzes). Then it's possible to carry out the complete training by clicking on the "Next" or "Back" buttons. After a lesson is completed, a button "Finish" is displayed and it allows to go to the next lesson:



5.2.2 General structure

IM-FUTURE platform makes it possible to structure the teaching contents in training paths (classes), modules (courses), subjects and units.

Master is the whole content that we will develop.

Training paths, the different possibilities inside the Master – 60 ECTS. The training path is based on:

- Production specialization.
- Design specialization.
- Business specialization.
- Research specialization.
- General Master.

Modules, are made to regularize the contents of the Master and make its structure and Training paths easier to be understood. IM-FUTURE training content consists of 10 modules. The first fourth are compulsories whereas the rest depends on the chosen training path.

- 1) Production engineering – technology, process & maintenance.
- 2) Production – scheduling and planning.
- 3) Innovation, product & process improvement systems.
- 4) Fundamentals of enabling technology applications.
- 5) Operations, business & process management and Quality control.
- 6) Furniture design history and Design.
- 7) Materials and Furniture process.
- 8) Logistics, warehouse, distribution & supply chain management and Sales and Marketing.
- 9) Workplace, leadership & personal effectiveness competences and Industrial Property Rights and Entrepreneurship.
- 10) Information search and retrieval and Investigation methodology.

Depending on the chosen specialization:

***Production**, students must perform modules 1, 2, 3, 4, 5, 7 and 9.

***Design**, students must perform modules 1, 2, 3, 4, 6, 7 and 9.

***Business**, students must perform modules 1, 2, 3, 4, 5, 8 and 9.

***Research**, students must perform modules 1, 2, 3, 4, 9, 10 and choose one from 5, 6, 7 or 8 depending on their investigation thematic.

***No specialization**, students must perform modules 1, 2, 3, 4 and select the modules that are more useful for their future integration into the workforce of the sector.

Each specialization includes Practices and Dissertation.

Subject is a branch of knowledge studied or taught. It will be referred to an important part of the contents of furniture sector. Inside a subject, the content will have a common structure. Each subject has a number of ECTS, depending the number of hours to acquire the required knowledge, skills and competences.

Units, inside each subject.

ECTS: European Credit Transfer and Accumulation System. It is a standard means for comparing the volume of learning based on the outcomes and their associated workload. It is considered 25 hours per credit point (because we are considering an academic year of 1500 hours of total workload and 60 ECTS credit). Moreover, the ECTS

Report:**IO3-E-learning Platform**

is split in 40% of teaching content, 40% of student work and 20% of tutorship and exam, in conclusion, 10 hours of teaching content, 10 hours of student work and 5 hours of tutorship and exams.

European Master of 60 ECTS		D1	>	1500 hours	
Student must do it in 2 different countries					
Divided on 2 semesters of 20 weeks	>	40 weeks	>	37,5 hours/week (including teaching, student work exams, tutorships...)	
Each semester: 30 ECTS	>			60 ECTS	
12 training paths					
6 specializations					

1st semester / Country A		
Fundaments block	>	18 ECTS
4 specialization modules	>	12 ECTS
Total	>	30 ECTS

2nd semester / Country B		
3 Specialization modules	>	9 ECTS
Practices	>	12 ECTS
Dissertation	>	9 ECTS
Total	>	30 ECTS

The student must do the 3 fundaments modules (18 ECTS), choose 7 of the 9 specialization modules (21 ECTS), the Dissertation (9 ECTS) and the Practices (12 ECTS).

5.3 Users

5.3.1 Users and roles

The different roles available that can be at platform, class or course level are the following:

Role	Platform level	Class level	Course level
Administrator	✓		
Student Manager	✓		
Forum administrator	✓		
Forum moderator		✓	✓
Manager		✓	✓
Teacher			✓
Coach		✓	
Student		✓	✓

Administrator: this role gives the possibility to manage the global platform settings, see all students and contents, and consult all results to the quiz.

Student Manager: This role gives access to some tools that are useful for the student's management. It has to be granted to the users with "teacher" and "coach" roles in order for them to fully operate their teaching activities. Without any "teacher" or "coach" role inside classes or courses this role won't allow any additional permission compared to a

student. This is a platform role that is attributed when a new account is created in the platform.

Forum administrator: This is a platform role that is attributed when a new account is created in the platform. It will grant permission to moderate the forums, and it can be useful if you need some additional help to moderate them. It won't give any other permission related to users or classes/courses management.

Coach: This role is related to classes. When adding a user to a class, you will have the possibility to grant him a "coach" role. This role will only be effective for this class, and the user can be coach for a class and student for other classes. Inside the courses composing this class the coach will be able to send notifications to students, get the students' list, consult their quiz results, but won't be able to modify the courses' content (theoretical content and quizzes).

Teacher: This role is related to courses. When adding a user to a course, you will have the possibility to grant him a "teacher" role. This role will only be effective for this course, and the user can be teacher for a course and student for other courses. Inside this course, the teacher can manage the course settings, create content (lessons for example), and consult the users' results to the quiz. But he cannot manage the users for the course.

Manager: The manager has the same permissions as the teacher, but additionally he/she will be able to manage the users for the course. This role can be granted at class level or at course level. If it is granted at class level, the level will inherit the manager permissions for all the courses composing the class.

Student: The student has only the right to consult the data for classes and courses he/she has been authorized to fill in quizzes and to consult his own results.

Note 1: The teacher, coach, and manager roles also require the "Student Manager" permission at platform level to be effective.

Note 2: For advanced users, it's possible to change the permissions settings for these Opigno pre-defined roles, and to create new roles with the dedicated Drupal interfaces.

5.3.2 User status

Users inside a course can have the following status:

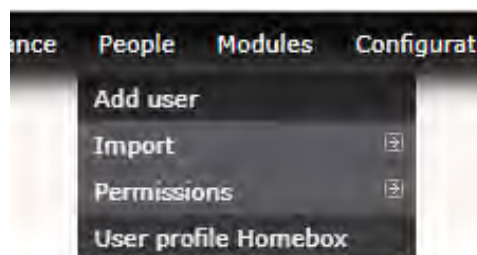
- **Active:** it means that the user can access the course.
- **Pending:** in this case the user has been authorized to access the course, but he/ she has to complete some steps first (either some pre-requisite courses, or a pre- test to assess the initial knowledge of the user) before automatically obtaining access to the course.

- **Blocked:** in this case the user cannot access the course.

The same status can be defined at class level. In this case the status will be transmitted to the user inside each course composing the class.

5.3.3 Add a new user to the platform

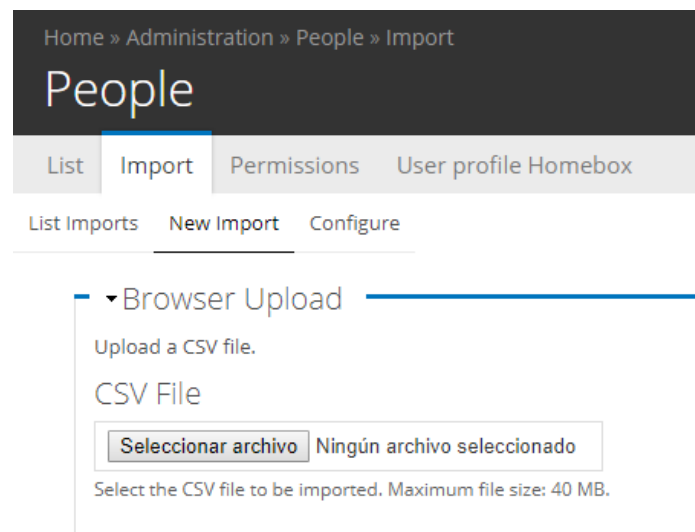
In order to add a new user to the platform, you need to have platform admin rights. Then, just go to the "Administration" menu, and then click in the "Administration" section on "Manage users". You are then directed to the list of users, where you have at the top of the page a link "add user".



Teachers must fill a range of fields such as username, e-mail address, password, status, roles and real name. However, students will be able to register by themselves without any validation required.

In case you have a list of users to import from an Excel file is also possible.

In order to do that, just click on the Import tab on the top right corner, and then on "New Import".



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You will have to create a new directory in your web server, ideally separated from the Opigno directory, but with read and write permissions for the www-data user.

Then you are ready to start the import. Select a file, and, if necessary, adapt the delimiter (it may be semi-column instead of column).

The csv file to load should have 4 columns:

- First name
- Lastname
- Password
- Email

After clicking on the “next” button you will have to match the fields. If the username should be built from the first name and last name, you should indicate this as well (for example a username built with the first letter of the first name -abbreviated- followed by the last name).

→ Use Different CSV File

▼ Field Match

- **Drupal fields:** Match columns in CSV file to drupal user fields, leave as '----' to ignore the column.
- **Username:** If username is selected for multiple fields, the username will be built in the order selected. Otherwise, the username will be randomly generated.
- **Abbreviate:** Use the first letter of a field in uppercase for the Username, e.g. 'John' -> 'J'.

CSV column	Drupal fields	Username	Abbreviate
Nombre	----- ▼	-- ▼	<input type="checkbox"/>
Apellidos	----- ▼	-- ▼	<input type="checkbox"/>
Nombre mostrado	----- ▼	-- ▼	<input type="checkbox"/>
Apodo	----- ▼	-- ▼	<input type="checkbox"/>
	----- ▼	-- ▼	<input type="checkbox"/>
	----- ▼	-- ▼	<input type="checkbox"/>
Nombre en pantalla	----- ▼	-- ▼	<input type="checkbox"/>
	----- ▼	-- ▼	<input type="checkbox"/>
	----- ▼	-- ▼	<input type="checkbox"/>

5.4 Courses

The course is the base entity containing many tools and allowing to spread knowledge and to assess students' learning. Referring to IM-FUTURE training platform, courses refers to modules, which are made to regularize the contents of the Master and make its structure and Training paths easier to be understood. This Master consists of 10 modules:

- 1) Production engineering – technology, process & maintenance.
- 2) Production – scheduling and planning.

- 3) Innovation, product & process improvement systems.
 - 4) Fundamentals of enabling technology applications.
 - 5) Operations, business & process management and Quality control.
 - 6) Furniture design history and Design.
 - 7) Materials and Furniture process.
 - 8) Logistics, warehouse, distribution & supply chain management and Sales and Marketing.
 - 9) Workplace, leadership & personal effectiveness competences and Industrial Property Rights and Entrepreneurship.
 - 10) Information search and retrieval and Investigation methodology.
- Besides Practices and Dissertation.

5.4.1 *Modification of an existing course*

To modify an existing course, simply go into Opigno Administration >> Content >> Course administration, then click on the "Edit" link for the class you want to modify. You can also go to the homepage of this course, and use the "Settings" button.



You will be able to modify the same options available when creating a course.

5.4.2 *Add or remove students into a course*

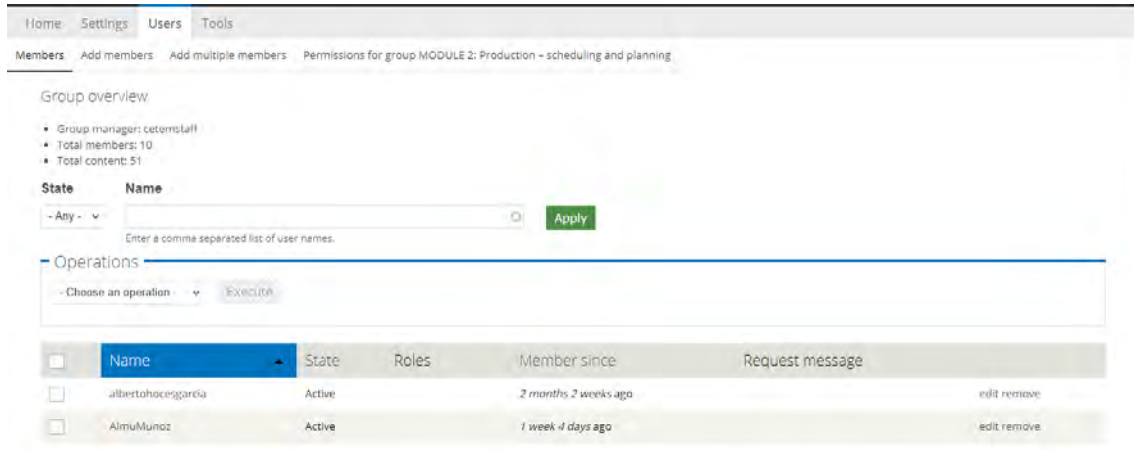
To manage the students of a course, you can go (as course manager or platform administrator) either into the class home page and click into the "Users" tab, or go into Opigno Administration >> Content >> Course administration and then click on the "Edit" link for the class you want to modify.



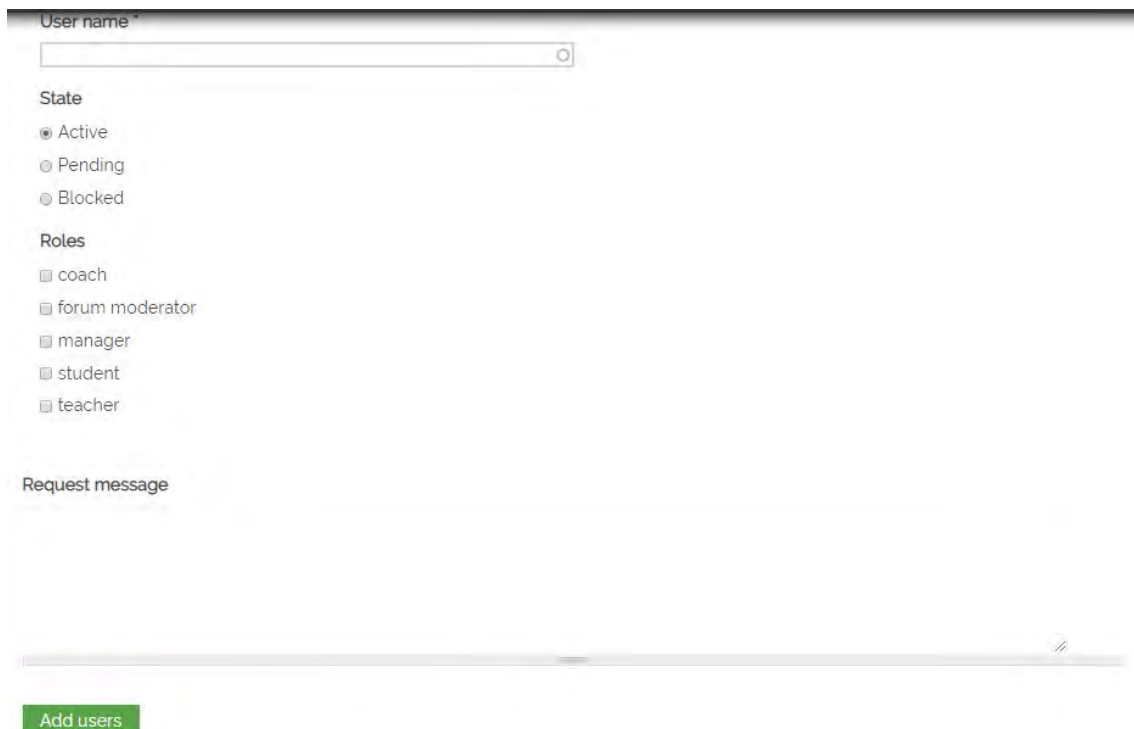
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You will get an interface presenting the list of users into this course, with their state (active, pending, or blocked) and their role. An edit link will allow to modify or remove users.



At the top of this list, a button "Add members" allows to add participants to this course. The interface is as follows.



You can type a username in the dedicated field. An "autocomplete" system automatically suggests the matching usernames considering the first letters you have entered.

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You can then select the state (active, pending, or blocked). By default, you will probably use the "active" state. You can then select the role of the user before saving.

It's also possible to add multiple users. To do that, just click on "Add multiple members" instead of clicking on "Add members". You can move the users from the "available" area to the "selected" area, then choose the role for these users and the state and then save.

The screenshot shows a web interface for selecting students to add to a group. At the top, it says "Select students to add to the group *". Below this, there are two main sections: "AVAILABLE OPTIONS:" and "SELECTED OPTIONS:". The "AVAILABLE OPTIONS:" section contains a list of names: luthiers, grego, Prueba, and Carmelo2. Between these two sections are two circular buttons with right and left arrows. Below the "AVAILABLE OPTIONS:" section, there are two groups of radio buttons: "Roles" with options coach, forum moderator, manager, student, and teacher; and "State" with options Active (selected), Pending, and Blocked. At the bottom of this section is a green button labeled "Add users". The "SELECTED OPTIONS:" section is currently empty.

5.4.3 Course tools

Opigno courses offer many tools proposing different ways to facilitate the knowledge transmission. These tools will appear at the home page of the course. This section will present the different tools in detail and the way to use them.

Tool "Lesson"

Lessons is an important tool that allows to manage both theoretical content and quizzed to assess the students' knowledge.

A lesson can be:

- Purely theoretical: it means it will be composed of slides with content managed by Drupal, and allowing to add pictures, videos, text.
- Purely quiz: only questions of different types
- Mixed: in this case the lesson will contain slides of the two previous content types,

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allowing to add some questions at the middle of the theoretical content to make the lesson more dynamic and the student more active.

Lessons can be reached by clicking on the following button once you are inside a course:



The interface (for teachers and administrators) is as follows:

MODULE 2 SCHEDULING AND PLANNING	
Type:	Theory
Questions:	1
Attempts allowed:	3
Available:	Always
Pass rate:	50%
Passed:	<input checked="" type="checkbox"/>

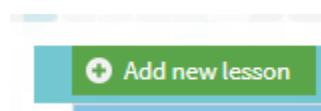
[Start lesson](#)
[Read more](#)
[Edit](#)
[Manage questions](#)
[Results](#)

For each lesson, the following action buttons are available:

- Start lesson: it allows to start the lesson
- Read more: it allows to view the full details about the lesson
- Edit: it allows to manage the settings for the lesson
- Manage question: it allows to manage the questions (or steps) inside this lesson
- Results: it allows to consult the results obtained by the students for this lesson

ADD A NEW LESSON

After clicking on the lesson tool on the course homepage, you get a list of all lessons. At the top of this list a link "Add a new lesson" allows to add a lesson.



The form contains the following items:

1. **Title:** The title of the lesson

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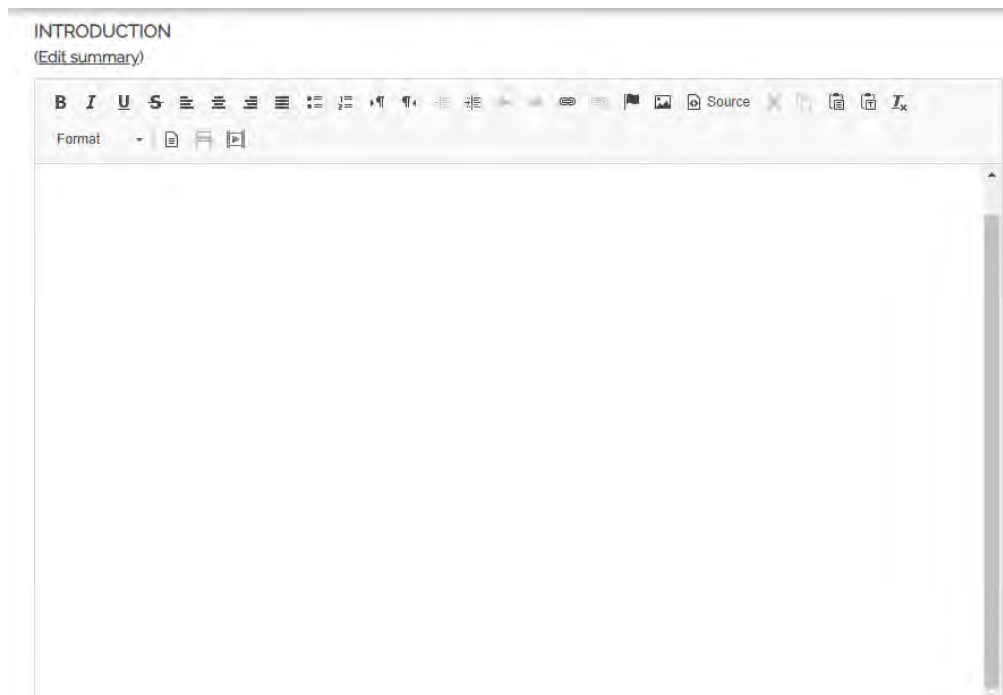
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2. **Remember my settings:** when checking this option, the settings used for this lesson will be used as default settings for the future lessons

Title

☐ Remember my settings

3. **Body:** The description of the lesson, that will be displayed on its start page. Opigno offers the CKEditor with nice WYSIWYG capabilities.

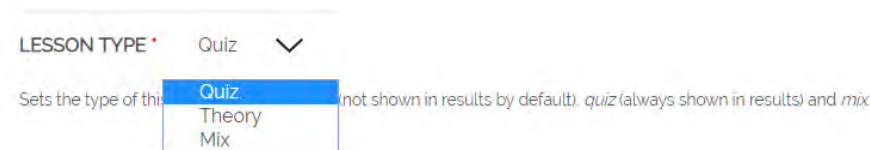


4. **Lesson weight:** the weight is used to calculate the global score for the course, which will be the weighted average score for all lessons inside the course. In other words, the score for the course will be: $(\text{score_lesson_1} * \text{weight_lesson_1} + \dots + \text{score_lesson_n} * \text{weight_lesson_n}) / (\text{weight_lesson_1} + \dots + \text{weight_lesson_n})$.

LESSON WEIGHT *

1

5. **Lesson type:** The lesson type has to be chosen between quiz, theory and mix (see above for details). This choice will impact the lesson's management interface, that will be simplified to present only relevant question types. If you choose a "theory" type all the quiz questions will be hidden, and only content slides will be available. If you choose "quiz", only the quiz questions will be presented. And with "mix" everything will be presented.



LESSON TYPE * Quiz ▼

Sets the type of this lesson (not shown in results by default). *quiz* (always shown in results) and *mix*

- Quiz
- Theory
- Mix

6. **Groups audience:** here you can choose the courses in which this class will be integrated. The current course is selected by default. The first select list displays "your groups", which means groups you have created or groups you are member of. The second autocomplete field is only displayed to platform administrators and allows to define any other course.

GROUPS AUDIENCE

YOUR GROUPS

- None -
Class

PRODUCTION SPECIALIZATION
DESIGN SPECIALIZATION

Associate this content with groups you belong to.

[Show row weights](#)

Other settings are available at the bottom of the form.

The first one, named "Result Comments", allows to define the global feedback to be displayed to the student after he finishes the quiz. In order to do that, you will define ranges for score (min - max values), named "Result option i", that you will associate with a comment.

Result Comments	
Pass/fail options	Result Option 1
Availability options	
Taking options	
URL path settings	Result Option 2
Automatic alias	
Comment settings	Result Option 3
Closed	
Authoring information	Result Option 4
By cetemstaff	
Publishing options	Result Option 5
Published	

The tab named "Pass/Fail" is an important one and makes possible to define the criteria for lesson's validation.

You can set here the **Pass rate for Lesson (%)**: this is the minimum score (in % of the maximum score possible) the user will need to obtain to pass the lesson. For a quiz you can set a minimum score according to your requirements. If you simply want to have an overview of the students' level, but not block users (for example for an entrance test), you can set the pass rate to 0%. In case of a theoretical lesson, if you just want to make sure that students have browsed into each slide, you will also make the lesson required for the course validation, with a pass rate of 0%.

Result Comments	
Pass/fail options	PASS RATE FOR LESSON (%)
Availability options	50
Taking options	
URL path settings	SUMMARY TEXT IF PASSED
Automatic alias	Congratulations, you're approved
Comment settings	
Closed	
Authoring information	
By cetemstaff	
Publishing options	
Published	

More information about text formats

TEXT FORMAT Plain text

Summary for when the user gets enough correct answers to pass the Lesson. Leave blank if you don't want to give different summary text if they passed or if you are not using the 'percent to pass' option above. If you don't use the 'Percentage needed to pass' field above, this text will not be used.

DEFAULT SUMMARY TEXT

Sorry, you have failed. Try again!!

More information about text formats

TEXT FORMAT Plain text

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In the tab named "Availability options", you will define if the lesson has to be always available, or it will have opening and closing dates. Out of these dates the lesson won't be available. This makes also possible to decide if a lesson has to be added to the calendar for all the course participants. In this case, simply check "Add to calendar" and choose one date or a period composed with a start date and an end date.

Result Comments	<input checked="" type="checkbox"/> Always Available
Pass/fail options	
Availability options	
Taking options	
URL path settings Automatic alias	
Comment settings Closed	
Authoring information By cetemstaff	
Publishing options Published	
	OPEN DATE
	Dec ▼ 4 ▼ 2018 ▼
	CLOSE DATE
	Jan ▼ 3 ▼ 2019 ▼
	<input type="checkbox"/> Add to calendar

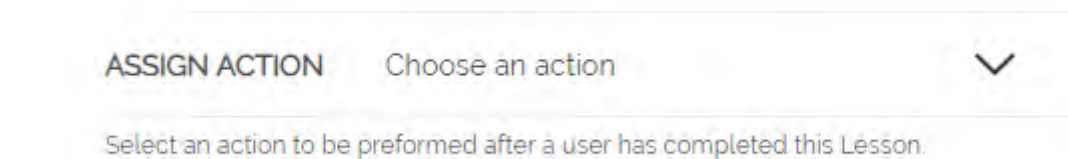
Save

The tab "Taking options" is dedicated to the way students can answer to the quiz.

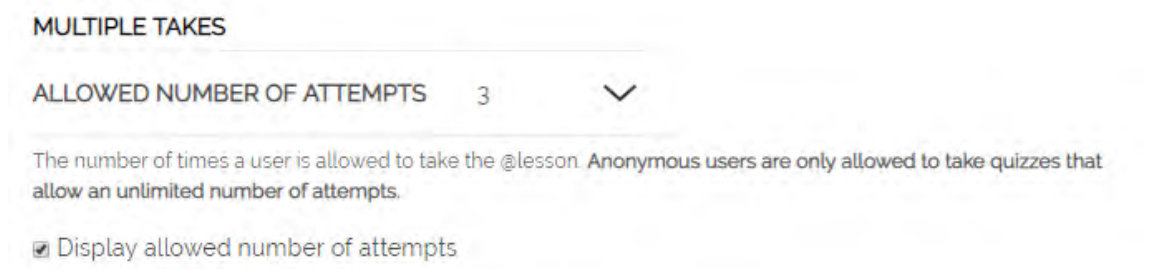
Result Comments	<input checked="" type="checkbox"/> Allow Resume
Pass/fail options	<input checked="" type="checkbox"/> Allow Skipping questions
Availability options	<input checked="" type="checkbox"/> Allow jumping
Taking options	<input checked="" type="checkbox"/> Backwards navigation
URL path settings Automatic alias	<input type="checkbox"/> Repeat until correct
Comment settings Closed	<input type="checkbox"/> Mark Doubtful
Authoring information By cetemstaff	<input checked="" type="checkbox"/> Show passed status
Publishing options Published	RANDOMIZE QUESTIONS
	<input type="radio"/> No randomization
	<input type="radio"/> Random order
	<input checked="" type="radio"/> Random questions
	<input type="radio"/> Categorized random questions

You can define:

- **Allow resume:** possibility for users to stop the lesson they are browsing, and resume later at the same point.
- **Allow skipping questions** (for quiz): the user can leave a question blank and finish the quiz.
- **Allow jumping:** possibility for the user to browse the slides/question in a different order from that defined by the lesson's author.
- **Backwards navigation:** possibility to go back in slides/questions.
- **Repeat until correct** (for quiz): the user will have to retry each question until he/ she finds the correct answer, and he/she can go to the next question.
- **Mark doubtful:** allows the student to mention if he is not sure about the answer.
- **Show passed status:** displays the status if the student has previously passed the lesson.
- **Randomize questions:** 4 different modes are offered concerning the way to randomize the order in which questions/slides will appear. The difference between "random order" and "random questions" is that with "random questions" questions are drawn randomly from a pool of questions. With "random order" the lesson will always consist of the same questions. With "Categorized random questions" you can choose several terms questions should be drawn from, and you can also choose how many questions that should be drawn from each, and max score for each term.
- **Assign Action:** an action that will be performed once the student has passed the lesson (actions are related to Drupal rules).



- **Allowed number of attempts** (mainly interesting for quiz): the maximum number of times a student can do the quiz.



- **These results should be stored for each user:** you can define here, in case of multiple attempts, which score has to be taken into account (the latest, the highest, or every one)

THESE RESULTS SHOULD BE STORED FOR EACH USER

- ☐ The best
- ☐ The newest
- ☒ All

- **Time limit:** you are able to establish here the period of time students have in order to answer the raised exercises. On that case, teachers should take into account the number of questions and define the time in seconds. The IM-FUTURE Training Platform will have unlimited time.

TIME LIMIT

0

EDIT GLOBAL SETTINGS OF A LESSON

To edit the global settings of an existing lesson, you can simply go to the lesson home page, and click on the "Edit" tab at the top of the page.

MODULE 2 SCHEDULING AND PLANNING		
Type:	Theory	Start lesson Read more Edit Manage questions Results
Questions:	1	
Attempts allowed:	3	
Available:	Always	
Pass rate:	50%	
Passed:		

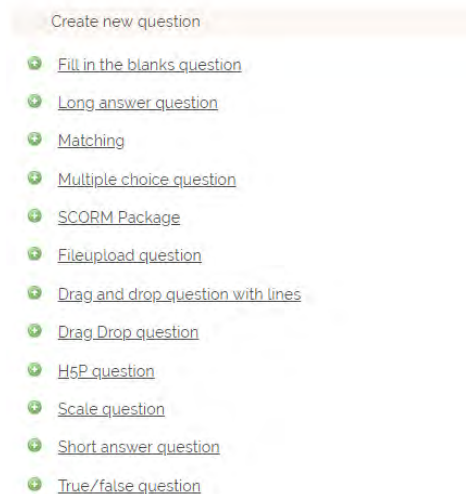
ADD QUESTIONS / SLIDES TO THE LESSONS

Once a lesson is created, you will probably want to add questions and/or slides to it. To do that, you will click on the "Manage questions" tab at the top of the page (see previous image).



The screenshot shows a settings interface for random questions. It has three sections: 'Create new question' (a link), 'Questions in this lesson (21)' (a count), and 'Settings for random questions'. Under the settings, there are two input fields: 'Max score for each random question' with the value '1' and 'Number of random questions' with the value '21'.

By clicking on the "**Create new question**" link, the list of available questions will open (see below for more details), making it possible to choose a question type and define its content and settings.



The screenshot shows a dropdown menu for creating a new question. The menu is titled 'Create new question' and lists 14 question types, each with a green plus icon and a link: 'Fill in the blanks question', 'Long answer question', 'Matching', 'Multiple choice question', 'SCORM Package', 'Fileupload question', 'Drag and drop question with lines', 'Drag Drop question', 'H5P question', 'Scale question', 'Short answer question', and 'True/false question'.

In the area "**Questions in this lesson**", you will see the list of questions inside this lesson. Edit and Remove links will allow to manage questions. The maximum score for the question will also be defined here. By default, it is calculated as the maximum number of points possible to have with the question, according to the points you granted for each possible answer.

Auto update max score means that if you modify a question (add or remove correct alternatives for a multiple-choice question for example), the max score will be automatically re-calculated by adding the scores for all the alternatives offered inside the question. If not checked, the max score will remain the same even if you modify the answers.

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QUESTION	TYPE	ACTIONS	UPDATE	MAX SCORE	AUTO UPDATE MAX SCORE	COMPULSORY
+ An IMS...	Multiple choice question	Edit Remove	Up to date		<input type="checkbox"/>	<input type="checkbox"/>
+ The review of the sources of information in a Technology Watch system...	Multiple choice question	Edit Remove	Up to date		<input type="checkbox"/>	<input type="checkbox"/>

By clicking on the "**Browse for questions to add**" link you will see the list of all questions previously used in the platform (a pool of questions) and you will be able to simply select one to add it to the current lesson.

Browse for questions to add				
Mark all the questions you want to add. You can filter questions by using the textfields and select boxes. You can sort by pressing the table headers.				
	TITLE	TYPE	CHANGED	USERNAME
<input type="checkbox"/>	<input type="text"/>	No filter ▾	No filter ▾	<input type="text"/>
<input type="checkbox"/>	Unit 8	Slide	11/19/2018 - 14:27	cetemstaff
<input type="checkbox"/>	Unit 7	Slide	11/19/2018 - 14:27	cetemstaff
<input type="checkbox"/>	Unit 6	Slide	11/19/2018 - 14:26	cetemstaff
<input type="checkbox"/>	Unit 5	Slide	11/19/2018 - 14:26	cetemstaff

The available question types are the following:

- **Fill in the blanks question:** A text with missing words the user has to fill in.
- **Long answer question:** Question proposing the student to write a long text to answer. The scoring of this question will have to be done manually.
- **Matching:** Question requiring to match the elements from two columns. The elements in the first column will be fixed and randomized, and the ones in the second column will be presented in dropdown boxes.
- **Multiple choice question:** The classical question with many possible answers. One or more answers may be defined as correct. The score is defined for each possible answer, and may be null, positive, or negative (in case of wrong answer).

- **SCORM package:** This question makes possible to insert a SCORM package into the lesson; the results obtained inside this package will be retrieved in Opigno.
- **TinCan package:** This question makes possible to integrate a TinCan package (zip file) inside a lesson; the results obtained will be stored in Opigno.
- **File upload question:** This question offers the student to upload a file containing his work. The scoring of this question will have to be done manually.
- **Drag and Drop questions with lines:** This question makes possible for the user to select zones inside a picture. At the moment the zones can only be circle-shaped.
- **Slide:** This is a theoretical content slide; no answer is awaited from the student.
- **Drag Drop question:** This question offers the user to match pictures and labels, by drag and drop.
- **H5P question:** This question type makes possible to easily create rich HTML contents using H5P technology.
- **Scale question:** A question proposing to answer to questions using a scale (for example "Never - Always" or "Totally disagree - Totally agree").
- **Short answer question:** A question the user has to answer with a short text. The scoring can be either automatic, either manual.
- **True/false question:** A question that has to be answered with true or false. The creation of a question is quite similar for all question types, even if each of them offers some specific settings. You will have basically to define the question, the possible answers, and the feedback.

Note: for theoretical lessons, users can switch in full screen display mode, simply by clicking on the arrows on the top right corner of the slide:



To exit the full screen view, press 'Esc' key.

CREATION OF SLIDES FOR THEORETICAL CONTENT

Opigno makes possible to create slides of theoretical content. Slides can be either created using the WYSIWYG editor, including the use of pre-defined templates (please refer to the next section), or can be created by loading a PDF file that will be displayed inside the slide.

To do that, in the dedicated section of the slide creation interface, simply load a PDF file.

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SORT LESSONS

In order to sort the lessons inside a course, just go to the course and then to the "Lessons" tool.

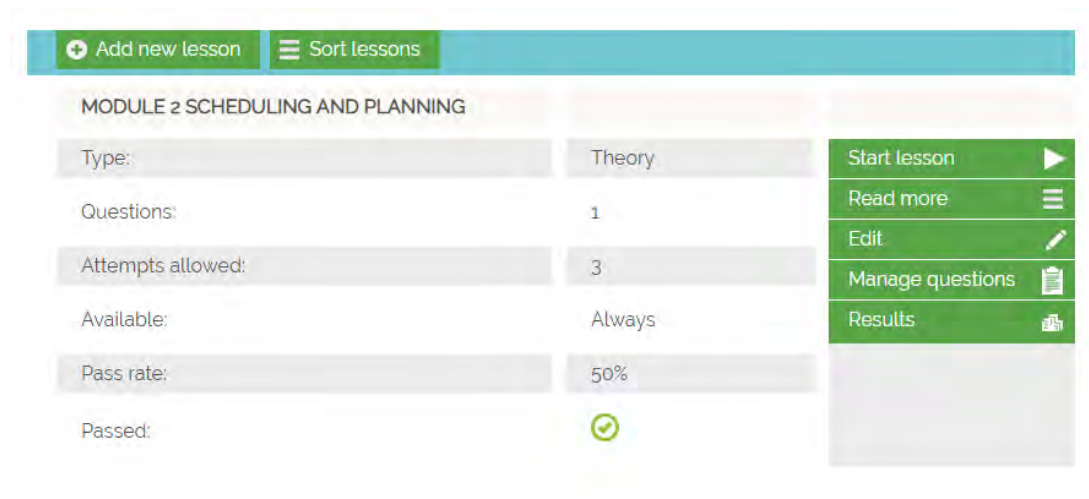


Then, click on "Sort lessons". You can sort the different lessons inside the course through drag & drop. Click "Save Order" to keep the new order.



CONSULT RESULTS AND SCORE MANUALLY ANSWERS

From the list of lessons, you can click on the "Results" tab to consult the results for a lesson.



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You get a table of all results of students in this lesson.

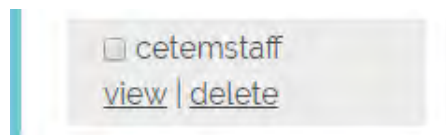
Options

Update

Special filters

USERNAME	STARTED	FINISHED	SCORE	EVALUATED
<div><div></div></div>	No filter <div></div>	No filter <div></div>	No filter <div></div>	No filter <div></div>
<div><div></div> cetemstaff</div>	11/19/2018 - 12:21	11/19/2018 - 12:21 (Duration: 0:00:00)	100 % Passed	Yes

In order to view the details of the answers given by a student, or to score questions requiring manual scoring, just click on the "view" link under a username (the link appears when your mouse pointer is over the username).



You can then view the detailed results for each question. To score manually a question, just define the score in the dedicated area, eventually add a feedback, and click on "Save score".

cetemstaff

[View](#) [Edit](#) [My achievements](#) [My results](#) [File browser](#)

You can modify the way the results are shown by clicking in the Special filters. There, you will have the option of showing all the results for a specific student or not showing the results of a lesson in progress.

Special filters	
<input checked="" type="checkbox"/>	Only show each users best result
<input checked="" type="checkbox"/>	Do not show lessons in progress

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The scoring can be done either by the course teacher, the course manager, a platform administrator or the coach of the class (if the course is part of a class).

Note: in the administration area, you have also a link "My course student results" that allows to consult the results for your courses, but at a more global level (no detailed by question).


"Documents" tool

The documents tool provides a kind of Document Management System inside courses. It makes possible to easily share documents and organize them inside folders. It can be accessed from a course by clicking on the following button:



When clicking on files, you can open the files, and, clicking on folder names will let you enter inside this folder. A button "Parent folder" allows to go back to the parent folder.

The content is visible for students, but only manageable (adding files, folders, moving files, etc.) by the course teacher, course manager, or platform administrators.

					← parent folder	≡ reorder elements
NAME	LOADED BY	LAST MODIFIED	TYPE	OPERATIONS		
 Archives			Folder			

New folders can be added by clicking on the button "Add a folder", and new files with the button "Add a file".



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Folders and files can be reordered by drag-and-drop when clicking on the "reorder elements" button. In this case you have to go first to the parent folder so that you are able to reorder all the elements below this parent folder.

Adding a file is done through the interface shown below, by defining:

- a title
- eventually a description (field "Body")
- a file (that will be uploaded)
- the folder containing this file (the file can move afterwards either by editing it, or with the "reorder" interface)

The screenshot displays the 'Add New' interface of the IO3-E-learning Platform. At the top, there is a 'Title' input field. Below it is a 'BODY' section with an '(Edit summary)' link and a rich text editor toolbar containing various formatting options like bold, italic, underline, and list creation. The main body of the editor is empty. Below the editor is a 'FILE' section. It includes a 'Seleccionar archivo' button, a text field showing 'Ningún archiv... seleccionado', and an 'Upload' button. At the bottom, there is a 'Select folder' button with an upward arrow icon. Below this, a folder named 'MODULE 2: Production – scheduling and planning' is listed with a folder icon and a right-pointing arrow.

“Quiz Import” tool

This tool is only accessible to course teacher, course manager, and platform administrators. It allows to import quiz questions from an Excel file (only valid for Multiple Choice Questions). Teachers and administrators will be able to access this tool from a course by clicking on the following button:



You will then be able to select an Excel file containing the questions and answers, and define the title for the new quiz to be created.

File

Seleccionar archivo

Ningun archiv... seleccionado

QUIZ TITLE

Import

The structure of the Excel file (.xls or .xlsx) has to be the following:

- **First column:** the question text.
- **Second column:** the possible answers for the questions. The question text does not have to be repeated in each line for the different possible answers.
- **Third column:** the correctness of the answer (1=yes, 0=no).
- **Fourth column:** the score (positive or negative) if the student chooses this answer.
- **Fifth column:** the score (positive or negative) if the student does not choose this answer.
- **Sixth column:** the feedback if the student chooses this answer.
- **Seventh column:** the feedback if the student does not choose this answer. You can see

below a sample of Excel file just below:

A	B	C	D	E
Question	Answers	Correct (1/0)	Score if selected	Feedback if selected
1. What is Grapphene?	A piece of material made of carbon	0	0	A layer of carbon of one atom thick
	A layer of carbon of one atom thick	1	1	This is correct.
	A very thin layer of atoms of carbon 200 times harder than steel	0	0	A layer of carbon of one atom thick
2. What is the most important property of materials for furnitutre industry	Mechanical properties	1	1	This is the correct answer.
	Electrical properties	0	0	Mechanical properties
	Magnetical properties	0	0	Mechanical properties

"Video gallery" tool

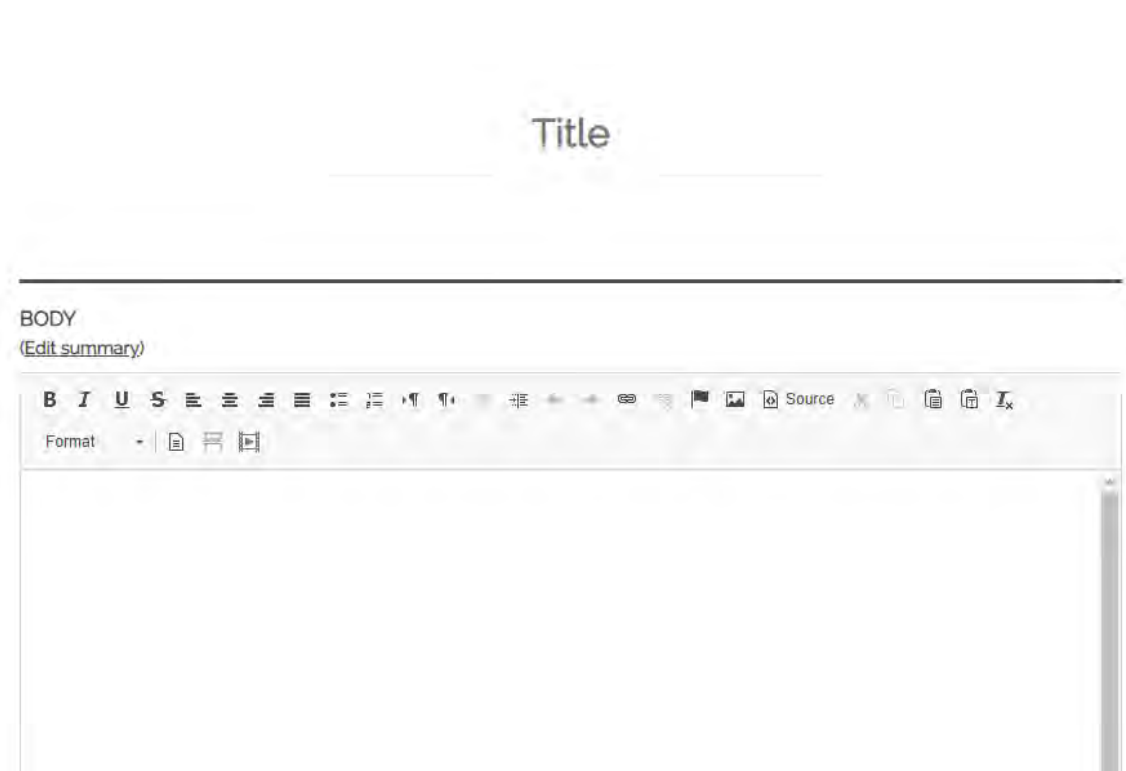
The video tool will be accessible inside courses by clicking on the following button:



Here you will find (as a platform administrator, course manager or course teacher) a button "Add video".



The interface allowing to add the new video is as follows:



Once the video file has been uploaded, you will be offered the following options:


- Bypass auto conversion: this will prevent the video from being converted. The original format will be kept.
- Convert video on save: this will force the conversion of the video when saving. If neither this option is checked, nor the first one, the conversion will be done during the next CRON running.


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- Video thumbnail: some thumbnail images are automatically processed by Opigno; you can choose one of them to be displayed in the video gallery.

VIDEO

 Boss4Smes-0Bn8r_brftPs_beta.mp4 (15.22 MB) [Remove](#)

OUTPUT VIDEO DIMENSIONS 640x360 

☒ Bypass auto conversion

☐ Convert video on save

VIDEO THUMBNAIL

[Seleccionar archivo](#) Ningún archiv... seleccionado [Upload](#)

After the video has been added, it will be displayed in the gallery, like below:

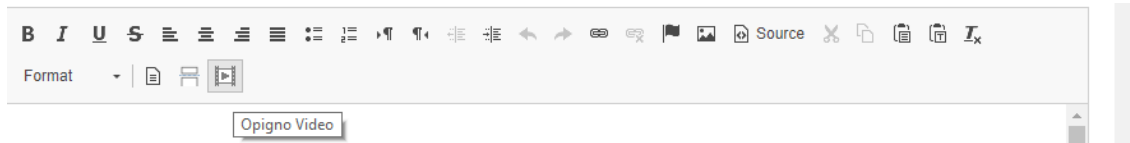


Students will be able to view the videos by clicking on them.

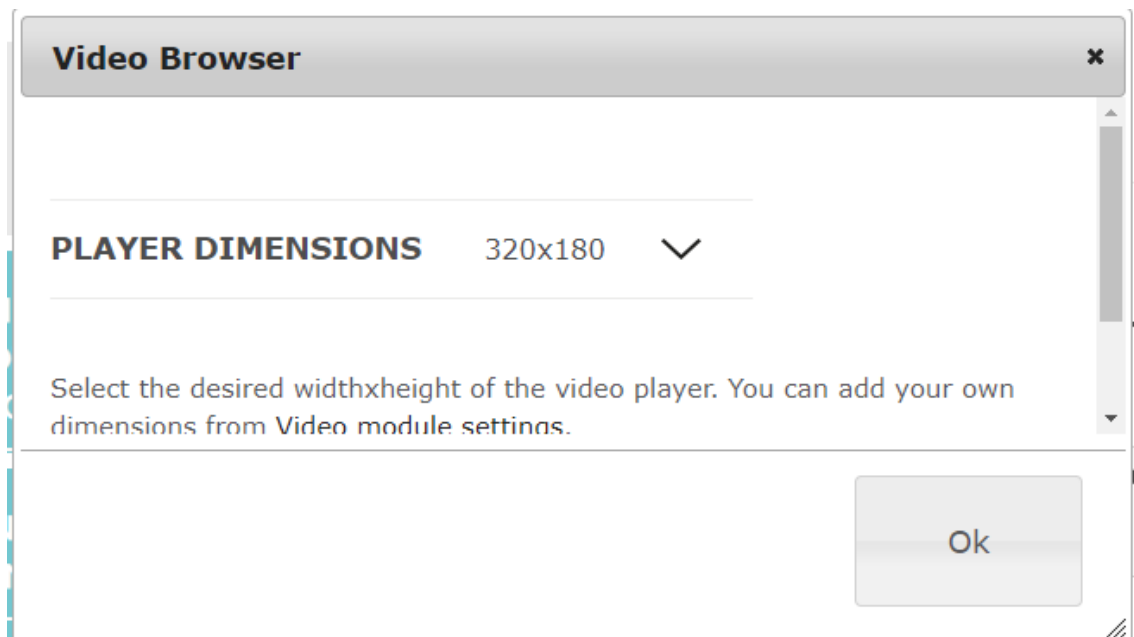
Platform administrators, course managers and course teachers are able to sort the videos inside the gallery. In order to do that, when entering inside the video tool, simply click on the "Sort videos" button and reorder them by drag&drop. Click save when the video order is as desired.



Videos can be inserted in a slide if the video is already in the lesson video gallery. In order to do that you will find a button as follows in the Wysiwyg slide editor:



By clicking it you will see a popup window that allows you to choose the video and its dimension.



5.5 Statistics and dashboards

5.5.1 Global statistics

IM-FUTURE training platform offers graphical statistics allowing administrators to understand the behavior of users and the way their Opigno LMS platform is used. This consequently makes possible to adapt the learning paths and tools, to offer the most efficient possible training experience to the users. It's possible to access the statistics interfaces by clicking in the main menu on the following pictogram:



GENERAL OVERVIEW

This interface displays a general overview of the way the platform is used. It contains links to get more precise dashboards for courses or users.



Top 10 courses according to nb of interactions

#	Courses	Number of visits	Number of users	Number passed	Action
1	3 simple step to overclocking	248	4	2	View statistics

Top 10 classes according to nb of interactions

#	Classes	Number of visits	Number of users	Action
1	IT pro	1229	2	View statistics

GENERAL STATISTICS

Course progress

This is calculated as the total number of users having successfully finished a course, divided by the total number of users, for the selected timeperiod.

Quizzes completed

This is calculated as the total number of finished and successful attempts on lessons or in-house trainings divided by the total number of finished attempts (successful or not) on

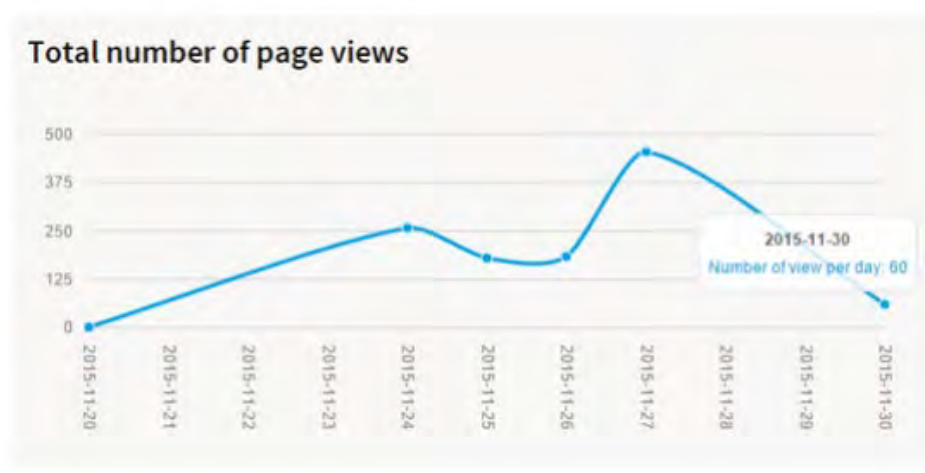
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lessons and in-house trainings. If a user takes several times the same quiz only his best result will be considered. The calculation takes in account all the users and all the courses, for the selected time period.

**TOTAL NUMBER OF PAGE VIEWS**

This displays the total number of page views by all the users on the platform.

- If the current month is selected, the chart displays the number of page views for each day of the month.
- If another month is selected, then only the total number of page views for the month will be displayed.
- If no month is selected, the chart will display the total number of page views for each month of the year.



COURSE LESSONS

Course lessons

Lesson	Interactions	Avg score
Step 1: CPU Clock is King	170	34%

Interactions

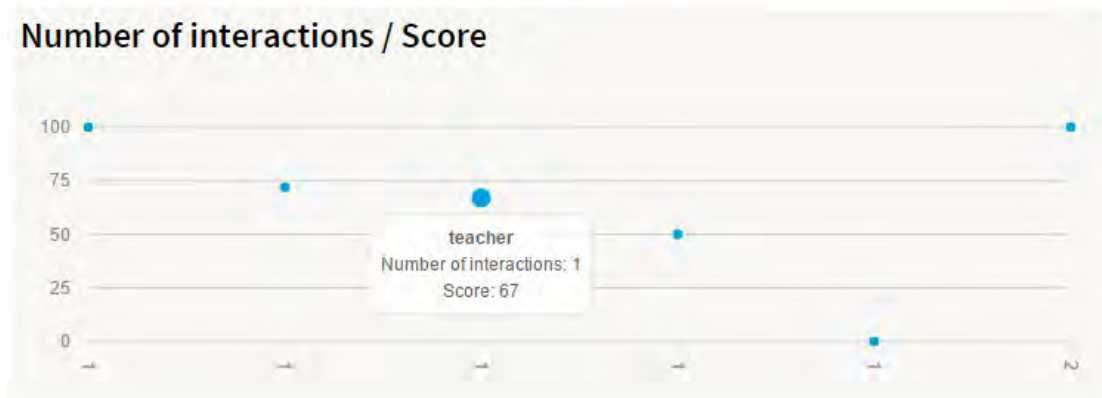
Number of page views inside the course; this makes possible to figure out the interest if users in a lesson.

Avg score

This is the average score for a lesson, calculated for all the users having finished the lesson (excluding the attempts that were stopped before the end of the lesson, and considering the best result of each user).

NUMBER OF INTERACTIONS / SCORE

Number of interactions / Score



This chart displays both the scores and number of interactions for each user registered to the course. Each user is a dot on the chart.

The number of interactions (total number of page views inside the course) illustrates the efforts and constancy of a user.

The score (average score considering all the lessons inside the course, excluding non-finished attempts; for example, if there are two lessons and that the user only did one with a 100% score, his global score will be 100%) illustrates the user's success.

Consequently, a user with a high number of interactions but a low score would be considered as having difficulties. To the opposite, a user with low number of interactions but a high score would be skilled and at ease.

STUDENTS RESULTS

This table displays a detailed overview of the users of a course, and their results.

Students results						
Students	Interactions	Avg interactions	Score	Avg score	Passed	Action
admin	7	2	100%	65%	Yes	View statistics
student	1	2	100%	65%	Yes	View statistics
student2	1	2	72%	65%	Yes	View statistics
teacher	1	2	67%	65%	Yes	View statistics
administrator	1	2	50%	65%	No	View statistics
Student,rolex	1	2	0%	65%	No	View statistics

Interactions

Number of page views (lessons, etc.) from the user inside the course.

Avg Interactions

This is calculated as the average number of interactions for all the users of the course; this makes possible to compare each user with the average.

Score

This is the average score for the user considering all the lessons inside the course (online lessons, in house trainings, etc.) and considering only the best result of the user for each lesson.

Avg score

This is the average value of the average scores for all users registered to the course; this makes possible to compare each user's score to the average.

Passed

This indicates whether the user has successfully passed the course or not (the course is passed if the user has successfully finished all the required lessons).

By clicking on the link "View statistics" it's possible to get a detailed statistics page related to one given user.

This displays the total number of page views by the user inside the platform.

- If the current month is selected, the chart displays the number of page views for each day of the month.

- If another month is selected, then only the total number of page views for the month will be displayed.
- If no month is selected, the chart will display the total number of page views for each month of the year.

6 Guide on how to use the training platform – for final users

6.1 Introduction to IM-FUTURE training platform

The Strategic Partnership of IM-FUTURE proposes the creation of a flexible learning pathway in line with the needs of learners and companies in the furniture, woodworking and related sectors. It will provide a joint study program between Higher Education and Vocational Education and Training that will capitalize companies with prepared youth, providing enterprises innovation, expertise and added value.

IM-FUTURE arises from a Strategic Partnership composed of seven entities. With the aim to develop an international master degree for the furniture sector, which will offer an adapted curriculum to equip the young generation with the specific, basic and transversal competences currently required in the furniture, woodworking and related industries. This international Master Degree will provide students with opportunities to gain additional skills by studying and training abroad.

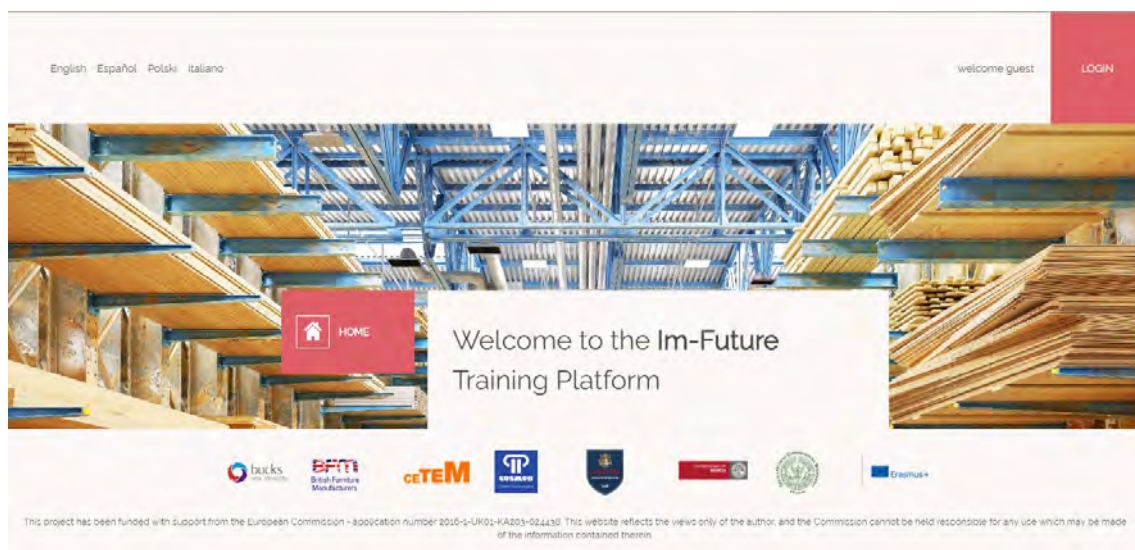
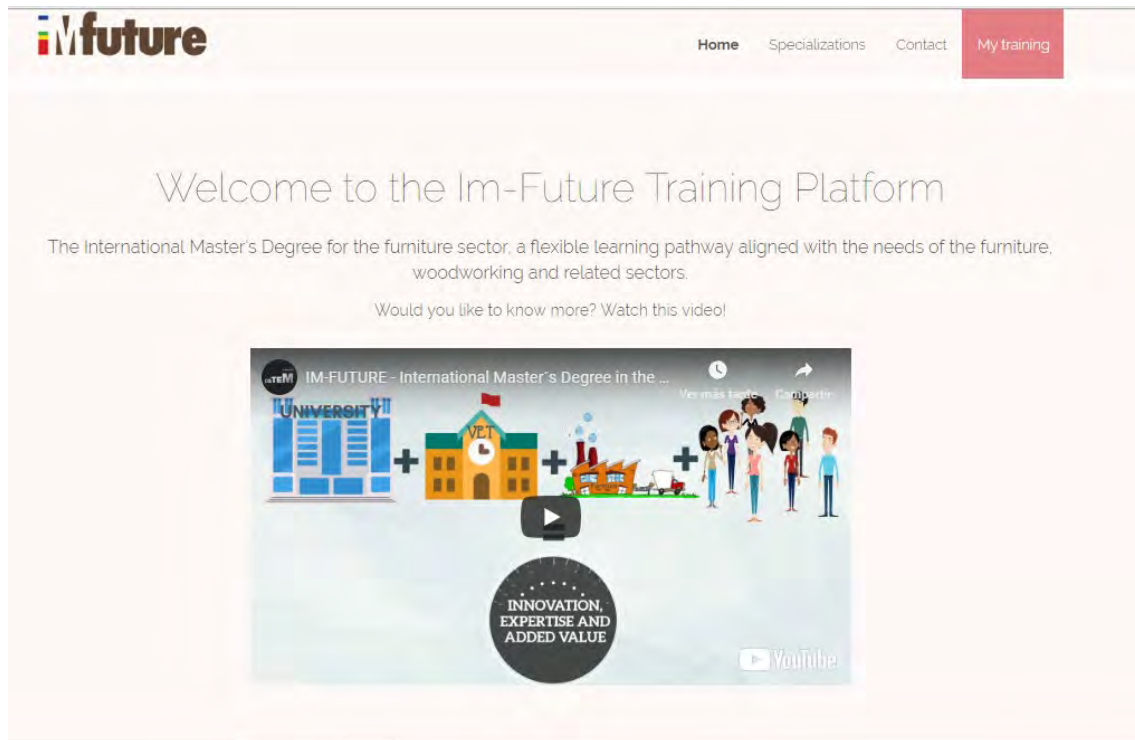
IM-FUTURE is divided in 5 specialization: Production, Design, Business, Research and General Master. Depending on the chosen specialization, students will take 4 main modules and 6 optional ones with Practices and Dissertation:

- Production: In this specialization the student will receive training on how the piece of furniture is produced.
- Design: This specialization is focused on how a piece of furniture is thought and how it is created the draft or model according to that idea.
- Business: In this option the student will receive training to management of the company.
- Research: This specialization is for students who want to investigate in the furniture field.
- No specialization (General Master): Developed for those students who don't want to specialize in a concrete field, but rather have a general knowledge of the furniture sector.

6.2 Global architecture

This section presents the global architecture of IM-FUTURE Training Platform, based on Opigno and defines the terminology used. The following sections will present its use in more detail.

The main page of IM-FUTURE (<http://imfuture.cetem.webfactional.com/>) is as follows.



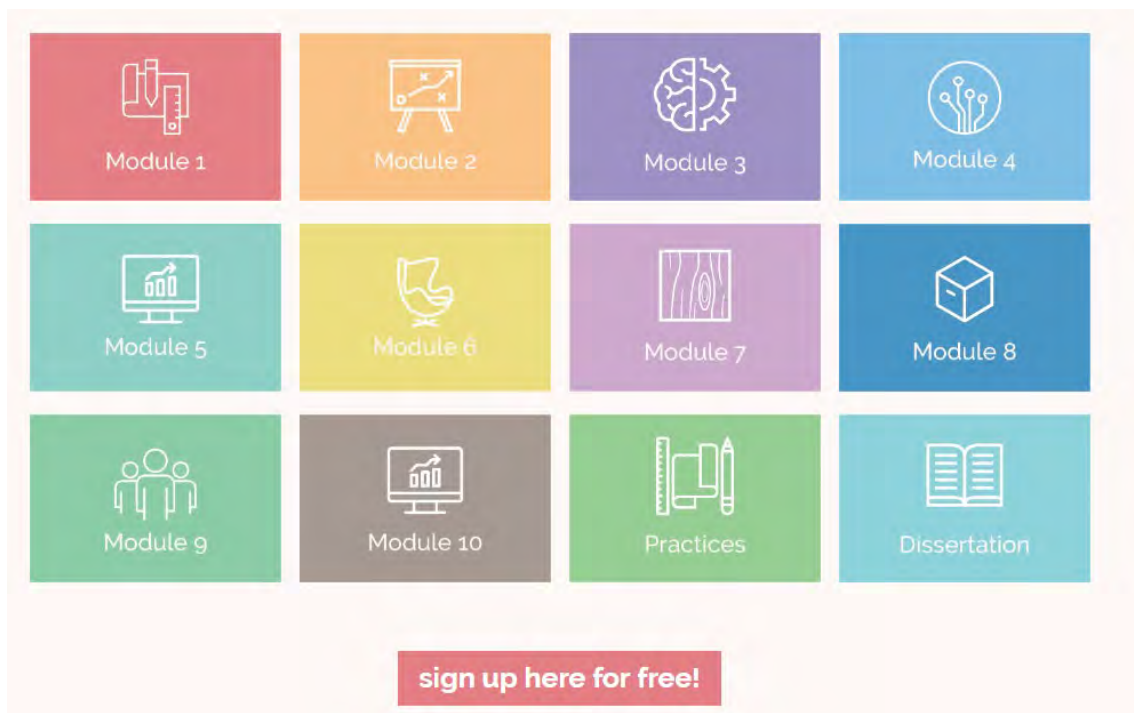
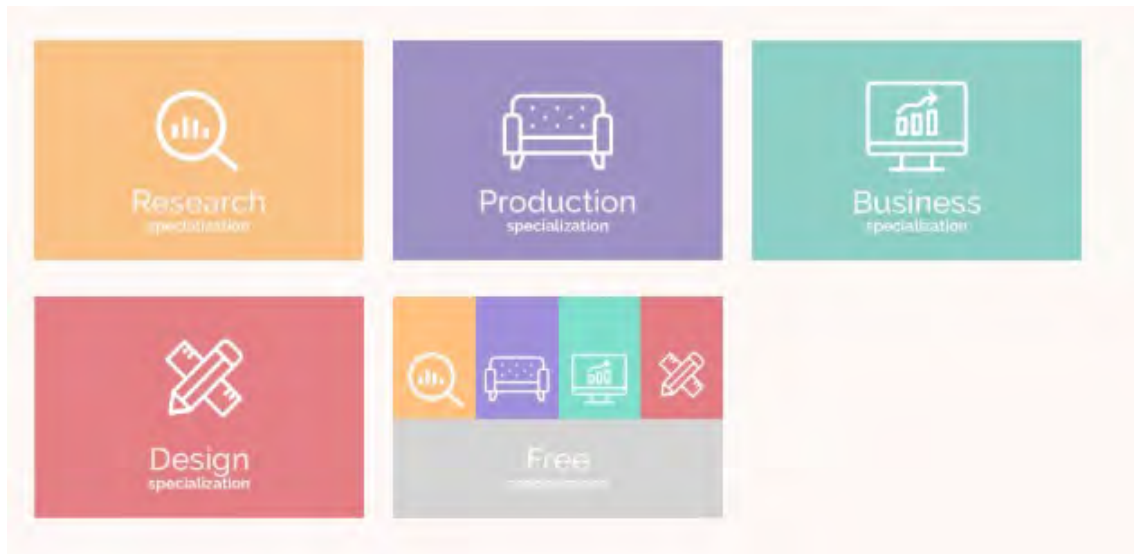
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Here the users will find general information about this International Master Degree, detailed explanations about each specialization both in texts and videos, a contact formulary and the link for register or login into the platform.

Registered and not register users are able to read a complete description of each option before subscribing to any group.

The IM-FUTURE Master Degree has been developed mainly in English. Nevertheless, each training path and module include a summary in Spanish, Polish and Italian.



6.2.1 Registration

To login in IM-FUTURE platform you have to create a user account or be registered by an administrator user, as a teacher. To create a new account, you have to follow the next steps:

1. Go to the web page <http://imfuture.cetem.webfactional.com/>
2. Read all the information about each specialization.
3. Click on “sign up here for free” bottom inside the specialization you like.
4. Fill the “real name”, “email address”, “password” and “confirm password”. Accept Terms & Conditions of Use and check the CAPTCHA control.
5. After this process, click on ‘Create new account’.
6. After that, you will be redirected to the chosen specialization. At the beginning, you will be able to see the modules, subjects and units inside it, without seeing the content.
7. For this reason, you will click on the right of the screen on ‘Subscribe to group’.
8. The following message will appear on the screen. Are you sure you want to join the group X SPECIALIZATION? Click on ‘Join’.
9. You are ready to take the Master.

In case an administrator registers you as a user, an email from imfuture@cetemlearning.eu will be sent to your e-mail address to notify and certify your identity.

6.2.2 Training interface and navigation

Once students have selected between Production, Design, Research, Business or General Master; the interface will have the following appearance:



Once a student clicks on the specific specialization, a general description will appear explaining which aspects will be covered on this module and the different subjects or units inside it. These summaries are available in English, Spanish, Italian and Polish.

On the top bar there is a panel with many buttons related to all the tools available for this course (documents, tools, lessons, etc.).



On the left side of the screen, a global structure of the training is displayed with the list of online lessons. For each of them, the duration (or time spent for online lessons) and the score or status obtained are displayed.

MODULE 3: INNOVATION, PRODUCT & PROCESS IMPROVEMENT SYSTEMS		
LESSONS	SCORE	TOTAL TIME
Theory	0	-
Presentations	0	-
Final Questions	62	06:18:19

The main part of the screen contains the training contents (slides, videos, quizzes). Then it's possible to carry out the complete training by clicking on the "Next" or "Back" buttons. After a lesson is completed, a button "Finish" is displayed and it allows to go to the next lesson:



6.3 General structure

IM-FUTURE platform makes it possible to structure the teaching contents in training paths (classes), modules (courses), subjects and units.

Master is the whole content that we will develop.

Training paths, the different possibilities inside the Master – 60 ECTS. The training path is based on:

- Production specialization.
- Design specialization.
- Business specialization.
- Research specialization.
- No specialization.

Modules, are made to regularize the contents of the Master and make its structure and Training paths easier to be understood. IM-FUTURE training content consists of 10 modules. The first fourth are compulsories and the rest are optional and are up to students.

- 1) Production engineering – technology, process & maintenance.
- 2) Production – scheduling and planning.
- 3) Innovation, product & process improvement systems.
- 4) Fundamentals of enabling technology applications.
- 5) Operations, business & process management and Quality control.
- 6) Furniture design history and Design.
- 7) Materials and Furniture process.
- 8) Logistics, warehouse, distribution & supply chain management and Sales and Marketing.
- 9) Workplace, leadership & personal effectiveness competences and Industrial Property Rights and Entrepreneurship.
- 10) Information search and retrieval and Investigation methodology.

Depending on the chosen specialization:

***Production**, students must perform modules 1, 2, 3, 4, 5, 7 and 9.

***Design**, students must perform modules 1, 2, 3, 4, 6, 7 and 9.

***Business**, students must perform modules 1, 2, 3, 4, 5, 8 and 9.

***Research**, students must perform modules 1, 2, 3, 4, 10 and choose one from 5, 6, 7 or 8 depending on their investigation thematic.

***No specialization**, students must perform modules 1, 2, 3, 4 and select the modules that are more useful for their future integration into the workforce of the sector.

Subject is a branch of knowledge studied or taught. It will be referred to an important part of the contents of furniture sector. Inside a subject, the content will have a common structure. Each subject has a number of ECTS, depending the number of hours to acquire the required knowledge, skills and competences.

Units, inside each subject.

ECTS: European Credit Transfer and Accumulation System. It is a standard mean for comparing the volume of learning based on the outcomes and their associated workload. It is considered 25 hours per credit point (because we are considering an academic year of 1500 hours of total workload and 60 ECTS credit). Moreover, the ECTS is split in 40% of teaching content, 40% of student work and 20% of tutorship and exam, in conclusion, 10 hours of teaching content, 10 hours of student work and 5 hours of tutorship and exams.

European Master of 60 ECTS		D1	>	1500 hours
Student must do it in 2 different countries				
Divided on 2 semesters of 20 weeks	>	40 weeks	>	37,5 hours/week (including teaching, student work, exams, tutorships...)
Each semester: 30 ECTS	>	60 ECTS		
12 training paths				
6 specializations				

1st semester / Country A			The student must do the 3 fundaments modules (18 ECTS), choose 7 of the 9 specialization modules (21 ECTS), the Dissertation (9 ECTS) and the Practices (12 ECTS).
Fundaments block	>	18 ECTS	
4 specialization modules	>	12 ECTS	
Total	>	30 ECTS	
2nd semester / Country B			
3 Specialization modules	>	9 ECTS	
Practices	>	12 ECTS	
Dissertation	>	9 ECTS	
Total	>	30 ECTS	

6.4 Courses

The course is the base entity containing many tools and allowing to spread knowledge and to assess students' learning. Referring to IM-FUTURE training platform, courses refers to modules, which are made to regularize the contents of the Master and make its structure and Training paths easier to be understood. This Master consists of 10 modules:

- 1) Production engineering – technology, process & maintenance.

- 2) Production – scheduling and planning.
- 3) Innovation, product & process improvement systems.
- 4) Fundamentals of enabling technology applications.
- 5) Operations, business & process management and Quality control.
- 6) Furniture design history and Design.
- 7) Materials and Furniture process.
- 8) Logistics, warehouse, distribution & supply chain management and Sales and Marketing.
- 9) Workplace, leadership & personal effectiveness competences and Industrial Property Rights and Entrepreneurship.
- 10) Information search and retrieval and Investigation methodology.

Besides Practices and Dissertation.

6.4.1 Course tools

IM-FUTURE training platform offers many tools proposing different ways to facilitate the knowledge transmission. These tools will appear on home page of the course. This section will present the different tools in detail and the way to use them.

Tool “Lessons”

Lessons is an important tool that allows to manage both theoretical content and quizzed to assess the students' knowledge.

A lesson can be:

- purely theoretical: it means it will be composed of slides.
- purely quiz: only questions of different types

Lessons can be reached by clicking on the following button once you are inside a course:



The interface is as follows:

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MODULE 2 SCHEDULING AND PLANNING	
Type:	Theory
Questions:	1
Attempts allowed:	3
Available:	Always
Pass rate:	50%
Passed:	

[Start lesson](#)

[Read more](#)

For each lesson, the following action buttons are available:

- Start lesson: it allows to start the lesson.
- Read more: it allows to view the full details about the lesson.

“Documents” tool

The documents tool provides a kind of Document Management System inside courses. It makes possible to easily download documents. It can be accessed from a course by clicking on the following button:



When clicking on files, you can open the files, and, clicking on folder names will let you enter inside this folder. A button "Parent folder" allows to go back to the parent folder.

					← parent folder
NAME	LOADED BY	LAST MODIFIED	TYPE	OPERATIONS	
Archives			Folder		

