

Erasmus+/ KA2

(Strategic Partnerships for  
Higher Education)

DELTA: Digital Excavation through  
Learning and Training in Archaeology

2019-1-EL01-KA203-062875

<http://www.project-delta.eu/>



## **IO2 DIGITAL EXCAVATION TRAINING PLATFORM**

### **A1. Design and development of online platform and tools Hellenic Open University**



Co-funded by the  
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Intellectual Output:	IO2 Digital excavation training Platform
Type:	A1 Design and development of online platform and tools
Version:	Final
Keywords:	online, platform, tools, course
Abstract:	<p>The Hellenic Open University brings its experience with the know-how of the open access platform and the e-learning technologies for education and training. The online platform will be used for uploading all the training material of the 4 modules already designed in Intellectual Output 1.</p> <p>This document provides information on the – in progress – activity of the setting up of the DELTA platform. Up to now, HOU has designed and developed the structure of the e-learning platform and functionalities for the online part of the course.</p>
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## Abstract

In order to achieve Intellectual Output 2. A1: Design and development of online platform and tools, the Hellenic Open University has the know-how of the open access platform to apply the e-learning technologies for education and training. The DELTA online platform will be used for uploading all the training material of the modules already designed and developed in IO1. The platform will provide the means to:

- Access to a repository of online digital training material
- Present opinion and foster discussions and collaborations using forums
- Develop collaboratively training content and practical assignments/project to learners
- Index all types of content using tags
- Create discussion by establishing communities of practice among students and professors

The Hellenic Open University has specified the online learning platform requirements, which will be used for the platform selection. These criteria will be used for the online learning platform selection and will feed into the online platform design document.

This online platform design document includes the particular functionalities of the platform that will support the incorporated learning design, as well as its collaboration and social media integration capabilities. It also specifies the terms of engagement of the user, the roles, and the rules of uploading and sharing (learning) content, and technical guidelines that will be used by the technology developers in a Moodle type platform.

This document presents the initial form of the DELTA course's e-learning environment.



## 1. About Moodle LMS

Moodle LMS is an open source, online Learning Management System which gives an option to the user to create their own private website filled with dynamic courses that extend learning, anytime, anywhere. Moodle's extremely customizable core comes with many standard features:

1. **Customization:** If you have internal staff who is willing to invest in Moodle development, or you are willing to pay for a high-end Moodle Partner package, Moodle is very customizable. Moodle also has many LTI integrations with other products and services.
2. **Mobile:** Moodle Mobile is the official app for Moodle and works on Android & Apple products. The Moodle web interface can also be customized to have responsive web design using HTML 5.
3. **Assessments:** In this features of Moodle all – assessments can be very rich, automated, and customized. Moodle's instructor quiz interface is a little solid & heavy and can take some time for instructors to learn.
4. **Content repository:** Moodle's repositories allow users to upload files to a course from a variety of outside file repositories, including Dropbox, Flickr, Google Drive, and traditional computer upload. Instructors can also search for files from any of their courses hosted on the same Moodle server.
5. **Accessibility:** Moodle's goal is to be fully accessible and usable for all users regardless of ability. That being said, some modules are fully accessible and some are not accessible. Instructors are individually responsible for ensuring that their content is accessible, such as PDFs and other documents.
6. **Analytics:** Moodle has a wide variety of reports and logs that allow instructors to track student progress and successes. These are generated at the course level, and instructors will need the training to use them well.
7. **Tool variety:** Moodle has a wide variety of tools available that can be turned on or off at the system level, such as gamification and publisher integration.
8. **Course management (faculty):** Depending on your site level options, instructors can highly customize their course setup and management. Instructors can use Moodle as a simple file repository.

Here are the various features that Moodle provides:



## Site management

- Site is managed by an administrator user
- Plug-in "themes" allow the administrator to customize the site colors, fonts, layout etc to suit local needs
- Plug-in activity modules can be added to existing Moodle installations
- Plug-in language packs allow full localization to any language. These can be edited using a built-in web-based editor. Currently there are language packs for over 70 languages.
- There is no limit on the number of users that Moodle can handle. The only limit is the server requirements. Up to now the DAISSy MOOC platform has managed to support a MOOC with over 5000 registered users (the example of Mu.SA MOOC platform).

## User Management

- Supports a range of user authentication mechanisms through plug-in authentication modules, allowing easy integration with existing systems.
- Standard email method: students accounts are created by the administrator can create. Email addresses are verified by confirmation.
- Students are encouraged to build an online Edit profile including photos, description.  
Email addresses can be protected from display if required.
- Every user can specify their own time zone, and every date in Moodle is translated to that time zone (e.g. posting dates, assignment due dates etc.)
- Every user can choose the language used for the Moodle interface (English, French, German, Spanish, Portuguese etc.).

## Enrollment

- After a user has been authenticated by the site, s/he can enter in the enrolled in courses.
- Tutors, with permissions, can manually enroll students or unroll in their courses.
- Course completion is a course prerequisite feature of Moodle 2.0 that allows scaffolding of courses.
- Course and site settings have options for automatic removal of users
- Flat file or CSV files can automatically authenticate and enroll students in specific courses.



- Each person needs only one account for the Moodle site. Each account can have access to different courses, and the courses resources and activities.
- Meta courses get their enrollment information from 1 or more other courses.

### Roles

- Roles combine specific permissions for specific types of participants. A user can be assigned a different role for each contexts, such as a specific course.
- The administrator (admin) user account controls the creation of courses and creates tutors by assigning users to courses and giving them a role in that context
- New roles can be created, copied from existing roles and edited.

Some standard roles include:

- ✓ **Course creator** can create courses, teach in them, and assign others to teacher roles.
- ✓ **Teachers** are a role in a specific course.
- ✓ **Non-editing teacher** roles are available for adjuncts, and part-time tutors.
- ✓ **Students** can participate and view activities but not create them.
- ✓ Guests are view only users.



## 2. DELTA Course

The digital content already designed in IO1 will be integrated by HOU in the eLearning tool of the platform. In specific, the platform will include a subset of the courses already developed, specifically designed and supported to be undertaken through e- learning.

When logging – in, it will be evident the description of the Course and the criteria for successfully completing the Course (image 1). Apart from the students of the Universities coming from the project countries, the DELTA course will be open to other students of Archaeology and early professionals who want to up-skill their profile, by participating in the 4 MODULES of the DELTA platform:

Module 1. Digital Tools for Archaeological Practice/Excavation;

Module 2. Documentation in situ and after excavation;

Module 3. Digital Preservation of cultural heritage monuments and artifacts;

Module 4. Open-Air Museums and Experimental Archaeology.

The into page informs learners Who is this course for in case of blended and only digital course, What will s/he achieve, the Structure of the course, How to earn the Certificate of DELTA course, how many ECTS credits, the Authors/ partners of this course.

The above information is analytically presented in the website of the MOOC: <https://mooc.cti.gr/delta.html>.



# DELTA

Digital Excavation through  
Learning and Training in Archaeology  
“Digital Excavation” course (MOOC)  
DELTA

 [Go to course →](#)

## Introduction to the course:

The DELTA course “**Digital Excavation**” is a blended course, delivered via the online platform, as well as with face to face and on-site learning.

The online part of the course will be delivered through the MOOC platform. The **Online** course is open to all, while the **Blended** course is only for the students of archaeology studying in the Universities/ partners of DELTA consortium.

After the course, selected students from each partner University with their Professor/educator will be given the opportunity to be trained and work together in multinational groups in a **joint excavation** (Intensive Study Programme-ISP), in the historical site of Marathon, Greece, so as to benefit from knowledge and skills exchange.

The DELTA course is structured in 4 main Modules:

- M1. Digital Tools for Archaeological Practice/Excavation;
- M2. Documentation in situ and after excavation;
- M3. Digital Preservation of cultural heritage monuments and artifacts (3D representation and reconstruction);
- M4. Open-Air Museums and Experimental Archaeology (presentation and interpretation of research results and knowledge to wide public).

The course “Digital Excavation” offers an advanced training for the students of Archaeology as well as Archaeologists and Professionals in Culture Heritage in order to acquire essential knowledge, digital competences and 21st century skills. In this regard, the learners shall develop knowledge and skills in the following areas:

- ✓ Knowing and applying digital strategies and tools for archaeological work and excavation;
- ✓ Planning a fieldwork using available online data sources;
- ✓ Learning about digital documentation;
- ✓ Adopting databases and GIS for the analysis and interpretation of archaeological data;
- ✓ Enabling themselves in visualizing digital data;
- ✓ Knowing about the virtual technologies applied in the preservation of sites and monuments;
- ✓ Being familiar with policies and best practices in the context of Cultural Heritage and Public Archaeology;
- ✓ Community building, participating and interacting with peers in an online environment.

## Who is this course for?

The **DELTA Blended course** addresses:

- ✓ the University students of Archaeology who follow undergraduate and postgraduate studies in one of the project countries:
  - the Department of History and Archaeology of the National and Kapodistrian University of Athens (**Greece**),
  - the Department of European and Mediterranean Cultures: Architecture, Environment, Cultural Heritage (DICEM) of the University of Basilicata (**Italy**),
  - Department of Archaeology and Museology of the Masaryk University (**Czech Republic**).

The **DELTA Online course** addresses:

- ✓ Students of other Universities;
- ✓ Graduates who wish to advance their knowledge and be competent in the field of Digital Excavation.
- ✓ Active professionals of the relevant fields of Archaeology and Cultural Heritage Management.

## What will you achieve?

The course addresses the needs of students or graduates as well as professionals who want to know more and build up their **digital and soft skills as well as their transferable and digital competences** towards Digital Excavation, Digital Documentation, 3D modeling and VR techniques in preservation of archaeological sites, Public Archaeology.



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#### Structure of the course:

- ✓ Learners will need – approximately – 10 hours of learning per week, for each Unit of the 4 Modules in this course.
- ✓ The programme offers training on 4 modules.
- ✓ Digital training **material** will be **available online** and you will be able to join a **community of peers** by participating in open discussions and active interaction through a forum.
- ✓ Within the **DELTA fora**, learners and tutors will be able to discuss topics and relevant issues regarding Digital Excavation, Archaeology and digital technologies, Cultural Heritage, Open – air Museums, Public Archaeology.
- ✓ The course is provided **free of charge**.

Upon completion of the course and succeeding in at least the 80% of both learning material and of graded activities (quizzes and tests), learners will be able to achieve the **Certificate of Completion**. The **Online** Course includes self-assessment with quizzes and closed –end questions. The **Blended** Course includes quizzes and practical assignments.

**Open badges** will be awarded to learners after the successful completion of each Module

#### ECTS Credits

The DELTA **Online** course offers 4 ECTS, while the **Blended** Course offers 6 ECTS credits. The **Blended Course with the ISP** offers 8 ECTS.

#### Creators:

This course was developed by:



**Hellenic Open University,  
DAISy research group**  
Greece



HELLENIC REPUBLIC  
National and Kapodistrian  
University of Athens

**Department of History and  
Archaeology**  
**University of Athens**  
Greece



**Post-graduate School of  
Archaeology – DiCEM**  
**University of Basilicata**  
Italy

**MASARYK  
UNIVERSITY**

**Department of Archaeology  
and Museology**  
**Masaryk University**  
Czech Republic

in the framework of the European Erasmus Plus project  
"DELTA "



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**Proceed with the course →**

**Image 1. The intro page of DELTA platform**

After clicking on the 'Proceed with the course', the learner enters the DELTA course. In the main page of the DELTA course, in the General section there is the forum "Announcements" where the learner will be notified on the relevant notifications regarding the course.

In the forum "Introduce yourself", students will be able to introduce themselves so to give their presence in the course.

In the forum "Discussions on DELTA" students and tutors are able to discuss over topics and other issues related to Digital Excavation, Archaeology and digital tools, Digital Documentation, VR technologies



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as well as soft skills for the management, promotion and interpretation of the archaeological findings and sites.

The main page is structured the Introduction and the content in each of the four Modules (image 2).

On the left side of the platform, the learner may be able to visit anytime the social media of the DELTA project by clicking either the Facebook symbol or the Twitter and consequently be informed in news and activities. Through the Calendar, the learners is informed on special dates on the opening of the Module or of a specific quiz.





**Image 2. The main page of DELTA platform**

In the Introductory page (image 3), the learner is informed in the project DELTA as well as the purpose of the online platform. Through this page, the learner will be able to download the Platform guide. This User Guide aims to be a handy manual for all learners, providing a brief navigation through the DELTA online course environment and describing the steps that the learner needs to follow in order to successfully log into the course platform. Furthermore, the learner

will get familiar with the course structure, interactivity and basic functionalities of the platform.



**Image 3. Introductory page of DELTA platform**

By clicking Module 1, the learner is transferred in the structure of Module 1 (Image 4). Each Module has a **Description**, information regarding the **Knowledge domain**, the **Learning objectives** and then the division in 4 Units (Before excavation, Geodesy, Geographic Information Systems and 3D visualization techniques).



## Module 1

### Digital Tools for Archaeological Practice/Excavation

What you will learn:

This course addressed the needs of professionals in the field of archaeology that would like to exploit the potential of contemporary technologies in order to accomplish their current and future work duties concerning field work. In this regard, trainees will be able to:

- plan a fieldwork using available digital tools and online data sources;
- operate measuring devices, acquire and produce digital spatial data;
- transfer digital data between measuring device and computer;
- manage, analyse and visualise measured data digitally.



#### Knowledge domain



- non-destructive and remote sensing techniques used to specify the site for excavation;
- basic geodesy principles;
- geographic information systems; image based modeling.

#### Knowledge domain



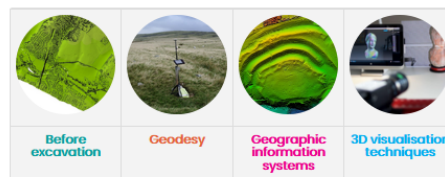
- non-destructive and remote sensing techniques used to specify the site for excavation;
- basic geodesy principles;
- geographic information systems; image based modeling.

#### Learning objectives



Upon completion of the course, the learner will be able to:

- use available online resources for remote sensing techniques;
- interpret results of non-destructive methods;
- combine digital data for deciding the places for excavation;
- apply the optimal strategy for different measurement scenarios;
- operate various measuring devices;
- exchange data between measuring devices and computer;
- manage spatial data using geographic information system;
- create digital drawings;
- produce digital maps;
- operate 3D scanners in the field;
- apply the optimal strategy for documenting field situations through photogrammetry;
- process data produced by 3D visualisation techniques;
- produce digital outputs made by 3D visualisation techniques.



[Module 1 Discussion Forum](#)

**Image 4. Structure of Module 1**

By clicking Unit 1, the learner is transferred in the structure of Module's 1 Unit 1 (Image 5). Each Unit has information regarding **"The unit covers the following topics:"**, **Educational Strategy**, **Learning Outcomes of the specific Unit**, **Key words** and the **Unit's Forum**.



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**Image 5. Structure of Unit 1 in Module 1**

The Unit 1 ends with the information on the Learning material. After ending the study in Unit 1, the learner will be able to assess his/ her knowledge on the Unit, through self-assessment questions like multiple choice questions or True/ false questions.


When clicking on the second Unit entitled "Geodesy", the learner is transferred in the Unit's 2 page (Image 6).



**Image 6. Structure of Unit 2 in Module 1**



When clicking on the third Unit entitled "Geographic information systems", the learner is transferred in the Unit's 3 page (Image 7).



The screenshot shows the DELTA COURSE "DIGITAL EXCAVATION" interface. At the top, there's a header with the DELTA logo and the course title. Below this, the main heading is "Geographic information systems". A "Return to: Module 1" button is visible in the top right corner. The central part of the page features a large, colorful 3D topographic map of a landscape with a prominent circular feature. Below the map, the text "The unit covers the following topics:" is followed by a bulleted list of topics. Further down, the "Educational Strategy" section lists various activities like studying learning material, watching presentations and videos. The "Learning Outcomes" section states that upon completion, learners will be able to perform specific tasks related to GIS. A "Key words" section lists terms like GIS, data management, vector data, etc. At the bottom, there are links to a "Geographic information systems Discussion Forum" and a link to run the unit's learning material, which includes an assessment.

**DELTA COURSE "DIGITAL EXCAVATION"**

**Geographic information systems** [Return to: Module 1](#)

The unit covers the following topics:

- what is GIS
- data types and overview of software
- managing spatial data
- analysing data
- creating digital drawings
- production of digital outputs

**Educational Strategy**

- Study of learning material (a handbook);
- Watching an introductory presentation to GIS (what is GIS);
- watching one presentation to data types and available software;
- watching a video on how to manage spatial data;
- watching a video on how to analyse spatial data;
- watching a video on how to create digital drawings;
- watching a video on how to produce digital outputs.

**Learning Outcomes**

Upon completion of this course, the learners will be able to:

- state basic principles of GIS;
- define basic data types;
- manage spatial data using geographic information system;
- analyse vector and raster data
- create digital drawings;

**Key words**

GIS, data management, vector data, raster data, data analysis, digital drawing, map production.

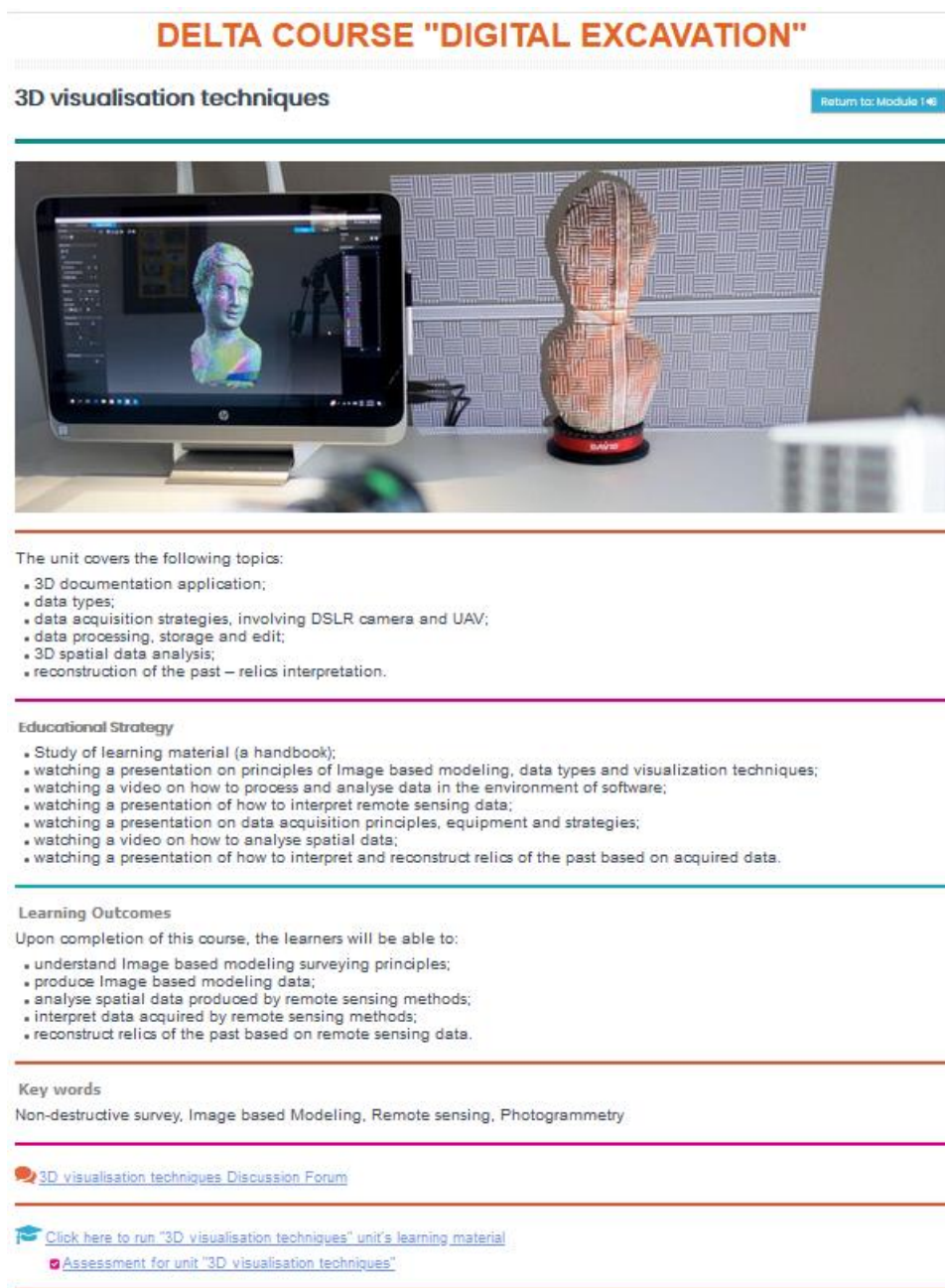
[Geographic information systems Discussion Forum](#)

[Click here to run "Geographic information systems" unit's learning material](#)

[Assessment for unit "Geographic information systems"](#)

**Image 7. Structure of Unit 3 in Module 1**

When clicking on the fourth Unit entitled "3D visualization techniques", the learner is transferred in the Unit's 4 page (Image 8).




**Image 8. Structure of Unit 4 in Module 1**

### 3. DELTA Course 2022

After the great demand of other students and professionals in Archaeology, the DELTA consortium decided to re-open the platform, providing the online only part of the DELTA course "Digital Excavation". The link to homepage of the course, before proceeding with the registration is: <https://mooc.cti.gr/delta.html>

<https://mooc.cti.gr/delta.html>



**DELTA**  
Digital Excavation through  
Learning and Training in Archaeology  
"Digital Excavation" course (MOOC)

**DELTA**

Go to course →

Users with access to the previous DELTA course enter here →

**Introduction to the course:**

The DELTA course entitled "Digital Excavation" is an online course, open to all and delivered through the MOOC platform. The DELTA course is structured in 4 main Modules:

- M1. Digital Tools for Archaeological Practice/Excavation;
- M2. Documentation in situ and after excavation;
- M3. Digital Preservation of cultural heritage monuments and artifacts (3D representation and reconstruction);
- M4. Open-air Museums and Experimental Archaeology (presentation and interpretation of research results and knowledge to wide public).

The course "Digital Excavation" offers an advanced training for the students of Archaeology as well as Archaeologists and Professionals in Culture Heritage in order to acquire essential knowledge, digital competences and 21st century skills. In this regard, the learners shall develop knowledge and skills in the following areas:

- ✔ Knowing and applying digital strategies and tools for archaeological work and excavation;
- ✔ Planning a feedback using available online data sources;
- ✔ Learning about digital documentation;
- ✔ Applying digital tools for documenting archaeological data;
- ✔ Adopting databases and GIS for the analysis and interpretation of archaeological data;
- ✔ Enabling themselves in visualizing digital data;
- ✔ Knowing about the virtual technologies applied in the preservation of sites and monuments;
- ✔ Being familiar with policies and best practices in the context of Cultural Heritage and Public Archaeology;
- ✔ Community building, participating and interacting with peers in an online environment.

**Who is this course for?**

The DELTA Online course addresses:

- ✔ Students of the Department of History and Archaeology of the National and Kapodistrian University of Athens (Greece), the Department of European and Mediterranean Cultures: Architecture, Environment, Cultural Heritage (DICEM) of the University of Basilicata (Italy), Department of Archaeology and Museology of the Masaryk University (Czech Republic).
- ✔ Students at other Universities.
- ✔ Graduates who wish to advance their knowledge and be competent in the field of Digital Excavation.
- ✔ Active professionals of the relevant fields of Archaeology and Cultural Heritage Management.

**What will you achieve?**

The course addresses the needs of students or graduates as well as professionals who want to know more and build up their **digital and soft skills as well as their transferable and digital competences** towards Digital Excavation, Digital Documentation, 3D modeling and VR techniques in preservation of archaeological sites, Public Archaeology.

**Structure of the course:**

- ✔ Learners will need - approximately - 10 hours of learning per week, for each Unit of the 4 Modules in this course.
- ✔ The programme offers training on 4 modules.
- ✔ Digital training material will be available online and you will be able to join a **community of peers** by participating in open discussions and active interaction through a forum.
- ✔ Within the **DELTA fora**, learners and tutors will be able to discuss topics and relevant issues regarding Digital Excavation, Archaeology and digital technologies, Cultural Heritage, Open - air Museums, Public Archaeology.
- ✔ The course is provided **free of charge**.

**How to earn the Certificate of DELTA course?**

Upon completion of the course and succeeding in at least the 80% of both learning material and of graded activities (quizzes and tests), learners will be able to achieve the **Certificate of Completion**. The Online Course includes self-assessment with quizzes (closed -end questions). **Open badges** will be awarded to learners after the successful completion of **each** Module.


**ECTS Credits**


The DELTA Online course offers 4 ECTS.

<https://mooc.cti.gr/delta.html>


**Creators:**

This course was developed by:

  
**Hellenic Open University**  
DASIS research group  
Greece

  
Department of History and Archaeology  
**National and Kapodistrian University of Athens**  
Greece

  
**Post-graduate School of Archaeology - DICEM**  
University of Basilicata  
Italy


  
**MASARYK UNIVERSITY**  
Department of Archaeology and Museology  
**Masaryk University**  
Czech Republic

In the framework of the European Erasmus Plus project "DELTA"




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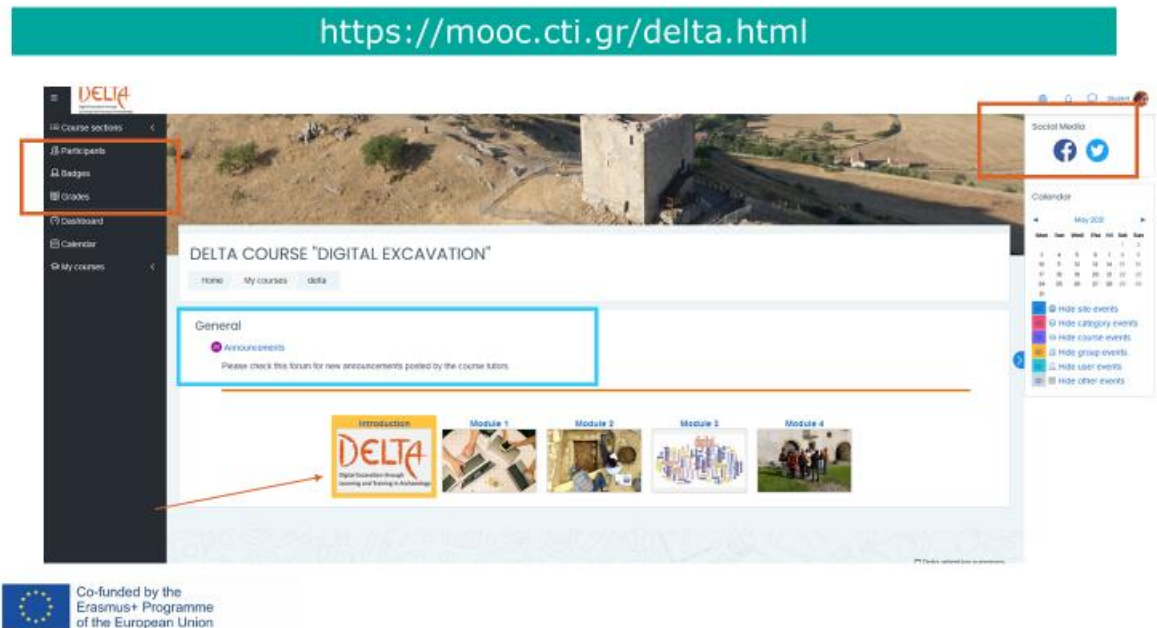
Proceed with the course →



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**Image 9. Homepage of DELTA platform 2022**

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**Image 10. When entering the DELTA platform 2022**

The platform remained the same in terms of Modules (4 different modules), the DELTA course was update in 2022 after the initial feedback received by learners in 2021 (no major changes were made, just correcting any typos). Learners were able to have access to each of the Modules, download the User manual (in Introduction section), while having access to DELTA social media and website. The General Announcements forum provided useful information and announcements to all participants, learners and Tutors. More detailed information on the online learning platform could be found in the Deliverable User Guide.