Sanisera Archaeology Institute for International Field Schools

Course 050: GIS, AutoCAD and Digital Illustration Applied in Archaeology

Course Syllabus · 2027 season

Course ID	SAI 050 · GIS, AutoCAD and Digital Illustration
Country / Location	Spain · Museum of San Javier, Murcia (Mediterranean coast of south-east Spain)
Dates	June to July 2027 (2 sessions of 12 days)
Duration	12 days per session
Instructional hours	50 hours (10 instructional days x 5 h)
Recommended credit equivalence	2 semester credits (reference scale: about 20 instructional hours per semester credit; 80 h = 4, 100 h = 5, 120 h = 6). Credit is awarded by the student's home institution; see section 12.
Level / Prerequisites	Intermediate. Recommended for students who have taken part in an excavation; no software experience required.
Language of instruction	English (support in Spanish)
Maximum enrolment	8 students per session
Tuition	from USD 2,800 per session (see section 14)
Instructors	Carmen Martínez Mañogil (Course Director and instructor (GIS, AutoCAD, Roman archaeology)); Ana Baño López (Instructor (GIS, CAD, photogrammetry))
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1. Program description

A laboratory course on the digital tools that archaeologists use to document an excavation and publish its finds. Part 1 (first week) teaches ArcGIS and AutoCAD: the creation of archaeological maps, sections and plans in CAD, the design of a GIS project with the excavation database, the integration of satellite imagery and the production of digital elevation models with Global Mapper. Part 2 (second week) teaches the laboratory treatment of pottery and the technical drawing and digital illustration of artefacts with Photoshop and Inkscape, to publication standard.

The course is taught at the Museum of San Javier (Murcia), with the software licences and drawing material provided.

2. Course objectives

- To train students in the use of AutoCAD and ArcGIS for archaeological recording and analysis.
- To teach the construction of a GIS project from field data, imagery and a project database.
- To teach the conventions of archaeological pottery drawing and digital illustration.
- To produce publication-quality graphic documentation from real excavation material.

3. Learning outcomes

On successful completion of the course, students will be able to:

- Draw an archaeological plan and section in AutoCAD from field data.
- Design a GIS project, georeference imagery, geolocate points of interest and manage the project database.
- Produce a digital elevation model and density maps.

- Classify, inventory and catalogue pottery in the laboratory.
- Draw pottery to standard conventions (orientation, diameter, decoration, views, scales 1:1 and 2:1).
- Digitise and finish an archaeological illustration in Photoshop and Inkscape.
- Present a graphic project orally.

4. Course format and instructional hours

Five hours of instruction per day, divided between mapping techniques, laboratory work, exercises, lectures and videos. Over the 12-day session there are 10 instructional days and 2 rest days: 50 instructional hours.

Total instructional hours: 50 hours. This figure appears on the Certificate of Completion and on the Student Evaluation Report.

5. Course schedule

Indicative daily schedule; the order of activities may change according to weather, site conditions and research needs.

Day	Activities
Day 1	Arrival in San Javier, orientation, Code of Conduct. Introduction to digital documentation in archaeology; AutoCAD interface.
Days 2-3	AutoCAD: archaeological plans, sections and planimetry; layers, scales and plotting.
Days 4-5	ArcGIS: project design, georeferencing, satellite imagery, geolocation from Google Earth; project database; DEM with Global Mapper; density and spatial maps.
Day 6	Rest day.
Days 7-8	Laboratory: pottery treatment, classification, inventory and cataloguing; technical pottery drawing I (orientation, diameter, profile).
Days 9-10	Pottery drawing II (decoration, views, scales); digital illustration with Photoshop and Inkscape.
Day 11	Rest day.
Day 12	Completion of the individual graphic project; final presentations; assessment and certificates. Departure.

6. Assessment and grading

Students complete three assignments during the course, in addition to daily supervised work: a daily field journal, the course's recording sheets and a final presentation. The final grade is calculated as follows:

Component	Weight	Description
Field / laboratory participation and professional conduct	40 %	Daily assessment by the instructors of engagement, technique, care of the record and of the finds, teamwork and compliance with the Code of Conduct.
Daily field journal	20 %	A written entry for every instructional day describing the work carried out, the methods applied, the contexts or materials handled and the student's own observations. Reviewed weekly.
Recording sheets	20 %	Laboratory record forms: pottery inventory and catalogue sheets, drawing register. Assessed for accuracy, completeness, terminology and legibility.
Final presentation	20 %	A 10-minute PowerPoint presentation, delivered on the last instructional day, on the student's own graphic project (map, GIS analysis or illustrated catalogue), followed by questions.

Grading scale

Letter grade	Percentage
A	93-100
A-	90-92

Letter grade	Percentage
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D	60-69
F	below 60

Grades are recorded as a percentage and as a letter grade on the US scale above. Students who request it receive a Student Evaluation Report signed by the Course Director, with the breakdown of the grade, the attendance record and the instructional hours completed, for submission to their home institution. The Institute does not itself award academic credit.

7. Attendance policy

Attendance at all scheduled instructional activities is compulsory. A minimum attendance of 85 % of the instructional hours is required to pass the course and to receive the Certificate of Completion. Absences for documented illness or injury are excused but still count towards the 85 % threshold; unexcused absences lower the participation grade. Students who leave the course early receive a certificate stating only the hours actually completed.

8. Prerequisites and who should apply

None required; participation in a previous excavation is recommended. Students must bring their own laptop (Windows recommended for AutoCAD/ArcGIS). Minimum age 18.

9. Instructors

Carmen Martínez Mañogil — Course Director and instructor (GIS, AutoCAD, Roman archaeology). Degree in History (University of Murcia), Master's in Applied Archaeology, Professional Management and Research Strategies in Archaeological Heritage; doctoral candidate in Roman Archaeology (University of Murcia). Director of the archaeological company CMM Arqueología; researcher in the Roman Forum of Molinete project.

Ana Baño López — Instructor (GIS, CAD, photogrammetry). Degree in Prehistory (University of Murcia); professional archaeologist specialised in GIS, CAD, vector drawing and photogrammetry; member of the San Esteban medieval site project.

10. Equipment and what to bring

- Own laptop (compulsory) with mouse; software licences are provided for the course.
- Notebook, pencils (HB, 2H), eraser, ruler.
- Passport and health insurance.

11. Travel and meeting point

Fly to Murcia (RMU) or Alicante (ALC). Students travel on their own to the student residence in San Javier; instructions are sent after registration. Meeting point: the residence, Day 1 at 6 p.m.

Students arriving from outside the Schengen area should check whether they need a visa; the Institute issues the letter of invitation required for the application. US, Canadian, UK and Australian citizens do not need a visa for stays of up to 90 days in Spain; they will need the EU ETIAS travel authorisation once it comes into

force (no start date has been fixed yet; the Institute will inform admitted students). If a Schengen visa is refused, everything paid is refunded in full on presentation of the official refusal document.

12. Academic credit and transcript

The Sanisera Archaeology Institute is an independent, non-profit institution and does not award academic credit directly. Students who wish to receive credit for this course should obtain pre-approval from their department or study-abroad office before the course begins, using this syllabus. On completion, the Institute issues a Certificate of Completion stating the course, dates, instructional hours and final grade, and, on request, a detailed Student Evaluation Report. Students from universities in the United States, Canada, the United Kingdom and Australia have regularly obtained credit for Sanisera courses in this way: students from more than 40 universities have done so (see the list on the Institute's website). The Institute is currently working towards a School of Record agreement with a US accredited institution for the issue of official transcripts.

13. Code of conduct and safety

All students and staff are bound by the Institute's Code of Conduct and Anti-Harassment Policy, available on the website, which applies at the site, in the laboratory, in the accommodation and during free time. A safety briefing is given on the first day; students may decline any activity they consider unsafe. Serious breaches of the Code may lead to removal from the course without refund. Accident insurance at the site is included; students are responsible for their own health and travel insurance.

14. Dates, tuition and what is included

Session	Dates 2027	Tuition (USD)
1	15-26 June	$ 2,800
2	29 June - 10 July	$ 2,800

Tuition includes

- Course tuition.
- Software: AutoCAD, ArcGIS, Global Mapper, Photoshop, Inkscape (course licences).
- Drawing material.
- Accommodation in bungalows at a campsite in San Javier, in two-person rooms shared by students of the same sex.
- Accident insurance at the school.
- Certificate of completion and, on request, the Student Evaluation Report.
- Letter of invitation for the Schengen visa, if required.

Not included

- Airfare to/from Spain.
- Meals (budget approx. EUR 20 per day).
- Entry tickets to museums and historical buildings.

Payment. A deposit of USD 450, which is part of the tuition and is deducted from the total, reserves the place and is due within five days of admission; the balance is due 60 days before the session begins. Payment plans are available on request. The Institute does not offer scholarships or discounts.

Refund policy. If the student cancels, only the USD 450 deposit is refunded, and only if the refund is requested within 20 days of paying it; the balance is not refundable, but everything paid can be converted into credit for any course in the current year or the following season. Everything paid is refunded in full if the Institute cancels the session or if the

student's Schengen visa is refused (official refusal document required). Places are not transferable. Full text: Terms and Conditions of Payment on the website.

15. Recommended readings

Recommended, not required. Readings are available in the Institute's library during the course.

- Conolly, J. & Lake, M. (2006). Geographical Information Systems in Archaeology. Cambridge: Cambridge University Press.
- Wheatley, D. & Gillings, M. (2002). Spatial Technology and Archaeology: The Archaeological Applications of GIS. London: Taylor & Francis.
- Griffiths, N., Jenner, A. & Wilson, C. (1990). Drawing Archaeological Finds: A Handbook. London: Archetype.
- Orton, C. & Hughes, M. (2013). Pottery in Archaeology. 2nd ed. Cambridge: Cambridge University Press.

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