

# A Manual for Blended Mobility

## *Elaboration of Educational Programmes for Blended Mobility and Modules' Institutional Recognition*

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## Table of Contents

How to Use this Manual.....	iii
Section 1: Introduction to the EUCERMAT Project.....	1
Section 2: The Setting-Up and Recognition of International Common Modules in the Field of Ceramic and Material Science .....	3
Section 2.1: Choosing the Structure of Common Modules and Implementing Innovative Ways of Teaching .....	3
Section 2.1.1: Programme Structure .....	3
Section 2.1.2: Selection of Teaching Units .....	4
Section 2.1.3: Training for EUCERMAT Teachers.....	5
Section 2.1.4: Innovative Delivery of Teaching Units (Theoretical and Practical Components) .....	5
Section 2.1.5: Options for Internships.....	5
Section 2.1.6: EUCERMAT Certification .....	6
Section 2.2: Recognition of Common Modules .....	6
Section 3: The Creation and Adaptation of Common Modules for E-Learning Delivery.....	7
Section 3.1: Best Practice Guidelines for Online Delivery .....	7
Section 3.1.1: How to Plan the Events of Instruction for an Online Class.....	7
Section 3.1.2: How to Write Useful Course Objectives .....	9
Section 3.1.3: Learning Objects and Tools for Teaching Online.....	10
Section 3.1.4: How to Facilitate Online Learning .....	12
Section 3.1.5: How to Engage Online Learners .....	14
Section 3.1.6: How to Assess Online Learners .....	15
Section 3.2: A Case Study of the EUCERMAT Online Teaching Programme.....	16
Section 3.2.1: Recommended Teaching Unit Structure and Format .....	16
Section 3.2.2: Overview of the Moodle Interface .....	17
Section 3.2.3: Moodle Tools to Engage Students.....	19
References .....	20
Appendix 1: Template for the EUCERMAT Teaching Unit Outline .....	21
Appendix 2: Useful Resources for Teaching Online.....	22

## How to Use this Manual

This manual has been designed for teachers, researchers, and course administrators involved in developing online programmes. For that reason, it has been written in accessible language and avoids being overly prescriptive.

Section 1 introduces the EUCERMAT project, which is concerned with the promotion of the field of ceramic and material science and the development of educational programmes in that area.

Section 2 deals with the setting-up and recognition of international common modules in the field of ceramic and material science, but some of the guidelines will be useful to faculty members in *other* disciplines who are thinking of developing international modules.

Section 3 has been written for teachers in *any* discipline and describes how best to design and develop online materials. Some of the guidelines can be used in on-campus, blended, and fully online courses. Section 3 also provides some practical guidelines for EUCERMAT teachers, to ensure a consistent look-and-feel for their online courses, but the guidelines may of use to teachers in other disciplines also.

The appendices comprise links to useful resources for teaching and learning online.

## Section 1: Introduction to the EUCERMAT Project

The aim of the EUropean CERamic MATerials (EUCERMAT) project is to make a significant contribution to changing the general opinion about ceramic materials, across Europe.

EUCERMAT aims to do this, by:

- Implementing innovative ways of teaching ceramic science and technology in European universities.
- Linking research projects between universities and industry.
- Exploring innovative ways of communicating with the general public and high schools.

EUCERMAT is innovative as it links academia, research and industry in a knowledge triangle (see Figure 1). Students have access to new courses, not available in their own universities, and benefit from study abroad (practical labs). Students also undertake internships (tutored projects) at renowned international companies or academic institutions and benefit from a dedicated European industrial network, which brings academic partners and companies together at regional, national, and international level.



Figure 1: The EUCERMAT Knowledge Triangle

Partners come from industry, academia and other institutions and comprise:

- Five universities
- Two research institutes
- Four companies
- One Federation of National Ceramic Societies
- One high school

## Section 2: The Setting-Up and Recognition of International Common Modules in the Field of Ceramic and Material Science

Section 2.1 describes how the EUCERMAT programme was structured and how teaching units were selected and delivered. Section 2.1 also outlines the options for internships and the student criteria for receiving EUCERMAT certification. Section 2.2 outlines how the academic institutions validated and recognised the teaching units.

### Section 2.1: Choosing the Structure of Common Modules and Implementing Innovative Ways of Teaching

The EUCERMAT programme is innovative as it links blended/virtual mobility (online study) with physical mobility (on-site practical labs and company internships) with innovative topics that are directly linked to industrial needs (the knowledge triangle).

In the next section, we outline the programme structure.

#### Section 2.1.1: Programme Structure

The programme structure is particularly innovative, as each teaching unit comprises 50% theoretical and 50% practical content:

- 15 hours of online learning
- 15 hours of practical labs

followed by an exam based on the theory and the practical lab. The format of the programme was agreed at the first transnational meeting at the University of Limerick, in February 2016.

During the online learning component, students from several institutions interacted with an instructor at the host university, using the Moodle virtual learning environment (VLE) (see also Sections 3.2.2 and 3.2.3 for details on some useful teaching tools). Over a period of three weeks, students downloaded lecture slides and articles and engaged in online discussions. The online learning component was innovative, as it enabled students to take teaching units

that are not available at their own university, and to interact with teachers and students from other countries.

During the practical labs at the host university, students met the instructor and other students. Students benefitted from using equipment they might not normally have access to, and they undertook experiments that were closely related to research.

### Section 2.1.2: Selection of Teaching Units

During the first year of the project, each academic partner suggested one or more topics that they already offer, or could potentially offer, based on their skills and expertise. Industrial partners were also invited to offer suggestions. Partners discussed the various options at the first transnational meeting (Limerick, February 2016) and decided on the following teaching units, taking the following into account:

- Relevance and alignment to industrial need.
- Core competencies required for Masters' students.
- Specialist skills and expertise of each academic institution.
- The nature of pre-existing teaching materials.
- Prior experience delivering that teaching unit, or a similar unit.

The final, agreed teaching units were as follows:

- Monolithic Refractories Engineering (Krakow)
- Additive Manufacturing (Limoges)
- Materials for Energy (Aveiro)
- Ceramic Materials: Synthesis and Properties (Darmstadt)

### Section 2.1.3: Training for EUCERMAT Teachers

Staff training took place at Limerick, in February 2016, for teachers and staff to train in blended delivery best practice. Teachers then adapted their course materials, or created new materials, for delivery online. Additional training materials were made available online, for teachers to refer to, as they developed their online courses (see also sections 3.2.1 for details of the recommended teaching unit structure and other resources that were made available to EUCERMAT teachers).

### Section 2.1.4: Innovative Delivery of Teaching Units (Theoretical and Practical Components)

The theoretical components of the teaching units were delivered in two phases:

- In phase 1 (September to December 2016), two teaching units were delivered online, one after the other.
- In phase 2 (September to December 2017), four units were delivered online, in parallel with one another.

The academic institutions agreed that there should be a common week when the practical components (laboratory sessions) would take place, when all students would be free to attend—for that reason, the practical laboratory sessions ran in February 2017 and in February 2018. Students travelled to the relevant academic institutions to participate in these sessions.

Each student was required to undertake the theoretical and practical components of one teaching unit, in order to be considered a EUCERMAT student and receive credits for that unit.

Students were also permitted to undertake the theoretical component of *one additional teaching unit*, if they wished, but they did not receive ECTS credits for the additional unit.

### Section 2.1.5: Options for Internships

Students were given the option to undertake their internships in one of the companies in the EUCERMAT network or in one of the laboratories in the academic institutions.



### Section 2.1.6: EUCERMAT Certification

Students who successfully completed each of the following components, were awarded the EUCERMAT certificate:

- Integration week
- One or more e-learning teaching units (both the theoretical and practical components)
- Internship(s) in a company or laboratory

### Section 2.2: Recognition of Common Modules

Because the selected teaching units were different, and shorter, than the regular programmes at each institution, each institution had to ensure that the new teaching unit (both the theoretical and practical components) equated to 3 or 4 ECTS.

To make each teaching unit official and valid for inclusion in the EUCERMAT curriculum, each academic institution also had to investigate ways to recognise the teaching unit it is own institution and to consider how it could potentially be integrated into a new Master's curriculum.

Recognition requirements differed from institution to institution.

## Section 3: The Creation and Adaptation of Common Modules for E-Learning Delivery

Section 3.1 is intended for faculty members in *any discipline* who wish to move some, or all, of their courses online. Section 3.2 includes some practical guidelines for EUCERMAT teachers, to ensure consistency in the design and delivery of teaching units.

### Section 3.1: Best Practice Guidelines for Online Delivery

This section comprises some best practice guidelines for online delivery (e.g. how to plan the events of instruction for an online class and how to write useful course objectives) and outlines some useful resources and tools for teaching online. This section also outlines some strategies for facilitating online learning, engaging online learners, and assessing online learners.

#### Section 3.1.1: How to Plan the Events of Instruction for an Online Class

Instruction has been defined as ‘a set of events external to the learner designed to support the internal processes of learning’ (Gagné et al., 2004, p. 194).

Gagné et al. devised the **events of instruction** to help teachers plan instruction. These events can be used effectively in both face-to-face and online teaching environments. The events can also be adapted for any type of learning outcome but must also be arranged to suit the learners, depending on their skill levels, educational background, and so on. Some events may need to be emphasised more than others, depending on the learners’ characteristics.

The following list describes each of the events, with references to some practical techniques you can employ in your own online course:

1. **Gaining attention.** It is essential that you *gain learners’ attention*. In an online course, you could do this by presenting an appealing animation, a thought-provoking question, or a demonstration. You could ask the learners ‘Would you like to be able to do X?’ or ‘Have you ever wondered how X works?’ You must also *maintain learners’ attention* throughout the course, by providing them with regular activities.

2. **Informing the learner of the learning objective.** Learners need to be told *what they will learn* and how they will be asked to demonstrate they have learned that capability. Objectives should contain suitable action verbs and outline the conditions under which the learner will demonstrate achievement of those objectives (see also Section 3.1.2). In an online course, objectives typically begin with the statement ‘[At the end of this unit, you will be able to...](#)’
3. **Stimulating recall of prerequisite learned capabilities.** Learners need to be *reminded of what they already know*. You can stimulate recall by referring to relevant content presented in earlier lessons—ideally, you should provide a clickable link to the relevant content and/or offer a ‘glossary of useful terms’.
4. **Presenting the stimulus material.** The stimulus is the *content* that the learner needs to learn. In an online course, you can present the stimulus using text, images, video, audio, or a combination of approaches. Where text and images are the stimuli, good information design should be used (e.g. appropriate—but not excessive—use of bold and italicised type, chunking of related ideas into paragraphs, legible typefaces (fonts), and an appropriate hierarchy for headings).
5. **Providing learning guidance.** Online learners should be provided with guidance throughout the course. Guidance does not relate only to assessments; learners should be clearly told where to find resources, when they will be uploaded, what they must do with the resources, and so on. A teacher who presents materials consistently on the platform (e.g. Moodle), is more likely to have satisfied students than someone who presents materials in a disorganised way.
6. **Eliciting performance.** In addition to undertaking end-of-unit assessments (see also event 8), online learners should be asked to *engage in regular activities* throughout the online course. Activities can be relatively short, but they should be frequent throughout the course (ideally one or two activities per week). Online activities could include responding to a discussion topic, writing a reflective blog entry, identifying a useful learning resource, or competing a weekly lab report.
7. **Providing feedback about performance correctness.** You should provide *relevant feedback* to learners. Quiz feedback that says ‘[No, that is incorrect](#)’ is not sufficiently

helpful. Instead, you should say ‘No, that is incorrect. The correct answer is XXX because...’ Even if the learner correctly answers the question, you should remind him/her *why it is correct*, in case the learner guessed the answer, e.g. ‘Yes, that is correct because...’ (See also event #9).

8. **Assessing the performance.** The formal assessments typically take place mid-way and at the end of a unit. Assessments should be *aligned with the learning objectives* stated at the start of the course (see Section 3.1.2 for an explanation of alignment). Learners should never be asked to perform an activity or task that was not previously described in the learning objectives.
9. **Enhancing retention and transfer.** Quite often, teachers forget to tell learners how they will be able to use their new learning ‘in the real world’. Whenever possible, you should *integrate real-world examples* into the course content, so learners can see how the theory might be applied. The use of online case studies (e.g. on YouTube) can prove useful here.

### Section 3.1.2: How to Write Useful Course Objectives

Learning objectives are only useful when they communicate to the learner ‘what they should be able to do after instruction’ (Gagné et al., 2004, p. 134). There are many different types of objectives but the two most commonly used objectives are target objectives and performance objectives.

**Target objectives** (also known as terminal objectives) describe *what the learner will be able to do* when they have completed a course or programme e.g.

At the end of this course, you will be able to handle computer files suitable for additive manufacturing.

**Performance objectives** (also known as lesson/unit/module objectives) describe *exactly what the learner will be asked to do*, at the end of a course/module/unit/lesson. Performance objectives are more detailed than target objectives, as they describe the specific action the learner will have to perform, how the learner will do it, using which tools/ resources, and under which conditions and constraints (see the example below).

Ideally, the objectives should be aligned with the assessments (Gagné et al., 2004), which means the assessments at the end of each module/unit/lesson should match the objectives. For example, if you say in the objective that the learner ‘will be able to do X by applying Y to Z’, then the learner should be *asked to do X, by applying Y to Z*, in the assessments.

You should think carefully about the action verbs you use in your performance objectives. For example, if your objective reads

*At the end of this lesson, you will understand corundum castable composition*

how will you prove that the learner understands it? A useful objective uses an appropriate action verb—one that can *actually* be observed or measured. If you want to verify that the learner understands corundum castable composition, you need to ask them to do something *else*, to prove that he/she understands it. So, you might say:

*At the end of this lesson, you will demonstrate understanding of corundum castable composition by designing a corundum castable composition using EMMA software.*

As regards alignment of objectives and assessments, you need to think carefully about how you will assess online learners. In a face-to-face environment, you might ask a learner a question and he/she might reply verbally; however, in an online environment, the learner might have to read a discussion forum posting and reply to that message. Alternatively, you might want the learner to record his/her answer and upload an audio file with his/her response. So, the action verbs you use in your performance objectives will need to reflect what you will actually ask the learner to do, in your online course assessments.

### Section 3.1.3: Learning Objects and Tools for Teaching Online

There are many online resources that can help you in your online teaching. Learning object repositories and MOOCs are two examples.

**Learning object repositories** are online databases of resources that other teachers have chosen to make available to the public, free of charge. In some cases, teachers can adapt other teachers’ resources and use them in their own teaching; in other cases, the resources may have to remain intact. Either way, you must credit the original source when using a resource from a learning object repository. Fortunately, most repositories provide the

necessary information, so you will be told what you can do with the resource, and how you must credit it.

Some well-known repositories include:

- OER Commons: <https://www.oercommons.org/>
- MERLOT: <https://www.merlot.org/merlot/index.htm>
- MIT OpenCourseware: <https://ocw.mit.edu/index.htm>

In addition to learning about a topic that interests you personally, you can browse through learning object repositories to see *how other teachers teach your subject* and download resources that will prove useful in your own teaching.

**Massive Open Online Courses (or MOOCs)** are free online courses that typically span six to eight weeks (although they can be shorter or longer). MOOCs are offered by many well-known universities and cover diverse topics.

To see what kinds of MOOCs are available, take a look at one or more of the following platforms and browse for your subject/ discipline:

- Coursera: <https://www.coursera.org/>
- FutureLearn: <https://www.futurelearn.com/>
- Khan Academy: <https://www.khanacademy.org/>
- Udacity: <https://www.udacity.com/>

To sign-up to a MOOC, you only need to supply your email address. You will usually receive a reminder email about the MOOC closer to the start date. You are not obliged to complete the MOOC and you can access whichever resources appeal to you; however, if you *do* complete all the activities in the MOOC, you might be eligible for a Certificate of Participation or a Certificate of Completion. These details will be stated clearly on the MOOC home page.

Like learning object repositories, MOOCs can give you ideas of how other teachers teach *your* subject. MOOCs can also help you experience what it is like to be an online learner.

You can find more links about learning object repositories and MOOCs on: <https://www.staff.ul.ie/slatteryd/resources.html#repositories>.

### Section 3.1.4: How to Facilitate Online Learning

Many teachers are concerned about online teaching, especially as they will probably never meet their learners face-to-face (or only rarely). Online learners typically have other professional and personal commitments, so being an online learner can be extra challenging for them. It is important to familiarise yourself with strategies and models for teaching effectively online. One such model is Gilly Salmon’s (2011) five-stage model of teaching and learning online (see Figure 2).

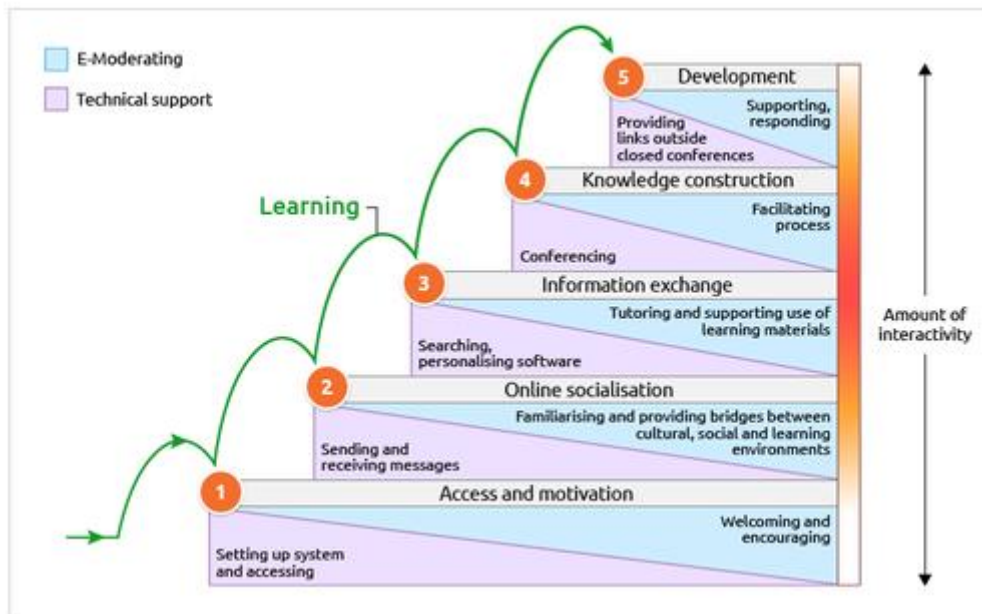


Figure 2: Gilly Salmon’s Five Stage Model (<http://www.gillysalmon.com/five-stage-model.html>)

For each of the five stages, online students need appropriate e-moderating and technical support. In some institutions, there is a dedicated educational technologist who can help learners with technical issues (you should check if there is an educational technologist at your institution) but in other institutions, the teacher may have to be the e-moderator and provide technical support, particularly in the early stages.

In the early stages of the model, there is not much interaction between students, as students are mainly focused on logging in and doing what the teacher asks; however, in later stages, students should be interacting with one another online and should rely on the teacher less. However, there is always a need for a teacher to monitor students' online activities to make sure they are using appropriate netiquette (online etiquette) and that they are undertaking the tasks correctly. If discussion forums are used, teachers will also need to 'weave' the discussions to help students engage in deeper discussions (Salmon, 2011).

The five stages of the model are as follows:

- **Stage 1: Access and motivation.** This first phase is when students attempt to login to the VLE platform. This phase can be a challenge for learners who are new to online learning and they may need to be encouraged to login. During this phase, e-moderators (teachers) may need to provide some technical support and explain to learners *why* they need to engage with the online platform.
- **Stage 2: Online socialisation.** This phase requires students to engage with the e-moderator and 'socialise' with one another. Ice-breaker e-tivities (we will discuss e-tivities later), such as asking students to post short biographies of themselves or to upload some photos from their favourite holiday destination, can motivate learners to contribute something to the VLE. Ideally, e-moderators should design these activities in such a way that they require students to *engage with one another* e.g. to comment on a posting made by another student (Salmon, 2013). Even though these activities might not be very relevant to the course material, they are very useful as they require students to login to the right forum in the VLE and to complete a task set by the teacher. Once students know how to do these simple tasks, they will be able to engage in the other course activities.
- **Stage 3: Information exchange.** In this phase, students are asked to exchange content related to the course itself. Students might be asked to discuss a topic or to find and summarise some articles that are related to a topic. While students usually become excited at this phase of learning and start to see the benefits of online collaboration (Salmon, 2011), e-moderators need to make sure that students do not become overloaded with information. When some students become overloaded, they stop engaging and/or become distressed at the volume of content. E-moderators may need to



clarify and summarise forum postings on a regular basis, to help students digest the content (Salmon, 2011).

- **Stage 4: Knowledge construction.** During this phase, deep learning can occur. Students should be challenged to solve problems by engaging in discussion with their peers. The e-moderator should also provide students with the resources they need to solve those problems (e.g. relevant articles, case studies, and tools). The e-moderator might also need to help students *construct* understanding.
- **Stage 5: Development.** In this final stage, learners start to critically review their learning and they become more active, independent learners.

### Section 3.1.5: How to Engage Online Learners

In a face-to-face environment, teachers usually engage their learners using a verbal lecture, presentation slides, and discussions. In an online environment, teachers and students usually rely on text to communicate, but multimedia can also prove useful. In addition to recording podcasts of lectures, teachers can upload video clips, PDF articles, and other learning objects (e.g. animations explaining complex processes).

For online learners to remain engaged, the teacher needs to think carefully about how the materials are presented and where they are presented. Presentation slides, readings, and any other communications should be written clearly and presented consistently. Simple strategies like inserting page numbering, using heading styles in Word documents, and making appropriate use of tables and figures, can help keep the learner engaged, especially if lengthy documents are being used. Learners will not read lengthy documents if they are poorly presented.

If learners have to spend time searching for materials, they might not find some of them and they might become frustrated with the online course. Ideally, materials should have appropriate, informative filenames, e.g.

ENG1234 Week 1 Lecture – 13 June 2018.ppt

and they should be stored in weekly folders (see also Section 3.2.2: Overview of the Moodle interface).

To keep learners engaged, teachers should ask them to perform one or more activities each week. Activities can be relatively short but they should still be aligned with the objectives of the module (see Section 3.1.2). For example, activities might require learners to express an opinion in a discussion forum, take a photo of a relevant item and upload it to the forum, or undertake a lab experiment and upload a summary report. Ideally, teachers should allocate some marks to the activity, as this motivates learners.

Gilly Salmon's e-tivities provide a useful structure for presenting online activities to learners. E-tivities are presented and accessed in discussion forums but e-tivities can be used for more than just discussions. E-tivities can ask learners to form groups and propose a topic for a group project, draft a collaborative document, design an interface, or evaluate an industry case study.

A selection of online activities for various disciplines can be found on: <https://www.staff.ul.ie/slatteryd/exampleetivities.html>.

### Section 3.1.6: How to Assess Online Learners

Traditionally, we use summative assessment in face-to-face teaching. Summative assessment typically assesses learners' knowledge of the subject as a whole. Formative (ongoing) assessment gives learners multiple opportunities to improve, based on teacher feedback, and enables teachers to assess more of the course content, in different ways.

Traditional assessment methods, such as end-of-semester examinations, are not always suitable for online learners, who might not be able to travel to test centres. While videoconferencing software can be used to assess distance learners in exam-type situations, *ongoing assessments* and *timely, relevant feedback* result in better learning outcomes.

There are numerous online assessment methods but some of the more commonly-used ones include:

- **Essays** (frequently used in humanities- and business- type courses),
- **E-portfolios** (students present samples of their best coursework in a web-based portfolio),

- **Reflective learning blogs** (students keep a diary of what they have learned and how they feel they are progressing in the course),
- **Online discussions** (students discuss/ debate key topics in an online forum),
- **Collaborative writing** (students use collaborative authoring software, such as Google Docs, to write reports).

New online teachers are often concerned about how they might grade these alternative online assessments; fortunately, there are several useful grading rubrics online. See <https://www.staff.ul.ie/slatteryd/gradingrubrics.html#grading> for some examples.

### Section 3.2: A Case Study of the EUCERMAT Online Teaching Programme

This section presents the EUCERMAT programme as a case study, providing overviews of the recommended structure for each teaching unit, the virtual learning environment interface that all teachers are required to use (Moodle), and some Moodle tools that EUCERMAT teachers can use to engage their students.

#### Section 3.2.1: Recommended Teaching Unit Structure and Format

In Appendix 1, you will find a template for EUCERMAT teaching unit outlines. To ensure consistency, each teacher should provide similar information to students, as this will help students ensure they understand the requirements for the teaching unit. The teaching unit outline should provide details about the teaching unit title, unit code, number of credits, duration, structure, reading lists, assessment details, grading scheme, and grading policies. The outline should also contain the contact details (name and email address) for the teacher. In the first week of the teaching unit, each teacher should upload the completed teaching unit outline to Moodle.

In the first week, teachers should also upload a short video presentation (3 minutes max.) introducing him-/her-self briefly (name and background) and outlining the main topics in the unit. Teachers might also wish to use summary video presentations each week, to introduce

each new topic, although this is not essential. The Universidade de Aveiro can provide advice to EUCERMAT teachers who need technical assistance creating videos.

Each week, the teacher should upload the learning content (e.g. PowerPoint slides, podcasts, articles and links to online videos). Students should be required to spend approximately *four hours per week on learning content* PLUS approximately *five hours on private study and engagement* with online activities.

There should also be one or two activities each week, to keep students engaged—activities can include exercises/ problems/ assignments to solve, reports, calculations, discussions, quizzes, and e-portfolios. Students must receive marks for these activities (each activity should be worth approximately 10%). It is *essential* that students do more than just download resources; they must be required to engage with the teacher and with one another, for the online experience to be really beneficial.

It is recommended that teachers offer one hour of live online chat each week (preferably on Tuesdays or Wednesdays), to facilitate students who wish to contact teachers 'live'.

### Section 3.2.2: Overview of the Moodle Interface

Moodle is a virtual learning environment (VLE) or learning management system (LMS), which can be used to support teaching and learning. Every EUCERMAT teacher uses Moodle to teach, with technical support provided by the Université de Limoges.

On <https://learning-eucermat.unilim.fr>, we have developed a sample teaching unit site for all EUCERMAT teachers, which provides you with a practice area where you can familiarise yourself with the interface. Students do not have access to this site.

On the sample teaching unit site, you should feel free to send discussion forum messages and upload sample files. This site also comprises some guidelines to help you become familiar with the interface, as well as links to documents that will help you customise your teaching unit so it looks similar to other EUCERMAT teaching units.

In addition to the sample teaching unit, you will *also* have a separate site on Moodle for your own teaching unit, which is where you will interact with your students when the official course commences.

Moodle helps you structure your course using sections or topics. When you access your own Moodle site, you may see some sample topics. You can change the topic titles and/ or additional topics, if you wish.

**To change the topic title** (e.g. from 'Topic 1' to 'Week 1: Introduction to X), you should first click on '[Turn editing on](#)' (see Step 1 in Figure 3) and then click on the [small pen icon](#) to the right of the title (see Step 2). Press '[Enter](#)' to confirm the change (otherwise it will return to the original title).

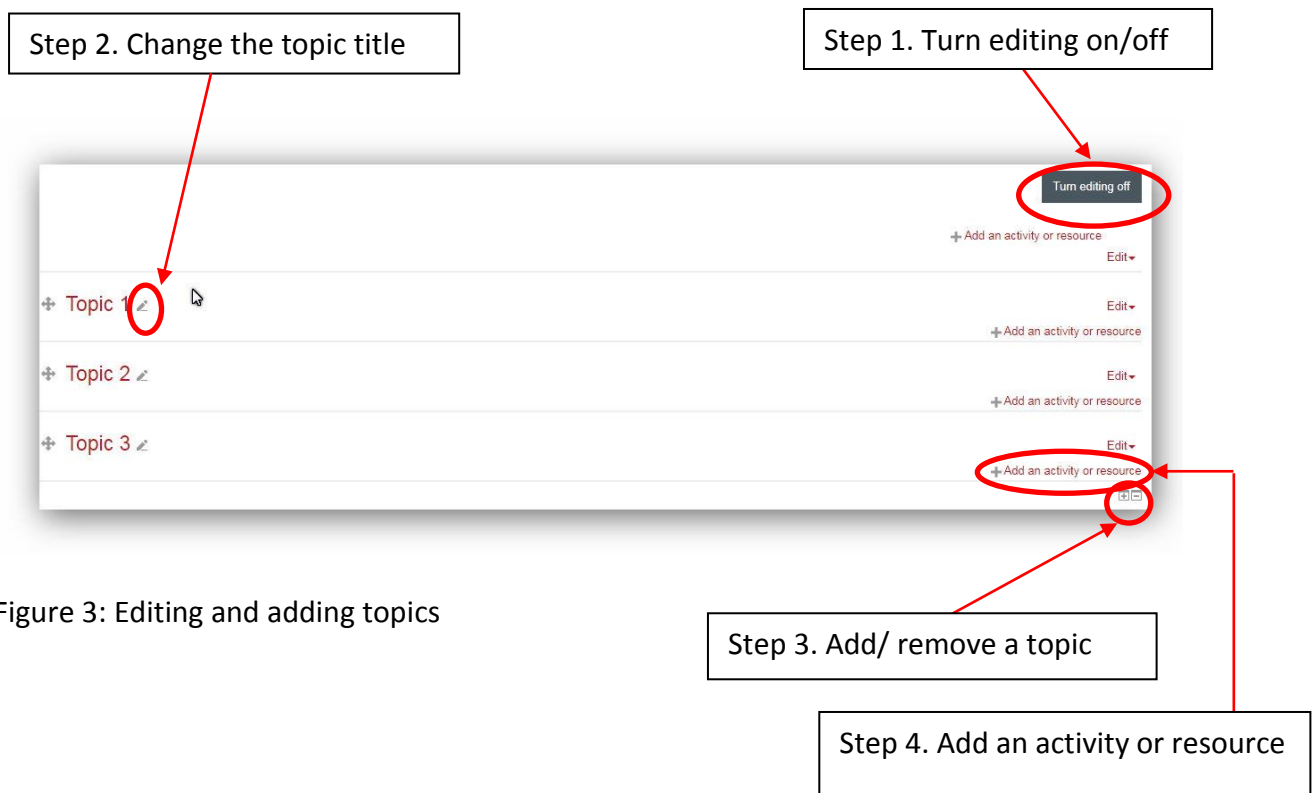


Figure 3: Editing and adding topics

**To add a new topic**, click on the small + icon under the existing topics (see Step 3).

**To upload a file** to a topic (e.g. PowerPoint slides or a PDF article), click on the '[Add an activity or resource](#)' link at the bottom right corner of that topic (see Step 4). Then, scroll down to the '[RESOURCES](#)' heading, click on '[File](#)' and browse for the file on your computer.

**To incorporate a chat room, discussion forum, or video-conference/ webinar activity** into a particular topic, click on the '[Add an activity or resource](#)' link at the bottom right corner of that topic (see step 4). Then, under the '[ACTIVITIES](#)' heading, select the tool you wish to use

e.g. [BigBlueButton](#), [Chat](#), or [Forum](#). You can read more about the different types of tools that can be used to engage students in Section 3.2.3.

### Section 3.2.3: Moodle Tools to Engage Students

The following Moodle tools will be available in your teaching unit site:

- **Announcements:** The announcement tool is useful for reminding students of deadlines.
- **BigBlueButton (BBB):** BBB can be used to deliver live lectures, webinars, and videoconferences. You are not required to deliver live lectures but you might want to use BBB to record lectures in your office and make them available to students later.
- **Discussion forum:** The discussion forum is typically used for *asynchronous* communication (i.e. when students are not expected to engage in real time). The discussion forum is very useful for students who are not always online at the same time, as they can log-in and respond when they have time. They can also see all the messages that were posted previously. To ensure that students do not expect immediate responses from you in the discussion forum, we recommend that you tell students you will respond to forum queries within 48 hours (Monday-Friday only).
- **Chat room:** The chat room can be used for *synchronous* (live) communication. We suggest you offer one live chat session per week, on Tuesdays or Wednesdays preferably, to facilitate students who have questions and would like to receive immediate responses.
- **Resources area:** You should use this area to upload your course content (e.g. PowerPoint slides, articles, links to online videos, etc.)
- **Podcasts:** If you wish, you can create audio versions of your lectures for students.
- **Assignments:** Students can submit their assignments directly to Moodle and you can return feedback on Moodle also.
- **Quizzes:** Convert your classroom-based quizzes to online quizzes.
- **Atom equation editor:** This tool is useful for maths equations.
- **Compilato:** Compilato is a plagiarism detection tool.

## References

Gagné, R. M., Wager, W. W., Golas, K. C., and Keller, J. M. (2005) *Principles of Instructional Design*. 5th edition. Belmont, CA: Wadsworth.

Salmon, G. (2011) *E-moderating: The Key to Teaching and Learning Online*. 3<sup>rd</sup> edition. New York: Routledge.

Salmon, G. (2013) *E-tivities: The Key to Active Online Learning*. 2<sup>nd</sup> edition. London and New York: Routledge.

## Appendix 1: Template for the EUCERMAT Teaching Unit Outline

**Unit title:**

**Unit code:**

**Teacher:**

**Credits:** 3 ECTS

**Duration:** XX/XX/2017 – XX/XX/2017 (three weeks)

**Learning outcomes:**

By the end of this teaching unit, the student should be able to:

- ...
- ...
- ...

**Structure:**

**Reading lists:**

**Assessment details:**

**Grading scheme:**

**Grading policies:**



## Appendix 2: Useful Resources for Teaching Online

This appendix includes links to some resources that have been developed by the author and also other resources that she finds useful in her day-to-day online teaching.

### Technology-Enhanced Learning Tools and Teaching Resources

On <https://www.staff.ul.ie/slatteryd/resources.html>, you will find a large collection of **links to online tools** that can be used to enhance both face-to-face and online teaching. In addition, the page includes links to **grading rubrics** for online assessments (<https://www.staff.ul.ie/slatteryd/gradingrubrics.html#grading>), **sample online activities** (activities) for various disciplines (<http://www.staff.ul.ie/slatteryd/exampleactivities.html>), and various **how-to guides**.

### Tools and Technologies for Teaching and Learning Online

This interactive presentation will help you **decide which kinds of tools will be most useful** in your teaching. Rather than focus on specific tools, the presentation first asks you what are you trying to do with your students (i.e. what are the learning outcomes you wish to achieve) and then suggests some tools that might help. There are links to sample tools and other useful resources, within the presentation. The presentation is available here: [https://www.staff.ul.ie/slatteryd/t1step/story\\_html5.html](https://www.staff.ul.ie/slatteryd/t1step/story_html5.html).

### Teaching Approaches Menu

Sheffield Hallam University have developed an excellent '**menu for selecting tools**', based on different approaches to teaching and learning. The menu outlines the benefits of using the different approaches and includes links to relevant case studies. The menu is available here: [http://blogs.shu.ac.uk/shutel/files/2014/10/TeachingApproachesMenu\\_full\\_version07external.pdf](http://blogs.shu.ac.uk/shutel/files/2014/10/TeachingApproachesMenu_full_version07external.pdf).

### Introduction to MOOCs, Flipped Classrooms, & Digital Badges

This short YouTube presentation presents a **brief overview of MOOCs, flipped classrooms, and digital badges**: [https://www.youtube.com/watch?v=emLCJS\\_ZedA&t=350s](https://www.youtube.com/watch?v=emLCJS_ZedA&t=350s).

### Introduction to Twitter (for students and teachers)

This short YouTube presentation presents a **brief overview of Twitter** for teaching and learning: <https://www.youtube.com/watch?v=6ei544FEuJw&t=2s>.

### YouTube video about Open Education Resources (OERs)

Swinburne University Technology developed a useful **introduction to OERs** and demonstrate the features of different learning object repositories. The presentation is available on: <https://www.youtube.com/watch?v=1sScAagbEXo>.