

Total Station & GIS applied in Archaeology

1.General Information

The Sanisera Field School offers an annual archaeology dig on the island of Menorca, off the coast of Spain. This course is for students who come from all over the world to study abroad and **who are interested in archaeology, anthropology and mapping tools applied to Archaeology, as well as for participants who want to learn about topography, photogrammetry and archaeological recording system with a GIS (Geographic Information System).**

This program is divided in four main parts.

Part 1. Preparing a Topographic Data Base of the site

In the first part of the course, participants will prepare a Topographic Data Base of the site **using an Electronic Total Station**, in order to create a DEM (Digital Elevation Model) and **archaeological maps in a CAD drawing file**. In this way, students will also learn how to use an Electronic Total Station, as well as software like Golden and AutoCAD.

Time dedicated to this part of the program: 35%.

Part 2. 3D Modeling with Photomodeler, Photoshop & CorelDraw

The second part deals with the **usage of photogrammetry to create a 3D Modeling**, which will be based on photos from some structures of the excavated Roman city and cemetery of Sanisera. Participants will learn how to use software such as Photomodeler, Photoshop and CorelDraw.

Time dedicated to this part of the program: 10%.

Part 3. 3D Modeling using Google Sketchup 8

The third part will combine published images of Roman architecture, photos from the Sanisera city and cemetery that have been excavated, satellite images from Google Maps and Google Earth, and CAD graphics, all in order to **create a 3D Model of the site**, using Google Sketchup 8.

Time dedicated to this part of the program: 5%.

Part 4. Creating an archaeological GIS platform

Finally, in the last part of the program, **students will practice their computer drawing skills, so they can create an archaeological GIS platform from the applied recording system of Sanisera**. And in this way, students will also learn how to use the ARCGIS software.

Time dedicated to this part of the program: 50%.

2. What you will learn

2.1. In the Fieldwork:

- Use and handling of a **Total Station**.
- Creation a **topographical database** generated by the Total Station with elementary information from the site to **design an archaeological map**.
- Photograph Collection to **create three-dimensional models** of tombs, structures and remains from the Roman city of Sanisera.

2.2. In the Laboratory

- Learning, handling and practices with **AutoCAD, Golden Surfer, Photomodeler, Google Sketchup y ArcGIS**.
- Design of an **archaeological map** in AutoCAD with the information provided by the Total Station.
- Creating **3D models** of various archaeological topics (graves, artifacts, structures).
- Design, preparation and management of archaeological information in a **GIS platform** using the map created in CAD, and manipulation of the database of the excavation.

2.3. Theory

- History, archaeology, economy and culture of the Roman civilization.
- Introduction to the History of the Sanisera Site.
- Minorcan archaeology before the Roman conquest of the Balearic Islands.

3. Directed at

This course is designed for students that have participated in an archaeological excavation and would like to learn about archaeological

tools used to document research information collected with rigor and quality.

Many students studying archaeology, anthropology and classics have participated as part of a research team. However, not many have experience in using a total station for creating plans or GIS for processing the large volume of information generated during an excavation.

If you would like to enhance your studies and experiences in archaeology as well as be more competitive and efficient within your field, then with this course you will learn skills that will set you apart. Currently, using GIS to process collected data shows importance towards any type of research project, be it an archaeological survey or excavation.

This program is advanced and specialized, focusing on extracting the maximum performance from software and technology available to archaeologist.

We recommend that if you have no excavation experience, that you first participate in one of the following Sanisera Field School courses: 006, 008, or 010. This will allow you to better assimilate the essential information that you will be recording and processing with the software.

This course takes place on a Mediterranean island, among a pristine and unique landscape, surrounded by the sea.

4. Field School life & language

The fieldwork runs 7 hours per day. The day will be divided between learning mapping techniques, lab work, exercises, lectures and videos. For every seven course days there are two days off. The course is taught in English and Spanish.

5. Certificates

At the end of the Program students will receive a certificate of participation stating the hours and activities of the course.

Participants that perform exceedingly well in the course may receive a letter of recommendation from our organization up on request.

6. Sessions & Cost

Sessions	Dates	Cost
Session #1	2019 May 19 – June 03	\$ 2100
Session #2	2019 June 06 – June 21	\$ 2100
Session #3	2019 June 26 – July 11	\$ 2100
Session #4	2019 July 14 – July 29	\$ 2100

7. Course fee includes

- Course tuition.
- Electronic Total Station.
- Mapping Software: ARCGIS, AutoCAD and Agisoft Photoscan.
- Accommodation in the Student Residency in Ciutadella. Two to six per room.
- Walking distance to the historic center, port and beaches
- Breakfast, lunch and dinner.
- Morning snack at the Sanisera site.
- Accident insurance at the site.
- Daily transportation to/from the archaeological fieldwork.
- In case of needing to process Schengen Visa the mandatory letter of invitation will be written so you can travel and participate in our courses.
- Certificate of participation.

Airfare not included from the student home to/from Menorca (Spain).

8. Spaces available

The course is limited to 5 participants per session. Reservations are only effective when payment of the registration fee is received. If for any reason the course is cancelled, payment is returned according to the field school refund policy.

Information and reservations

For more information, contact:

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