



## RAPPORTO DI RIESAME CICLICO 2023

### Corso di Laurea Archaeological Materials Science

Denominazione del Corso di Studio: Archaeological Materials Science

Codice Corso: 30388

Classe: LM-11

Sede: Città universitaria

Dipartimento: Dipartimento di Biologia Ambientale

Facoltà: Scienze Matematiche, Fisiche e Naturali

Primo anno accademico di attivazione: 2019-2020

#### **Gruppo di Riesame.**

##### Componenti indispensabili

Prof.ssa Donatella Magri (Coordinatore del CdS)  
Prof.ssa Emanuela Borgia (Responsabile del Riesame)  
Sig. Joseph Babatunde Ogunsetire (Rappresentante degli studenti)

##### Altri componenti

Prof. Nicola Schiavon (President of the European Master, University of Evora, Portugal)  
Prof. Eleni Pavlidou (Director of the European Master, Aristotle University of Thessaloniki, Greece)  
Dr.ssa Francesca Congiu (Referente della Didattica del Dip. Biologia Ambientale)  
Sig. Lionel Rumpf (Rappresentante degli studenti)  
Sig. Carlos A. Flores Manzano (Rappresentante degli alumni, PhD Student, Yale University, USA)

This Cyclic Review Report is compiled in English to allow the participation of teaching staff from the partner Universities and of the international students and alumni representatives.

The QA Review Board (= Commissione di Gestione dell'Assicurazione Qualità CGAQ) met on June 5, 2023 to discuss the topics listed in the tables of the sections of the Cyclic Review Report (RCC). An online meeting was needed to allow the international components of the CGAQ to participate in the meeting ([meet.google.com/btd-nnha-hkz](https://meet.google.com/btd-nnha-hkz)).

Subjects of the discussion:

- Analysis of the template of the report and guidelines.
- Analysis of the data from the University Quality Team (<https://www.uniroma1.it/it/pagina/team-qualita>), ANVUR, the Educational Office of the Faculty of Mathematical, Physical and Natural Sciences, and the Educational Office of the Department of Environmental Biology.
- Preliminary discussion on the topics required by the RCC.
- Evaluation of performance indicators requested by the Ministry.
- First draft of the report.

This report was shared and discussed with the Academic Committee of the Programme Archaeological Materials Science (ARCHMAT) during the meeting ([meet.google.com/cmkn-rkno-awf](https://meet.google.com/cmkn-rkno-awf)) held on June 7, 2023.

#### **Sintesi dell'esito della discussione dall'organo collegiale periferico responsabile della gestione del Corso di Studio:**

This RCC was presented, discussed and approved in the session of the Academic Committee of the ARCHMAT of June 7, 2023 (limited to the components from Sapienza University of Rome plus the student representatives and the ARCHMAT coordinator Prof. Schiavon).



The following strengths and weaknesses of the course emerged:

The peculiar aspect of the LM-11 in Archaeological Materials Science (ARCHMAT) is its nature as an international course, financially supported by the European Commission, jointly run at the University of Evora in Portugal (UEVORA) – coordinating institution; Aristotle University of Thessaloniki in Greece (AUTH), and Sapienza University of Rome (UNIROMA1). The ARCHMAT Master programme started in the academic year 2019-2020 as an Erasmus Mundus Joint Master Degree (EMJMD) with the financial support of the European Commission (Project EU-EACEA 599247-EPP-1-2018-1-PT-EPPKA1-JMD-MOB; duration: 1 Oct 2018-30 Sep 2023). It was [accredited by the Italian Ministry of Research](#) (MUR) on 19/06/2019 and by the [Portuguese](#) and [Greek authorities](#) in 2020. The [Consortium Agreement](#) among the Rectors of the three partner Universities was signed on 03/07/2020.

In July 2022, the ARCHMAT Programme received a new financing from the European Education and Culture Executive Agency (EACEA) as Erasmus Mundus Joint Master (EMJM) for a duration of 74 months, until November 2028 (Project: [101082567 ERASMUS-EDU-2022-PEX-EMJM-MOB](#)). The [Consortium Agreement currently in force](#) among the Rectors of the three partner universities was signed on 10/01/2023.

The international character of the programme with students coming from all over the world favours a very stimulating environment from a cultural and educational point of view, both for students and teachers. At the same time, the organizational structure of the course is affected by the diversity of regulations in force at the three partner universities, which must undergo a considerable effort to homogenize teaching paths, assessment methods, quality assurance, times and methods of annual didactic planning, composition of internal commissions, and graduation exam procedures.

The process of making the ARCHMAT Programme a truly joint programme began at the time of accreditation of the study programme as a joint international master's degree at the three countries but requires continuous updates and adjustments as the path of the cohorts proceeds. In particular, the first students that graduated in the ARCHMAT joint programme in December 2021 were initially enrolled as students of a multiple degree programme in 2019-2020 and subsequently transferred to the Joint programme during their second year. The teamwork and dedication of the Faculty's Didactic Office and the Student Secretariat of the Department of Environmental Biology enabled the setting up of the procedures for the international joint graduation. During the academic year 2020-2021, the difficulty had to be faced of producing a joint Diploma, which could respect the academic regulations of the three universities. Other processes that were established for the academic year 2021–2022 include enrolment rules, a conversion table for final grades among the three partner universities, deadlines and forms for student applications for theses, and the approval of theses by supervisors on the teaching platform (Infostud). The key challenges in completing the MSc ARCHMAT are these procedural issues, which need for collaborative solutions also from the Portuguese and Greek partners.

In this sense, it is worth noting that two of the improvement actions suggested in the monitoring report 2021 (nomination of representative students and new procedures for international graduation) have been fixed in the last academic year, while a proposed improvement action concerning the first-year enrolment could not be fully completed, so it was re-proposed as an improvement action in 2022 and is going to find a solution.

As a strength, the funding provided by the European Commission makes it possible to incur expenses for expert seminars and for training activities in the laboratory and in the field to a greater extent than national courses.



## D.CDS.1 L'Assicurazione della Qualità nella progettazione del Corso di Studio (CdS)

### D.CDS.1.a SINTESI DEI PRINCIPALI MUTAMENTI RILEVATI DALL'ULTIMO RIESAME (con riferimento al Sotto-ambito)

*This is the first CRR presented for the ARCHMAT Programme, which started in the academic year 2019-2020.*

*The Annual report delivered in 2021, when no students had graduated yet, illustrated the difficulty of establishing joint evaluation methods for the final exam and common grades for the final degree, valid at the three Partner Universities (Sapienza University of Rome, University of Evora and Aristotle University of Thessaloniki). This task was achieved, together with the template for a Joint international Diploma, signed by the three Rectors of the respective Partner Universities.*

*The Annual report delivered in 2022 does not indicate any specific improvement action concerning the design of the Study Programme.*



## D.CDS.1.1 Progettazione del CdS e consultazione iniziale delle parti interessate

### Fonti documentali:

#### Documenti chiave:

- Titolo: Scheda SUA-CdS 2020/2021  
Breve Descrizione: Consultazione con le organizzazioni rappresentative – a livello nazionale e internazionale – della produzione di beni e servizi, delle professioni  
Riferimento: *quadri A1.a, A1b, A2.a, A2.b*  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/51035>
- Titolo: Scheda SUA-CdS 2021/2022  
Breve Descrizione: Consultazione con le organizzazioni rappresentative – a livello nazionale e internazionale – della produzione di beni e servizi, delle professioni  
Riferimento: *quadri A1.a, A1b, A2.a, A2.b*  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/53472>
- Titolo: Scheda SUA-CdS 2022/2023  
Breve Descrizione: Consultazione con le organizzazioni rappresentative – a livello nazionale e internazionale – della produzione di beni e servizi, delle professioni  
Riferimento: *quadri A1.a, A1b, A2.a, A2.b*  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/58828>

#### Documenti a supporto:

- Titolo: ERASMUS MUNDUS Joint Master in Archaeological Materials Science  
Breve Descrizione: Project Reference: 599247-EPP-1-2018-1-PT-EPPKA1-JMD-MOB  
Riferimento: web page of the European Commission  
Upload / Link del documento: <https://erasmus-plus.ec.europa.eu/projects/search/details/599247-EPP-1-2018-1-PT-EPPKA1-JMD-MOB>
- Titolo: ERASMUS MUNDUS Joint Master in Archaeological Materials Science  
Breve Descrizione: Project Reference: 101082567-ERASMUS-EDU-2022-PEX-EMJM-MOB  
Riferimento: web page of the European Commission  
Upload / Link del documento: <https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/projects-details/43353764/101082567/ERASMUS2027>
- Titolo: ARCHMAT Summer School 2022-2024  
Breve Descrizione: ARCHMAT Summer School 22-28 June 2023  
Riferimento: Programme  
Upload / Link del documento: [https://drive.google.com/file/d/16YOB5tW\\_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=sharing](https://drive.google.com/file/d/16YOB5tW_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=sharing)

### Self evaluation

*The rationale for the Programme and international partners consortium is still fully valid: maximize the benefits to students, exposing them to a worldwide trans-national, inter/multidisciplinary and multisectoral network of*



academics, experts and professionals sharing their expertise in different topics, research fields, competences and knowledge in Archaeometry, including transferable skills ranging from Science to Humanities and Arts, to Business/Management, Communication/Dissemination, Conservation of Archaeological sites and materials, Entrepreneurship, and Digital Technologies. At the end of the ARCHMAT course, students acquire specialized knowledge in the multi-analytical characterization of a wide range of archaeological materials (stone, glass, wood, fibers, ceramics, bricks, fabrics, metals, etc.) which, together with the transversal skills acquired through the exposure to non-university sectors, make them fully qualified and in the ideal position to successfully undertake doctorate courses in archaeometry and/or applied sciences to various research sectors and/or pursue professional activities in the fields of Museology, Conservation and Restoration of Cultural Heritage and/or pursuing a career as a professional consultant such as Conservation Scientist by creating their own SME.

In terms of post-ARCHMAT doctoral opportunities in the sector, in addition to the H2020-MSCA-ITN-EJD European Doctorate in Archaeological and Cultural Heritage Materials Science (ED-ARCHMAT) (Marie Skłodowska-Curie Innovative Training Networks), running from 2018 to 2022 and including Sapienza University of Rome and University of Évora as partners, several PhD courses are available in the field of study of archaeological materials to which ARCHMAT graduates can apply (see below).

For the activation of the ARCHMAT project funded by the European Commission, numerous scientific and professional organizations have been consulted, representatives of the world of culture and production in the specific field of the sciences applied to archaeological heritage, which in many cases are part of the project in quality of associated partners. For a detailed list of external partners involved in the ARCHMAT Programme 2018-2023, see the [EMJMD ARCHMAT Project web page](#). In addition to a number of international associated universities (**Université Bordeaux Montaigne (France)**, **Università della Calabria**, **University of Burgos (Spain)**, **University of Gent (Belgium)**, **Ben Gurion Negev University (Israel)**, **University of Soochow (China)**, **Universidade Federal de Minas Gerais (Brazil)**, **Universidad Nacional de Colombia**, and **Silpakorn University, Thailand**) the newly funded [ARCHMAT programme 2022-2028](#) includes the following stakeholders, fully coherent with the scope of the ARCHMAT programme and complementing the curriculum by providing theoretical/practical/field seminars/workshops and by co-hosting internships for ARCHMAT Theses:

- **Museum Partner organizations and University Museums**, acting as providers of case studies/artifacts and expert advice for the Master thesis individual projects.
  - ✓ **Museo de la Evolución Humana, Burgos (MEH)**, specific expertise/contribution: Experimental archaeology and archaeometry of bone artifacts from Sierra de Atapuerca.
  - ✓ **Museo delle Civiltà, Rome (MUCIV)**, specific expertise/contribution: Paleoanthropology, Physical Anthropology, Digital Archives of Human Paleobiology, Archaeozoology.
  - ✓ **Israel Museum Jerusalem (IMJ)**, specific expertise/contribution: world leading art and archaeology museum with the most extensive holdings of biblical and Holy Land archaeology in the world.
  - ✓ **Archaeological Museum of Pella, Greece (AMP)**, specific expertise/contribution: finds from the famous archaeological site of Pella.
  - ✓ **University of San Paulo (USP)**, specific expertise/contribution: University Museum of Archaeology and Ethnology (MAE) hosting several important objects from Brazil past civilizations. Advanced scientific analytical support to the study of the Museum archeomaterials: Non-Destructive Techniques, Determination of chemical composition of paints, inks and other materials by using invasive and non-invasive techniques like: X-ray fluorescence; ICP spectrometry; ICP mass spectrometry; PIXE spectroscopy; Developing X-ray, UV and VIS imaging techniques.
- **Research Laboratories and SMEs** providing facilities and expertise for the diagnosis, promotion, conservation, and fruition of archaeological materials:
  - ✓ **Centre for Archaeology, Lisbon (CAL)**, specific expertise/contribution: technical support to the archaeological heritage management of the Lisbon city in an urban context. CAL hosts also a Conservation lab to assist the preservation/restoration of archaeological artifacts that will be the venue for ARCHMAT students' internships.
  - ✓ **Institute of Nanoscience and Materials of Aragón, Zaragoza (INMA-CSIC)**, specific expertise/contribution: advanced laser technologies for the characterization and cleaning of archaeological materials.
  - ✓ **Idryma Ormylia, Greece (ORM)**, specific expertise/contribution: Non-destructive, portable X-ray and vibrational spectroscopic techniques applied to the Study Conservation of Byzantine icons and Classical Greek Archaeological materials.
  - ✓ **ERA Arqueología (ERA)**, specific expertise/contribution: Archaeology and study of archaeological finds from the prehistoric site of Perdigões (Portugal).
  - ✓ **Ars Mensurae s.r.l. (AM)**, specific expertise/contribution: advanced portable macro-XRF spectroscopic analysis of archaeological and Cultural Heritage materials.
  - ✓ **CONSERVISION Consulting Co. Ltd. (CONSERVISION)**, specific expertise/contribution: archaeological heritage digital documentation, field surveys, archaeological materials science research and conservation.



- **NGO and Civil Society Organizations** delivering courses and seminars on transversal skills in the Archaeometry sector, such as business management and entrepreneurship, and provide support for credential evaluations during the ARCHMAT EMJM student selection:
  - ✓ **Flaminia Foundation, Ravenna (FF)**, specific expertise/contribution: connection and integration of the scientific and cultural structures of the local territory; entrance in the labour market of students; promotion of collaboration amongst universities, cultural institutions, high schools and training schools and the production world.
  - ✓ **World Association for the protection of Tangible and Intangible Cultural Heritage in Time of Armed conflict (WATCH, Rome)**, specific expertise/contribution: safeguard of tangible and intangible Cultural Heritage and development of an early detection system against the risks of destruction, vandalism, illicit trade, looting, pillaging before, during and after conflicts.
  - ✓ **Information Centre on Academic Mobility and Equivalence, NARIC Center (CIMEA)**; specific expertise/contribution: information and consulting services relating to the procedures for the credential evaluation of academic qualifications and to issues relating to Italian and international higher education and training including recognition of micro-credentials.
- **National Governmental Institution**
  - ✓ **Direção Geral do Património Cultural, Lisbon (DGPC)**, specific expertise/contribution: internship for ARCHMAT thesis projects at its laboratories of “Archaeoscience” and of “Conservation and Restoration of the National Center for Underwater Archaeology”.

Not only were these parties engaged with the ARCHMAT graduate profiles consulted during the planning stages of the study programme, but they are also frequently involved in proposing to students educational activities that have direct relevance to working world. In particular, during the Summer School that students carry out at the Aristotle University of Thessaloniki at the end of the second semester, ample space is given to thematic workshops involving stakeholders, for example the workshop “Entrepreneurship and Project Management in Cultural Heritage” planned in the forthcoming Summer School in June 2023 led by the NGO **Flaminia Foundation** (see supporting information).

The needs and potential for development of the reference cultural sectors can also be considered satisfied in relation to the subsequent study cycles (PhD), and with the employment outcomes of the graduates. Given the worldwide scope of the ARCHMAT programme, the majority of graduates are distributed across numerous nations, making it challenging to monitor their follow-up. For this reason, we included in the CGAQ an ARCHMAT alumni (Carlos Flores Manzano). Besides, the current President of the [Erasmus Mundus Students and Alumni Association](#) (Dr Md Ashiqur Rahman) is an ARCHMAT alumni.

The first graduates of the Joint Degree ARCHMAT programme (cohort 2019-2021) are largely engaged in PhD programmes abroad and in public and private jobs, which supports the employability of the ARCHMAT graduates. Out of the 20 graduates, 9 are pursuing PhD programmes in the following countries: **USA** (Univ. Notre Dame, Yale University), **Germany** (Max Planck Institute), **UK** (Univ. York, 2 students at Univ. Cambridge), **Australia** (Southern Cross University), **Israel** (Ben Gurion University), **Spain** (Univ Santiago de Compostela). Four graduates are employed at Universities/Museums in **Switzerland** (University of Applied Sciences and Arts of Southern Switzerland, Lugano), **France** (Ecole du Louvre), **Colombia** (INCAH, Colombian National Heritage Institute), **Bangladesh** (Dakha University); four graduates are employed in the private sector (Italy, Czech Republic, and China). We were unable to track the follow-up of three graduates.

The worldwide dispersal of the ARCHMAT graduates can be considered a major goal of the ARCHMAT programme, that being linked to an Erasmus Mundus Project, is aimed at contributing to raise awareness on the importance of preserving Cultural Heritage worldwide while, at the same time, increasing the attractiveness of the European Higher Education Area and foster excellence, innovation and competitiveness in a research area, Cultural Heritage and Conservation Science, where Europe has played and should keep playing, a leading role in the world.

The ARCHMAT programme does not have a steering committee (comitato di indirizzo), but the Academic Board has the specific task of defining the academic strategy, including relationships with the labour market ([see Partnership Agreement 2022-2028](#)).

#### Critical issues/areas for improvement

Tracking the ARCHMAT graduates at 1 – 3 – 5 years after graduation is a major challenge, given the wide-reaching dispersion of graduates in many Universities/Research centers/Museums/private companies all around the world. This information can only be obtained if alumni stay connected to each other. Actions should be taken to keep track of the employment of graduates, so as to take advantage from their experience to improve the Programme organization and the contacts with stakeholders.

See Objective n. 8 – **D.CDS.4/2/RC-2023: Monitoring of professional outcomes of graduates.**



## D.CDS.1.2 Definizione del carattere del CdS, degli obiettivi formativi e dei profili in uscita

### Fonti documentali:

#### Documenti chiave:

- Titolo: Scheda SUA-CdS 2019/2020  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: quadri A2.b, A4.a, A4.b, A4.c, B1.a  
Upload / Link del documento: <https://www.university.it/index.php/scheda/sua/42752#3>
- Titolo: Scheda SUA-CdS 2020/2021  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: quadri A2.b, A4.a, A4.b, A4.c, B1.a  
Upload / Link del documento: <https://www.university.it/index.php/scheda/sua/51035>
- Titolo: Scheda SUA-CdS 2021/2022  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: quadri A2.b, A4.a, A4.b, A4.c, B1.a  
Upload / Link del documento: <https://www.university.it/index.php/scheda/sua/53472>
- Titolo: Scheda SUA-CdS 2022/2023  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: quadri A2.b, A4.a, A4.b, A4.c, B1.a  
Upload / Link del documento: <https://www.university.it/index.php/scheda/sua/58828>
- Titolo: Accreditation of the ARCHMAT programme at the University of Evora (Portugal)  
Breve Descrizione: Accreditation document on the "Diário da República"  
Riferimento: II serie, n. 221, p. 144  
Upload / Link del documento: [https://drive.google.com/file/d/1qLLbJKt\\_FtiTzVlaepUKt-wlVxCBmsHF/view?usp=sharing](https://drive.google.com/file/d/1qLLbJKt_FtiTzVlaepUKt-wlVxCBmsHF/view?usp=sharing)
- Titolo: Accreditation of the ARCHMAT programme at the Aristotle University of Thessaloniki  
Breve Descrizione: Proof of Accreditation  
Riferimento: 13/10/2014  
Upload / Link del documento: <https://drive.google.com/file/d/1o5wqev0yTqTY9WV6rkqNpy8EZgSGAVLy/view?usp=sharing>

#### Documenti a supporto:

- Titolo: ARCHMAT Consortium Agreement 2020-2023  
Breve Descrizione: Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)  
Riferimento: Article 4  
Upload / Link del documento: [https://drive.google.com/file/d/1NnsYF-MT\\_OPrmkYTgJr1svbcz3JbtZKS/view?usp=drive\\_link](https://drive.google.com/file/d/1NnsYF-MT_OPrmkYTgJr1svbcz3JbtZKS/view?usp=drive_link)
- Titolo: ARCHMAT Consortium Agreement 2022-2028  
Breve Descrizione: Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)



Riferimento: Article 4

Upload / Link del documento:

[https://drive.google.com/file/d/1XNoLNjbbhdNXexOUd2m9s2jFw BXNUUK/view?usp=drive link](https://drive.google.com/file/d/1XNoLNjbbhdNXexOUd2m9s2jFw BXNUUK/view?usp=drive_link)

### Self evaluation

The ARCHMAT Programme is clearly organized to form highly qualified professionals equipped with the necessary multisectoral, multidisciplinary and transversal knowledge, competences and skills in the emerging field of Archaeometry that will enable them to successfully embark in **PhD courses and/or develop a future career in the private (Restoration/Conservation SMEs, private profession) or public sector (Museums and Cultural Heritage National and International Institutions) in the Cultural Heritage research field.**

These skills are developed in the ARCHMAT Programme through a training designed to fully integrate the 3 degree awarding Universities with complementary expertise in cutting edge scientific research, applied to Archaeological Materials, and developing **specific learning areas** as follows:

- UEVORA: advanced chemical, mineralogical and ultra-microscopical analyses applied to archaeological materials from Prehistoric and Megalithic material culture.
- AUTH: advanced chemical/physical analyses applied to archaeological materials of Greek Classical and Byzantine periods, and aspects of conservation/management of archaeological sites.
- UNIROMA1: advanced biological analyses for paleoenvironmental/ archaeometry/anthropological research, statistical and GIS tools applied to Archaeometry and Roman archaeology.

The ARCHMAT Programme follows a mandatory mobility scheme of all students from UEVORA (1st semester - 30 ECTS) to AUTH (2nd semester - 30 ECTS) to UNIROMA1 (3rd semester - 30 ECTS), with the fourth semester dedicated to the experimental thesis work at any partner institution. This compulsory mobility scheme has been designed to:

- facilitate the academic as well as social induction periods and cohesion through the participation to a wide range of activities proposed in each Partner institution
- allow the acquisition of working language competences in three European languages (Portuguese, Italian, and Greek) that are being used in relevant archaeological literature, beside the official English ARCHMAT teaching language
- run on a "progressive specialization" timeline with courses progressively shifting from basic to more specialized and applicative aspects from the first (UEVORA) to the second (AUTH) and the third (UNIROMA1) semesters. The student involvement in laboratory hands-on workload will progressively increase so that at the end of the third semester they acquire an integrated knowledge of different approaches and study techniques of Archaeological materials
- expose students to the inherent multidisciplinary character of the ARCHMAT Programme with the added value of benefitting from the diverse expertise in multifaceted Archaeometry aspects (both from the point of view of instrumental facilities and in terms of variety of field case studies) that they find at each of the different Partners and Associated member institutions.

The main strength of the ARCHMAT Programme is the achievement of an innovative transdisciplinary, experimental educational approach based on cutting-edge technologies and the establishment of the relevant university consortium, which is truly international. In particular, the ARCHMAT Programme aims to develop a common language among the members of the community that studies archaeological heritage (archaeologists, art historians, museum curators, restorers, etc.) and the scientific community (chemists, geologists, physicists, biologists, researchers in the field of information and communication technologies, etc.) and export it to the world of research, education, dissemination, museums and businesses, related to the study of cultural heritage on an international scale.

The specific training objectives and the expected learning outcomes, in terms of knowledge, skills and competences, both disciplinary and transversal are **coherently designed** to form the ARCHMAT graduates to:

- carry out research, analysis and interpretation of data relating to the constituent material of archaeological assets, to the processes of degradation of the same, to the interaction with the environment (both of discovery and conservation), to production techniques and the state of conservation of these properties.
- direct laboratories and take care of initiatives on the dissemination of technologies related to archaeometry

These training objectives are **consistent** with possible employment in:

- Institutions of the Ministry of Culture in Italy, and equivalent European and non-European institutions responsible for the protection of cultural heritage (archaeological superintendencies, museums, archives, etc.)
- Universities and public and private research bodies that promote archaeological excavation and reconnaissance projects in Italy and abroad
- public and private restoration laboratories in European and non-European countries



- *Non-governmental institutions for the protection of archaeological heritage (e.g., UNESCO)*
- *companies and professional organizations operating in the field of diagnostics, conservation and restoration of cultural heritage*
- *archaeological excavation companies and enhancement of archaeological sites and parks in Italy and abroad*
- *freelance in archaeological excavation and reconnaissance projects, and consultancy in the archaeometric field*
- *continuation of studies in the third level (research doctorate).*

#### **Critical issues/areas for improvement**

*Considering the technical and applicative nature of the ARCHMAT master, which is focused on the use of advanced analytical tools applied to the investigation of archaeological materials, the curriculum needs to be continuously updated to keep in line with both new developments in the research field and the changing needs of the labour market. Updating of the programme must be planned together with stakeholders involved in the study, conservation, and restoration of the Cultural Heritage, as well as considering the most recent guidelines of the European Commission concerning soft skills, innovative teaching methods, inclusion, sustainability and transdisciplinarity. The annual meeting with stakeholders during the Summer School represents an excellent forum to exchange ideas and improve the updates.*

*See Objective n. 1 – D.CDS.1/1/RC-2023: Updating Stakeholder consultation*



### D.CDS.1.3 Offerta formativa e percorsi

#### Fonti documentali:

#### Documenti chiave:

- Titolo: Scheda SUA-CdS 2019/2020  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: *quadri A2.b, A4.a, A4.b, A4.c, B1.a*  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/42752#3>
- Titolo: Scheda SUA-CdS 2020/2021  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: *quadri A2.b, A4.a, A4.b, A4.c, B1.a*  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/51035>
- Titolo: Scheda SUA-CdS 2021/2022  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: *quadri A2.b, A4.a, A4.b, A4.c, B1.a*  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/53472>
- Titolo: Scheda SUA-CdS 2022/2023  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: *quadri A2.b, A4.a, A4.b, A4.c, B1.a*  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/58828>

#### Documenti a supporto:

- Titolo: *ARCHMAT Consortium Agreement 2020-2023*  
Breve Descrizione: *Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)*  
Riferimento: *Article 4*  
Upload / Link del documento: [https://drive.google.com/file/d/1NnsYF-MT\\_OPrmkYTgJr1svbcz3JbtZKS/view?usp=drive\\_link](https://drive.google.com/file/d/1NnsYF-MT_OPrmkYTgJr1svbcz3JbtZKS/view?usp=drive_link)
- Titolo: *ARCHMAT Consortium Agreement 2022-2028*  
Breve Descrizione: *Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)*  
Riferimento: *Article 4*  
Upload / Link del documento: [https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw\\_BXNUUK/view?usp=drive\\_link](https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw_BXNUUK/view?usp=drive_link)
- Titolo: *ARCHMAT Summer School 2022-2024*  
Breve Descrizione: *ARCHMAT Summer School 22-28 June 2023*  
Riferimento: *Programme*  
Upload / Link del documento: [https://drive.google.com/file/d/16YOB5tW\\_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=drive\\_link](https://drive.google.com/file/d/16YOB5tW_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=drive_link)



### Self evaluation

The training project is clearly described in the [web page of the ARCHMAT Programme of Sapienza University, of Evora University](#), and of the [Aristotle University of Thessaloniki](#), as well in [the web page of the Erasmus Mundus project](#), where applications are initially submitted. The training project is consistent, also in terms of disciplinary content and methodological aspects of the courses, with the training objectives, with the outgoing cultural/professional profiles and with the associated knowledge and skills (disciplinary and transversal).

The project offers a multidisciplinary and transdisciplinary training in archaeometry, through a single curriculum with compulsory international mobility, as follows:

- In the first semester of ARCHMAT, at UEVORA, the first 6 ECTS act as introductory ones and follow two paths according to the student's original educational background, i.e. Introductory Science courses to Humanities students and Introductory Archaeology Courses to Science students. The remaining ECTS are earned by successful completing highly specialized courses with progressing complexity and laboratory workload involvement in Archaeometry, mainly focusing on three different historical periods: a) Prehistory-Megalithic (UEVORA), b) Greek (AUTH) and c) Roman (UNIROMA1) classical periods.
- In the second semester, AUTH shares its important cultural background in Greek, Classical and Byzantine archaeology, on chemical methods applied to the study of archaeological materials and various aspects of conservation of archaeological sites.
- At the end of the first year, a Summer School (6 ECTS) is organized at AUTH where members from the Full and Associated partners of the Consortium participate and contribute to. The Summer School is especially devoted to the acquisition of transversal skills through specific targeted workshops (e.g., Innovative Digital technologies applied to Archaeometry / Challenges in the Study and Conservation of Underwater Archaeological Materials).
- In the third semester UNIROMA1 shares its expertise as a leading center for paleoenvironmental, archaeometric and anthropological research, the application of information technologies and Roman archeology. Students will follow theoretical, laboratory and field curriculum units, with the possibility to choose among elective courses.
- The fourth semester is based in UEVORA, UNIROMA1 or AUTH and is devoted to master thesis work. The Thesis project may be conducted in collaboration between one of the three full members and ARCHMAT associated members and could involve a placement period at one of the associated partners institutions.

A weakness of this programme is the reduced number of elective courses that are limited to the third semester. However, students can choose from a wide range of thesis topics at any of the three partner universities, in addition to the associate partners, allowing for considerable flexibility to meet the individual interests and career aspirations of the students.

A strength of the ARCHMAT training programme is the jointness among international universities that includes the following curricular elements:

- **Joint Summer School** on digital technologies and underwater archaeology, attended by all the students and organized at the end of 2nd semester.
- **Joint preparation of master thesis** proposed to all the students in order to help them choose and find their internship.
- **Joint offer of internships** provided by the Partner Academic and non-Academic laboratories of the consortium and promoted through a common platform. Co-supervised internships are proposed between consortium members and associated Partners.
- **Joint transversal skills training**, including critical and innovative thinking, creativity, risk-taking, team-work and communication are ensured all through the master, with a special focus during the joint Summer school.
- **Joint online repository of teaching and administrative documents** and project's outputs (videos, theses, testimonials, etc.).

Except during the COVID-19 pandemics, when on-line lectures were compulsory, all teaching activities are in presence, to facilitate the student involvement in laboratory hands-on experience, practical sessions, fieldwork, visit to museums, archaeological excavations, and analytical laboratories. However, participation in online seminars is also considered, especially to provide students with the possibility to follow specialized workshops held in different countries. Visiting scholars from associated partners and experts in transversal skills may also teach online. Lecturers are free to choose whether to use virtual laboratories or e-tivity, as well as make use of MOOCs.

The structure of the Programme and the subdivision in terms of hours/ECTS of face-to-face teaching, interactive/laboratory activities and self-learning activities are adequate and clearly indicated in the web page of the Programme (<https://corsidilaurea.uniroma1.it/it/corso/2022/30388/home>).

Students get access to all the course materials through online repositories (such as Moodle pages) hosted separately by the three partner universities.

### Critical issues/areas for improvement

Even if the program does not currently have any specific serious issues, alumni of the cohort 2019–2021 suffered from the COVID–19 pandemics due to fewer practical/laboratory/integrative activities.



#### D.CDS.4 Programmi degli insegnamenti e modalità di verifica dell'apprendimento

##### Fonti documentali:

##### Documenti chiave:

- Titolo: Scheda SUA-CdS 2019/2020  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: *quadri A2.b, A4.a, A4.b, A4.c, B1.a*  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/42752#3>
- Titolo: Scheda SUA-CdS 2020/2021  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: *quadri A2.b, A4.a, A4.b, A4.c, B1.a*  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/51035>
- Titolo: Scheda SUA-CdS 2021/2022  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: *quadri A2.b, A4.a, A4.b, A4.c, B1.a*  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/53472>
- Titolo: Scheda SUA-CdS 2022/2023  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: *quadri A2.b, A4.a, A4.b, A4.c, B1.a*  
Link del documento: <https://www.universitaly.it/index.php/scheda/sua/58828>

##### Documenti a supporto:

- Titolo: Programme catalogue UNIROMA1  
Breve Descrizione: online catalogue of the ARCHMAT Programme, Sapienza University  
Riferimento: Attendance  
Link del documento: <https://corsidilaurea.uniroma1.it/en/corso/2022/30388/programmazione>
- Titolo: Programme catalogue UEVORA  
Breve Descrizione: online catalogue of the ARCHMAT Programme, University of Evora  
Riferimento: Plano de Estudos  
Link del documento: <https://www.uevora.pt/estudar/cursos/mestrados?cod=MB13&v=plano-estudos>
- Titolo: Tuning matrix  
Breve Descrizione: tuning matrix of the ARCHMAT Programme, Sapienza University  
Riferimento: matrix  
Link del documento: <https://drive.google.com/file/d/1cvhoPGPDsPvECppglRh2FZwWYc7nuhuZ/view?usp=sharing>
- Titolo: ARCHMAT Consortium Agreement 2022-2028  
Breve Descrizione: *Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)*  
Riferimento: *Article 4.6 Joint assessment methods and ECTS recognition; Article 4.7 Degree awarding institutiona and Degree*



Upload / Link del documento:

[https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw\\_BXNUUK/view?usp=drive\\_link](https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw_BXNUUK/view?usp=drive_link)

### **Self evaluation**

*The contents and syllabi of the courses are consistent with the educational objectives of the programme, and are ensured adequate and timely visibility on the web pages of Sapienza University and of partner Universities. For each course, the web page includes objectives, syllabus, prerequisites, teaching materials, exam mode, subdivision of teaching hours in face-to-face lesson, laboratory work, and excursions/fieldwork. The structure of integrated courses is clearly illustrated. Note that the three university partners have agreed to assign 10 hours of class activity per ECTS, independently of the type of activity (face-to-face lectures, laboratory work, or excursion/fieldwork). The remaining time per ECTS (15 hours) includes the personal work/study of students. The attached tuning matrix shows the consistency of the exams with respect to the learning objectives.*

*The assessment modes of the individual courses are clearly described in the course files, are consistent with the individual learning objectives, adequate to ascertain the achievement of the expected learning outcomes, and communicated to the students. In general, there are different approaches in the assessment method in the three partner Universities: in Portugal and Greece students are evaluated based on written examinations, often with presentation in class, while at Sapienza University there is in most cases an oral examination, sometimes complemented by a written assignment.*

*The final exam (thesis defence) is clearly described in the Sapienza web page (see supporting documents). The thesis work, lasting about 6 months (30 credits), is undertaken in the second semester of the second year of the course and consists of an original study, conducted with rigorous scientific method under the guidance of preferably two Tutors (teachers or industry experts). The thesis must demonstrate the candidate's capacity for synthesis and autonomy. The discussion takes place in public session in front of an examining Jury in one of the three partner institutions. The written thesis must be written and discussed in English. The final grade takes into account the weighted average, based on credits, of the marks obtained in the exams relating to the courses of the first three semesters and of the final dissertation (see Art. 4.7 Degree awarding institutions and Degree in the linked Consortium Agreement 2022-2028).*

*The criteria for exam grading in the three partner Universities are clearly expressed in the Partnership agreement signed by the three respective Rectors (see 6. Joint assessment methods and ECTS recognition in the linked Consortium Agreement 2022-2028), including a detailed joint conversion table among the three grading systems (Italian, Portuguese, and Greek)*

*The main weakness concerning programmes and examinations is that the three partner universities adopt three different web platforms, with different degree of details.*

### **Critical issues/areas for improvement**

*It would be necessary to standardize the information presented in the web pages of the three partner universities, making sure that it is consistent and updated throughout. For this reason, a careful work of the international Quality Assurance Board of the ARCHMAT Programme, composed by academic representatives from each partner institution, is needed. Besides, a new joint web page, connected with the EU Erasmus Mundus Programme, should collect all the information necessary to the students (lecturers' contacts, course objectives, syllabi, teaching material, assessment methods and so on) in a single platform, which can be used also for the international dissemination of the Programme.*

*See Objective n. 2 – D.CDS.1/2/RC-2023: Setting up of an ARCHMAT joint webpage with links to the Partner Universities*



## D.CDS.1.5 Pianificazione e organizzazione degli insegnamenti del CdS

### Fonti documentali:

#### Documenti chiave:

- Titolo: Sapienza web page of the ARCHMAT Programme
- Breve Descrizione: online catalogue of the ARCHMAT Programme, Sapienza University

Riferimento: Organization, contacts and regulations

Link del documento: <https://corsidilaurea.uniroma1.it/en/corso/2022/30388/organizzazione-referenti-regolam>

#### Documenti a supporto:

- Titolo: ARCHMAT Consortium Agreement 2022-2028

Breve Descrizione: *Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)*

Riferimento: *Article 4.6 Joint assessment methods and ECTS recognition; Article 4.7 Degree awarding institutiona and Degree*

Link del documento: [https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw\\_BXNUUK/view?usp=drive\\_link](https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw_BXNUUK/view?usp=drive_link)

:

### Self evaluation

Concerning educational planning, the ARCHMAT Programme is well organised, first of all due to the fact that each Semester is held at a single Partner University, whereas only the seat of the fourth Semester can be chosen by the student according to his/her final dissertation project. During each Semester the overlapping of courses is always avoided, and so the students are given the opportunity of following all the classes, which is fundamental to facilitate learning and study. This is made possible by the strict rules of the course, and moreover by the fact that the largest part of courses of the ARCHMAT Programme are mandatory. So, thanks to the help of the Educational Referents of each partner University, a well organised lesson timetable is set up (<https://corsidilaurea.uniroma1.it/it/corso/2022/30388/programmazione>).

The internal organization of the ARCHMAT Programme is well structured and is compelled to comply to a number of milestones by the obligations of the Erasmus Mundus project. The organization of the courses is defined during (at least) one annual joint meeting of the ARCHMAT Boards, whose composition and tasks are as follows:

Boards	Composition	Tasks	Meetings/year
<b>Management Board</b>	<ul style="list-style-type: none"> <li>• Programme Coordinator</li> <li>• 3 Academic Directors (UEVORA + AUTH + UNIROMA1)</li> <li>• 3 representatives of the administrative staff (UEVORA + AUTH + UNIROMA1).</li> </ul>	<ul style="list-style-type: none"> <li>• manage all administrative and legal and financial issues</li> </ul>	1
<b>Academic Board</b>	<ul style="list-style-type: none"> <li>• Programme Coordinator</li> <li>• 3 Academic Directors (UEVORA + AUTH + UNIROMA1)</li> <li>• 3 representatives of the academic officers</li> <li>• 1 representative from the HEI Associated Partners,</li> <li>• 1 representative from the non-HEI Associated Partners</li> <li>• 2 student representatives</li> </ul>	<ul style="list-style-type: none"> <li>• define the academic strategy</li> <li>• implement the Programme</li> <li>• promote mobility</li> <li>• develop the promotion and sustainability strategy</li> </ul>	1
<b>Selection Board</b>	<ul style="list-style-type: none"> <li>• 1 Academic representative from each Partner Institution</li> <li>• 1 representative from the CIMEA Associated Partner</li> </ul>	<ul style="list-style-type: none"> <li>• define standards for admission and application procedures</li> <li>• implement the joint student selection process</li> </ul>	1



		<ul style="list-style-type: none"> <li>implement credential evaluation</li> </ul>	
<b>Quality Assurance Board</b>	<ul style="list-style-type: none"> <li>3 ARCHMAT academic staff (UEVORA + AUTH + UNIROMA1)</li> <li>1 active student representative</li> <li>1 representative from the HEI Associated Partners</li> <li>1 representative from the non-HEI Associated Partners.</li> </ul>	<ul style="list-style-type: none"> <li>monitor the quality of the course implementation</li> <li>suggest improvements</li> <li>promote new pedagogic approaches</li> <li>organize Internal and External Quality Assurance</li> </ul>	1
<b>Outreach Board</b>	<ul style="list-style-type: none"> <li>Programme Coordinator</li> <li>3 Academic Directors (UEVORA + AUTH + UNIROMA1)</li> <li>3 representatives of non-teaching Academic officers</li> <li>1 representative from the HEI Associated Partners</li> <li>1 representative from the non-HEI Associated Partners</li> <li>1 student representative</li> <li>1 ARCHMAT alumni</li> </ul>	<ul style="list-style-type: none"> <li>develop a promotion strategy</li> <li>ensure financial sustainability</li> <li>maximize the impact of the ARCHMAT Programme</li> </ul>	1

*In addition, the local Educational Boards of the three partner Universities meet according to the regulations of the respective institutions.*

*In the Sapienza Web page of the ARCHMAT Programme, a list of the academic Boards, including tasks and responsibilities, is clearly reported.*

#### **Critical issues/areas for improvement**

*The meeting of the non-teaching personnel from the three partner universities (such as the student office, faculty international office, and didactical office) to promote better programme workflow has proven to be a big challenge. This needs to be better organized, at least with annual meetings online.*

*See Objective n. 3 D.CDS.1/3/RC-2023: Improving international connection of Student Educational Offices in the ARCHMAT Partner Universities*



## D.CDS.1.c OBIETTIVI E AZIONI DI MIGLIORAMENTO

<b>Obiettivo n. 1</b>	<b>D.CDS.1/1/RC-2023: Updating Stakeholder consultation</b>
<b>Problema da risolvere Area di miglioramento</b>	<i>Considering the technical and applicative nature of the ARCHMAT master, which is focused on the use of advanced analytical tools applied to the investigation of archaeological materials, the curriculum needs to be continuously updated to keep in line with both new developments in the research field and the changing needs of the labour market</i>
<b>Azioni da intraprendere</b>	<i>Annual meeting with stakeholders</i>
<b>Indicatore/i di riferimento</b>	<i>D.CDS.1.1 Progettazione del CdS e consultazione iniziale delle parti interessate</i>
<b>Responsabilità</b>	<i>The Coordinator of the ARCHMAT Programme</i>
<b>Risorse necessarie</b>	<i>The necessary resources (travel expenses) can be supported by the EU funding of the ARCHMAT Programme</i>
<b>Tempi di esecuzione e scadenze</b>	<i>An annual meeting of the Academic Board with stakeholders will be organized during the Summer School at the end of the second semester starting from June 2023</i>

<b>Obiettivo n. 2</b>	<b>D.CDS.1/2/RC-2023: Setting up of an ARCHMAT joint webpage with links to the Partner Universities</b>
<b>Problema da risolvere Area di miglioramento</b>	<i>The use of three distinct web platforms by the three partner universities, each with a different level of detail, may cause confusion among the students. a new joint web page, connected with the EU Erasmus Mundus Programme, should collect all the information necessary to the students (lecturers' contacts, course objectives, syllabi, teaching material, assessment methods and so on) in a single platform, which can be used also for the international dissemination of the Programme</i>
<b>Azioni da intraprendere</b>	<i>to standardize and join the information presented in the web pages of the three partner universities, making sure that it is consistent and updated throughout</i>
<b>Indicatore/i di riferimento</b>	<i>D.CDS.4 Programmi degli insegnamenti e modalità di verifica dell'apprendimento</i>
<b>Responsabilità</b>	<i>The Coordinator of the ARCHMAT Programme</i>
<b>Risorse necessarie</b>	<i>The necessary resources can be supported by the EU funding of the ARCHMAT Programme</i>
<b>Tempi di esecuzione e scadenze</b>	<i>A new webpage should be set up before the academic year 2023/2024.</i>

<b>Obiettivo n. 3</b>	<b>D.CDS.1/3/RC-2023: Improving international connection of Student Educational Offices in the ARCHMAT Partner Universities</b>
<b>Problema da risolvere Area di miglioramento</b>	<i>A better workflow of the programme may be attained if the educational officers of the three partner Universities keep in contact. This objective can be achieved, given the general willingness of the officers to cooperate.</i>
<b>Azioni da intraprendere</b>	<i>An international meeting of the educational officers is needed so to discuss possible shortcomings, propose technical and administrative improvements, share best practices, coordinate administrative and technical issues, and specify duties and objectives of the offices.</i>
<b>Indicatore/i di riferimento</b>	<i>D.CDS.1.5 Pianificazione e organizzazione degli insegnamenti del CdS D.CDS.3.2 Dotazione di personale, strutture e servizi di supporto alla didattica</i>
<b>Responsabilità</b>	<i>The Coordinator of the ARCHMAT Programme</i>
<b>Risorse necessarie</b>	<i>The necessary resources (travel expenses) can be supported by the EU funding of the ARCHMAT Programme</i>
<b>Tempi di esecuzione e scadenze</b>	<i>An annual meeting of non-teaching staff will be organized during the Summer School at the end of the second semester.</i>



## D.CDS.2 L'ASSICURAZIONE DELLA QUALITÀ NELL'EROGAZIONE DEL CORSO DI STUDIO (CDS)

### D.CDS.2.a SINTESI DEI PRINCIPALI MUTAMENTI RILEVATI DALL'ULTIMO RIESAME (con riferimento al Sotto-ambito)

#### **Description**

*This is the first CRR presented for the ARCHMAT Programme, which started in the academic year 2019-2020.*

*The Annual report delivered in 2021 reported the need for the election of students' representatives already in the first semester of the ARCHMAT Programme, at the University of Evora. This objective has been achieved in 2022.*

*The Annual report delivered in 2022 proposed to achieve an international level of Quality Assurance through the nomination of a Joint QA Board. This is also an objective of the newly funded ARCHMAT Erasmus Mundus Joint Master. This objective should be achieved within 2023.*

<b>Azione Correttiva n. 1</b>	<i>SMA 2021 election of students' representatives in the first semester of the ARCHMAT Programme</i>
<b>Azioni intraprese</b>	<i>Elections of students representatives</i>
<b>Stato di avanzamento dell'Azione Correttiva</b>	<i>This objective has been achieved in 2022.</i>

<b>Azione Correttiva n. 2</b>	<i>SMA 2022 to achieve an international level of Quality Assurance</i>
<b>Azioni intraprese</b>	<i>Meetings of the Academic Board to discuss the formation of the Quality Assurance Board</i>
<b>Stato di avanzamento dell'Azione Correttiva</b>	<i>This objective will be achieved in June 2023.</i>



## D.CDS.2.1 Orientamento e tutorato

### Fonti documentali:

#### Documenti chiave:

- Titolo: Scheda SUA-CdS 2022/2023  
Breve Descrizione: Orientamento e tutorato in ingresso e in itinere  
Riferimento: *quadro B5*  
Link del documento: <https://www.universitaly.it/index.php/scheda/sua/58828>
- Titolo: web page of the Erasmus Mundus Joint ARCHMAT project  
Breve Descrizione: official web page of the ARCHMAT programme  
Riferimento:  
Link del documento: <https://www.erasmusmundus-archmat.eu/>
- Titolo: Sapienza web page of the ARCHMAT Programme  
Breve Descrizione: online catalogue of the ARCHMAT Programme, Sapienza University  
Riferimento: orientation  
Link del documento: <https://corsidilaurea.uniroma1.it/en/corso/2022/30388/storytelling>

#### Documenti a supporto:

- Titolo: Catalogue of the Erasmus Mundus Joint Masters  
Breve Descrizione: dissemination web page at the official Erasmus+ web page  
Riferimento: description of the ARCHMAT funded project  
Link del documento: <https://erasmus-plus.ec.europa.eu/projects/search/details/599247-EPP-1-2018-1-PT-EPPKA1-JMD-MOB>
- Titolo: Presentation of the European Master in Archaeological Materials Science  
Breve Descrizione: dissemination web page at Keystone  
Riferimento: description of the ARCHMAT funded project  
Link del documento: [https://www.masterstudies.com/institutions/erasmus-mundus-european-master-in-archaeological-materials-science-\(archmat\)/european-master-in-archaeological-materials-science-archmat](https://www.masterstudies.com/institutions/erasmus-mundus-european-master-in-archaeological-materials-science-(archmat)/european-master-in-archaeological-materials-science-archmat)
- Titolo: ARCHMAT Summer School 2022-2024  
Breve Descrizione: ARCHMAT Summer School 22-28 June 2023  
Riferimento: Programme  
Link del documento: [https://drive.google.com/file/d/16YOB5tW\\_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=drive\\_link](https://drive.google.com/file/d/16YOB5tW_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=drive_link)

### Self evaluation

*The international character of the ARCHMAT programme, which is destined to excellent students from all over the world, requires orientation procedures different from those normally set up for Italian candidates. A yearly meeting of the Outreach Board, specifically destined for orientation, takes place during the Summer School (see supporting information) when students and alumni play an active part in developing creative promotion and orientation strategies, and to raise interest among their peers, including professors and students at their home country institution. The orientation strategy for a worldwide dissemination, exploitation and visibility of the project includes:*

- **The ARCHMAT Website:** it includes the most up-to-date information about the master (study programme, selection procedure, degree awarded, tuition fees, scholarships, list of institutional and industrial partners, careers of alumni),



as well as on an online application procedure and document repository. This integrates the information of the websites of each partner University ([Sapienza University of Rome](#), [University of Evora](#), and [Aristotle University of Thessaloniki](#)).

- **Social media.** A [Facebook page](#) is used to reach out to students with updates on the Master programme and to collect Questions & Answers from potential students.

- **Educational platforms:** the ARCHMAT programme makes use of the following educational platforms for worldwide promotion and orientation:

- EuroEducation: <https://www.euroeducation.net/euro/archaeological-materials-science-sapienza-university-rome.htm>
- Study Abroad: <https://www.ceebd.co.uk/ceed/un/ita/archaeological-materials-science-sapienza-university-rome.htm>
- Educate Abroad Search: <https://www.educateabroad.net/euro/archaeological-materials-science-sapienza-university-rome.htm>
- FindAMasters: <https://www.findamasters.com/masters-degrees/course/european-master-in-archaeological-materials-science-archmat/?i818d8733c67465>
- MasterPortal: <https://www.mastersportal.com/studies/343806/european-master-in-archaeological-materials-science.html>
- Masterstudies: [https://www.masterstudies.com/European-Master-in-Archaeological-Materials-Science-\(ARCHMAT\)/Portugal/Erasmus-Mundus-European-Master-in-Archeological-Materials-Science-\(ARCHMAT\)/](https://www.masterstudies.com/European-Master-in-Archaeological-Materials-Science-(ARCHMAT)/Portugal/Erasmus-Mundus-European-Master-in-Archeological-Materials-Science-(ARCHMAT)/)

- **Promotional videos** and testimonials of former students are produced and broadcasted on different channels (website, social media). An example of promotional video with testimonial of the ARCHMAT EMJMD can be found at: <https://www.youtube.com/watch?v=wKxJUZeZQp0>.

- **Short-term visits** of the coordinators in strategic countries (students fairs, visits to universities, embassies, conferences).

- **School visits** to ARCHMAT research laboratories, Museum Institutions and SMEs led by ARCHMAT staff (with the involvement of ARCHMAT students in their final semester).

- **Local orientation** is also emphasized during open day events, welcome event to international students, and local websites.

Through these activities we contact a large number of potential students, illustrate the cultural and professional profiles designed by the Programme, as well as the recommended knowledge at the incoming stage. As an example, during 2022 the Selection Board has answered to > 400 queries from students via email.

The selection of the students is a task of the Selection board that interviews a shortlist of students before acceptance in the programme. The online interview is an excellent occasion to present the Programme to the candidates and to answer their questions. In general, there is an excellent students' awareness of their choices and of the study programme.

All three universities have buddies destined to the reception and integration services for international students in the didactic activities. However, the tutoring related to courses is modest.

Outgoing orientation initiatives are limited, largely because most students either return to their home countries or apply for PhD abroad (mainly in Europe and the USA). They are generally very independent in their choices and not linked to any local occupational perspective. The large number of students employed or pursuing a PhD in a wide range of countries after one year from graduation confirms the ability of graduates to quickly find a job.

#### Critical issues/areas for improvement

Additional tutoring may overcome some of the problems that the students have in following the courses, depending on their diverse academic background and linguistic difficulties.

See Objective 5 – D.CDS.2/2/RC-2023: Additional tutoring



## D.CDS.2.2 Conoscenze richieste in ingresso e recupero delle carenze

### Fonti documentali:

#### Documenti chiave:

- Titolo: Scheda SUA-CdS 2022/2023  
Breve Descrizione: conoscenze richieste per l'accesso  
Riferimento: *quadro A3a*  
Link del documento: <https://www.universitaly.it/index.php/scheda/sua/58828>

#### Documenti a supporto:

- Titolo: Sapienza web page of the ARCHMAT Programme  
Breve Descrizione: online catalogue of the ARCHMAT programme, Sapienza University  
Riferimento: Apply  
Link del documento: <https://corsidilaurea.uniroma1.it/en/corso/2022/30388/isciversi>

### Self evaluation

As clearly expressed in the [web page of the ARCHMAT programme](#) as well as in the online [Programme catalogue at Sapienza University](#), the Erasmus Mundus Master in Archaeological Materials Science is open to European and non European excellent students with Bachelor (1 cycle equivalent-180 ECTS credits) degree from both Science (Physics, Earth Sciences, Chemistry, Biology-Biochemistry, Engineering) and Humanities (Archaeology, Conservation Science, Cultural Heritage Studies, Architecture, Art History) academic fields.

In the "SUA CdS" document, also reported in the web page of Sapienza University, the necessary initial preparation of the students is assessed on the basis of the requirements of basic knowledge of chemistry, physics, mathematics, informatics, biology, earth sciences and archeology, quality of academic training, work experience, excellence in the grade achieved in the degree certificate, and personal motivations.

Each year a call for the ARCHMAT programme is open from November 1<sup>st</sup> to March 31<sup>st</sup> at the University of Evora, that coordinates the European Master. The ARCHMAT Selection Board, composed by academics from the three partner Universities, evaluates all the applications, in order to verify Academic Excellence, Academic potential, Research/Work Experience, Motivation, and Language skills. All applicants must deliver copy of the diploma with the transcript of records and a certificate of English language. On the basis of these documents, the Selection Board verifies that all candidates possess the essential initial knowledge. Students that pass the first step of selection are admitted to an online interview. At this second step, there is a further evaluation of the necessary requirements for the admission of the students to the ARCHMAT Programme. Finally, a ranking list is created, out of which a maximum of 30 best students are selected for admission to the programme.

During the first semester, students at the University of Evora take specific courses to overcome possible academic deficits. In particular, students with a scientific background are required to pass the exam on Excavation methods, culture, and contexts in Archaeology, students with a humanistic background take a course on Basic aspects of Science applied to Archaeometry. Besides regular courses, students follow didactic-integrative activities (lessons, exercises, seminars and workshops, revision and remedial activities for small groups to integrate the curricular teachings), also in relation to their possible need to make up for training deficiencies.

### Critical issues/areas for improvement

Additional tutoring may overcome some of the problems that the students have in following the courses, depending on their diverse academic background and linguistic difficulties.

See Objective 5 – D.CDS.2/2/RC-2023: Additional tutoring



## D.CDS.2.3 Metodologie didattiche e percorsi flessibili

### Fonti documentali:

#### Documenti chiave:

- Titolo: Scheda SUA-CdS 2022/2023  
Breve Descrizione: descrizione del percorso di formazione  
Riferimento: *quadro B1*  
Link del documento: <https://www.universitaly.it/index.php/scheda/sua/58828>

#### Documenti a supporto:

- Titolo: Sapienza web page of the ARCHMAT Programme  
Breve Descrizione: online catalogue of the ARCHMAT programme, Sapienza University  
Riferimento: Attendance  
Link del documento: <https://corsidilaurea.uniroma1.it/it/corso/2022/30388/programmazione>

#### Documenti a supporto:

- Titolo: University of Evora web page of the ARCHMAT Programme  
Breve Descrizione: online catalogue of the ARCHMAT programme, University of Evora  
Riferimento: Study Plan  
Link del documento: <https://www.uevora.pt/en/study/courses/master-degrees?cod=MB13&v=plano-estudos>

### Self evaluation

*The ARCHMAT curriculum, due to its very peculiar structure, includes only a small number of elective exams. However, the programme has a considerable flexibility in extra-curricular activities, which include seminars by international invited scholars/guest lecturers, visits to laboratories, excursions to museums and archaeological excavations, fieldwork, and workshops. In these occasions space is provided for diverse study activities self-managed by the students, according to their personal attitudes and interests, also to promote student independence.*

*Moreover, as the students come from different backgrounds, ranging from Sciences to Humanities, in the first Semester at UEVORA specific courses are given with the aim of filling the gaps: courses of Archaeology are recommended to students coming from a scientific background and vice versa. In the following semesters the initial training differences are almost completely solved, but the teachers offer a continuous assistance to the students when any kind of integrating necessity occurs.*

*The ARCHMAT Management Board monitors that a gender balance policy is applied at all levels of the ARCHMAT programme. In particular, the selection decisions and Thesis supervisor appointments are monitored to ensure a substantial gender balance.*

*The Partner Universities fully recognise the challenges of combining parenting and caring responsibilities with a study programme and enhance flexibility so as to allow students to successfully manage their work and personal commitments. In addition to Gender Balance strategy, considering the world-wide provenance of the ARCHMAT students, the Academic Board strongly combats any discrimination among the students, concerning their ethnicity, national origin, language, religion and beliefs, functional abilities, sexual orientation, and age. Student rights and duties are regulated by the [Student Charter of Rights](#), drafted by a commission that includes students, and supported by the [Student Ombudsperson](#), both at the university and faculty levels. Sapienza University takes care of [equal opportunities](#), [gender issues](#), inclusion policies and sustainability.*



*It is worth underlining that almost all ARCHMAT students come from foreign countries, and normally from a large number of different countries, thence one of the major challenges of the Programme is to help them in supporting them to solve a wide range of problems. The University Consortium of the ARCHMAT programme successfully managed to find emergency-led “innovative solutions” to allow students from troubled and war-torn regions such as Syria, Lebanon, and Eritrea to arrive in Evora for their 1st semester. The experience gained in dealing with students from troubled regions such as Syria has taught the ARCHMAT partners to adopt a flexible approach in terms of academic resits for students arriving late due to VISA problems.*

*Trainings, lending of special devices, and personal support are among the services available to students with special needs. For example, Sapienza University offers [health and wellness counselling services](#) to all members of the university community (students, academic and administrative staff), creating a virtual and virtuous bridge between Sapienza and Policlinico Umberto I General Hospital. NoiBene is a psychological action programme dedicated to all Sapienza students to prevent psychological distress through mental health literacy, the promotion of positive, flexible behaviour and the enhancement of life skills.*

#### **Critical issues/areas for improvement**

*Acceptance of students from war-torn regions may be challenging. Up to now we were able to overcome all problems, but we are aware that we may face critical situations.*



## D.CDS.2.4 Internazionalizzazione della didattica

### Fonti documentali:

#### Documenti chiave:

- Titolo: *ARCHMAT Consortium Agreement 2020-2023*  
Breve Descrizione: *Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)*  
Riferimento: *Article 1*  
Upload / Link del documento: [https://drive.google.com/file/d/1NnsYF-MT\\_OPrmkYTgJr1svbcz3JbtZKS/view?usp=drive\\_link](https://drive.google.com/file/d/1NnsYF-MT_OPrmkYTgJr1svbcz3JbtZKS/view?usp=drive_link)
- Titolo: *ARCHMAT Consortium Agreement 2022-2028*  
Breve Descrizione: *Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)*  
Riferimento: *Article 1*  
Upload / Link del documento: [https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw\\_BXNUUK/view?usp=drive\\_link](https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw_BXNUUK/view?usp=drive_link)

#### Documenti a supporto:

- Titolo: *Catalogue of the Erasmus Mundus Joint Masters*  
Breve Descrizione: *dissemination web page at the official Erasmus+ web page*  
Riferimento: *description of the ARCHMAT funded project*  
Link del documento: <https://erasmus-plus.ec.europa.eu/projects/search/details/599247-EPP-1-2018-1-PT-EPPKA1-JMD-MOB>

### Self evaluation

The ARCHMAT programme is an Erasmus Mundus Joint Master, 100% international, as the few Italian students enrolled in the programme undergo a compulsory mobility in the partner universities.

The international dimension is fully implemented also through the joint participation of lecturers from Portuguese, Greek and Italian Universities, and by the joint educational curriculum.

The student intakes 2019-2022 includes 90 students from 40 countries from all over the world, as shown in the map:





**Critical issues/areas for improvement**

*There are no critical issues concerning internationalization, as ARCHMAT is a fully international EMJM, with international students, and international academic and non-academic staff.*



## D.CDS.2.5 Modalità di verifica dell'apprendimento

### Fonti documentali:

#### Documenti chiave:

- Titolo: Sapienza web page of the ARCHMAT Programme  
Breve Descrizione: online catalogue of the ARCHMAT programme, Sapienza University  
Riferimento: Attendance  
Link del documento: <https://corsidilaurea.uniroma1.it/en/corso/2022/30388/programmazione>
- Titolo: University of Evora web page of the ARCHMAT Programme  
Breve Descrizione: online catalogue of the ARCHMAT programme, University of Evora  
Riferimento: Study Plan  
Link del documento: <https://www.uevora.pt/en/study/courses/master-degrees?cod=MB13&v=plano-estudos>

#### Documenti a supporto:

- Titolo: ARCHMAT Consortium Agreement 2020-2023  
Breve Descrizione: Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)  
Riferimento: Article 4  
Link del documento: [https://drive.google.com/file/d/1NnsYF-MT\\_OPmkYTgJr1svbcz3JbtZKS/view?usp=drive\\_link](https://drive.google.com/file/d/1NnsYF-MT_OPmkYTgJr1svbcz3JbtZKS/view?usp=drive_link)
- Titolo: ARCHMAT Consortium Agreement 2022-2028  
Breve Descrizione: Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)  
Riferimento: Article 1  
Upload / Link del documento:  
[https://drive.google.com/file/d/1XNoLNjhbhdNXexOUd2m9s2jFw\\_BXNUUK/view?usp=drive\\_link](https://drive.google.com/file/d/1XNoLNjhbhdNXexOUd2m9s2jFw_BXNUUK/view?usp=drive_link)

### Self evaluation

Each semester, student results are processed at each hosting institution (UEVORA, AUTH or UNIROMA1) through a local exam board. Rules for determining an overall grade for the 30 credits of each semester are specific to the host Institution, although academic staff from other ARCHMAT Partners may be involved in the assessment. These shared rules are anyhow suitable in order to ascertain the expected learning results by all the students, that are informed by the professors on specific procedures of the exams. This is a real challenge, as an International Master Degree needs to face and solve problems deriving from the different methods and traditions that characterise the examination procedures and evaluations in different countries

In most cases, the students take all the exams at the end of each semester, before moving to another university. At Sapienza University, the dates of the exams are planned to avoid date overlapping and the calendar is published online in the web page of the programme (<https://corsidilaurea.uniroma1.it/en/corso/2022/30388/programmazione>). The verification methods adopted for the individual courses are adequate to ascertain the achievement of the expected learning outcomes and are clearly described in the course files (see ARCHMAT web page at Sapienza University).

At the end of each semester, each ARCHMAT host Institution (1st semester – UEVORA, 2nd semester – AUTH, 3rd semester – UNIROMA1) has the primary and ultimate responsibility for obtaining from instructors and transmitting to the other ARCHMAT Partners for recognition, transcript of assessment records within one month from the start of the following semester.

The ARCHMAT Partners have agreed that, to facilitate moving students, resit exams may take place at any of the



partner University for each edition before the end of the ARCHMAT curriculum. At each ARCHMAT Partner Institution, local policies for re-sitting examinations apply.

A weakness of the ARCHMAT programme is the separate planning of the exam sessions in each partner University: while on the one hand each university has its own rules to fulfill, it would be useful to the students to have the complete schedule of the exam dates in a single web site.

Besides, an in-depth monitoring of the results of the examination would be useful for a continuous improvement of the evaluation methods and of the entire training path.

#### **Critical issues/areas for improvement**

A weakness of the ARCHMAT programme is the separate planning of the exam sessions, whose schedule is separately reported on the web platforms of the three partner Universities. It would be useful to the students to have the complete schedule of the exam dates in a single web site

See Objective n. 2 – D.CDS.1/2/RC-2023: Setting up of an ARCHMAT joint webpage with links to the Partner Universities.

Besides, an in-depth monitoring of the results of the examination has never been undertaken. This would be useful for a continuous improvement of the assessment methods and of the entire training path. It can be undertaken during the annual meetings of the Quality Assurance Board.

See Objective n. 4 – D.CDS.2/1/RC-2023: Monitoring of learning assessments and the final exam.



## D.CDS.2.6 Interazione didattica e valutazione formativa nei CdS integralmente o prevalentemente a distanza

### Fonti documentali

#### Documenti chiave:

- Titolo: Sapienza web page of the ARCHMAT Programme  
Breve Descrizione: online catalogue of the ARCHMAT programme, Sapienza University  
Riferimento: Attendance  
Link del documento: <https://corsidilaurea.uniroma1.it/en/corso/2022/30388/programmazione>
- Titolo: University of Evora web page of the ARCHMAT Programme  
Breve Descrizione: online catalogue of the ARCHMAT programme, University of Evora  
Riferimento: Study Plan  
Link del documento: <https://www.uevora.pt/en/study/courses/master-degrees?cod=MB13&v=plano-estudos>

### Self evaluation

*The ARCHMAT Programme is run on a mobility basis to ensure face-to-face lectures, also because of the large number of practical activities, fieldwork, workshops, visit to museums, etc. Online lectures were compulsory only during the COVID-19 pandemics and limited to the minimum possible time.*

*However, considering the international character of the Programme, even after the COVID-19 pandemics the final examination for graduation included the online participation of international members of the Jury, students being in presence in any of the Partner Universities. All the same, invited international scholars and stakeholders (e.g. at the Summer School) can give online lectures, to ensure the international character of the Programme and at the same time limit travel expenses.*

### Critical issues/areas for improvement

*Considering the international provenance of students and lecturers, although students will always be present in class at any of the Partner Universities, online participation of invited lecturers is at the same time a valuable opportunity for a very rich and varied training offer and a wasted chance for students to interact directly with top scientists and stakeholders.*



## D.CDS.2.c OBIETTIVI E AZIONI DI MIGLIORAMENTO

<b>Obiettivo n. 4</b>	<b>D.CDS.2/1/RC-2023: Monitoring of learning assessments and the final exam</b>
<b>Problema da risolvere Area di miglioramento</b>	<i>An in-depth monitoring of the results of the examination has never been undertaken. This would be useful for a continuous improvement of the assessment methods and of the entire training path.</i>
<b>Azioni da intraprendere</b>	<i>Monitoring of learning assessments and the final exam during the annual meetings of the Quality Assurance Board</i>
<b>Indicatore/i di riferimento</b>	<i>D.CDS.2.5 Modalità di verifica dell'apprendimento iC13 Percentuale di CFU conseguiti al I anno su CFU da conseguire iC15 Percentuale di studenti che proseguono al II anno nello stesso corso di studio avendo acquisito almeno 20 CFU al I anno iC15bis Percentuale di studenti che proseguono al II anno nello stesso corso di studio avendo acquisito almeno 1/3 di CFU previsti al I anno iC16 Percentuale di studenti che proseguono al II anno nello stesso corso di studio avendo acquisito almeno 40 CFU al I anno iC16bis Percentuale di studenti che proseguono al II anno nello stesso corso di studio avendo acquisito almeno 2/3 dei CFU previsti al I anno iC17 Percentuale di immatricolati (L; LM; LMCU) che si laureano entro un anno oltre la durata normale del corso nello stesso corso di studio</i>
<b>Responsabilità</b>	<i>The Coordinator of the ARCHMAT Programme; the QA Board</i>
<b>Risorse necessarie</b>	<i>The necessary resources (travel expenses for in-presence meeting of the international QA Board) can be supported by the EU funding of the ARCHMAT Programme</i>
<b>Tempi di esecuzione e scadenze</b>	<i>An annual meeting will be organized during the Summer School at the end of the second semester.</i>

<b>Obiettivo n. 5</b>	<b>D.CDS.2/2/RC-2023: Additional tutoring</b>
<b>Problema da risolvere Area di miglioramento</b>	<i>Some students have difficulty in following the courses, especially in the first year of the programme, depending on their diverse academic background and linguistic difficulties.</i>
<b>Azioni da intraprendere</b>	<i>Additional tutoring</i>
<b>Indicatore/i di riferimento</b>	<i>D.CDS.2.2 Conoscenze richieste in ingresso e recupero delle carenze iC13 Percentuale di CFU conseguiti al I anno su CFU da conseguire iC16 Percentuale di studenti che proseguono al II anno nello stesso corso di studio avendo acquisito almeno 40 CFU al I anno iC16bis Percentuale di studenti che proseguono al II anno nello stesso corso di studio avendo acquisito almeno 2/3 dei CFU previsti al I anno iC17 Percentuale di immatricolati (L; LM; LMCU) che si laureano entro un anno oltre la durata normale del corso nello stesso corso di studio</i>
<b>Responsabilità</b>	<i>The Coordinator of the ARCHMAT Programme; the Academic Board</i>
<b>Risorse necessarie</b>	<i>The necessary resources should be provided by the Partner Universities or supported by the EU funding of the ARCHMAT Programme</i>
<b>Tempi di esecuzione e scadenze</b>	<i>Additional tutoring should start in academic year 2023/2024.</i>



## D.CDS.3 LA GESTIONE DELLE RISORSE DEL CDS

### D.CDS.3.a SINTESI DEI PRINCIPALI MUTAMENTI RILEVATI DALL'ULTIMO RIESAME (con riferimento al Sotto-ambito)

#### **Description**

*This is the first CRR presented for the ARCHMAT programme, which started in the academic year 2019-2020. In the Annual reports of 2021 and 2022 no specific problems have been reported concerning the teaching staff of the ARCHMAT Programme, which is composed of qualified lecturers from three Universities (UEVORA, AUTH, and UNIROMA1)*



### D.CDS.3.1 Dotazione e qualificazione del personale docente e dei tutor

Fonti documentali (non più di 8 documenti):

Documenti chiave:

- Titolo: Scheda SUA-CdS 2022/2023  
Breve Descrizione: docenti titolari di insegnamenti  
Riferimento: quadro B3 e Referenti e strutture  
Link del documento: <https://www.universitaly.it/index.php/scheda/sua/58828>
- Titolo: Sapienza web page of the ARCHMAT Programme  
Breve Descrizione: online catalogue of the ARCHMAT programme, Sapienza University  
Riferimento: Attendance  
Link del documento: <https://corsidilaurea.uniroma1.it/en/corso/2022/30388/programmazione>

Documenti a supporto:

- Titolo: ARCHMAT Consortium Agreement 2020-2023  
Breve Descrizione: Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)  
Riferimento: Article 1  
Upload / Link del documento: [https://drive.google.com/file/d/1NnsYF-MT\\_OPrmkYTgJr1svbcz3JbtZKS/view?usp=drive\\_link](https://drive.google.com/file/d/1NnsYF-MT_OPrmkYTgJr1svbcz3JbtZKS/view?usp=drive_link)
- Titolo: ARCHMAT Consortium Agreement 2022-2028  
Breve Descrizione: Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)  
Riferimento: Article 1  
Upload / Link del documento: [https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw\\_BXNUUK/view?usp=drive\\_link](https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw_BXNUUK/view?usp=drive_link)
- Titolo: ARCHMAT Summer School 2022-2024  
Breve Descrizione: ARCHMAT Summer School 22-28 June 2023  
Riferimento: Programme  
Upload / Link del documento: [https://drive.google.com/file/d/16YOB5tW\\_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=drive\\_link](https://drive.google.com/file/d/16YOB5tW_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=drive_link)

#### **Self evaluation**

*Due to the compulsory mobility of the ARCHMAT students from Evora to Thessaloniki to Rome, the academic staff of each semester belongs to the three partner universities. For this reason, there is ample choice of lecturers, which is numerically more than adequate. The number of reference teachers belonging to core or characterizing disciplinary sectors exceeds 2/3 of the total teaching staff.*

*In order to keep in line with the requirements for an Erasmus Mundus Master's, the teaching staff has high scientific and professional qualification (evaluated and approved by the EU Commission of the EMJM project) and is selected to equip the ARCHMAT programme with the widest range of complementary fields of expertise in Archaeology and Archaeometry, and broader Cultural Heritage sector. In the specific case of the teaching staff of the third semester run at Sapienza University, lecturers belong to three Faculties (Mathematical, Physical and Natural Sciences, Civil and Industrial Engineering, and Art and Humanities) and five Departments. Students are aware of the high scientific value of the teaching staff, as also documented by the international databases of peer-reviewed scientific production (e.g., Scopus and Web of Science). Some members of the teaching staff of ARCHMAT programme are enrolled at the Department of*



Sciences of Antiquity, which is the first ranked department of Classics according to the QS World University Ranking by subject (<https://www.antichita.uniroma1.it/>) ([https://www.topuniversities.com/university-subject-rankings/2023/classics-ancient-history](https://www.topuniversities.com/university-rankings/university-subject-rankings/2023/classics-ancient-history))

In addition to the academic staff, a large number of non-academic scholars from specific professional sectors are engaged in transdisciplinary activities, seminars, and workshops, as well as tutoring of the students, especially during the thesis semester (see [ARCHMAT Consortium Agreements 2020-2023](#) and [2022-2028](#)). Besides curricular courses, students participate in integrative activities (lessons, exercises, revision and remedial activities for small groups to integrate the curricular teachings), also in relation to their possible need to make up for training deficiencies.

At all three Partner Universities initiatives exist to assist the improvement and upgrading of scientific, pedagogical, and teaching abilities, as well as to support the quality and innovation of the training activities. Information for updating of training activities at Sapienza University are found at: <https://www.uniroma1.it/en/notizia/lifelong-learning-sapienza-professors>. Numerous initiatives aimed at updating scientific and methodological competences are promoted with the objective of innovating the quality of the students' training process with new available technologies (see attached programme of the Summer School 2023).

Starting from the academic year 2022/2023 (see attached Consortium agreement 2022-2028), the ARCHMAT Consortium has planned an annual meeting of the teaching staff of the three partner Universities (connected to the Summer School) to discuss possible educational shortcomings, update teaching methods and share best educational practices. That is also the occasion to exchange best practices with top EU professionals, to acquire competences and skills and networking opportunities that will increase research and career potentials.

A major weakness concerning the teaching staff is the incompleteness of the information concerning the lecturers (e.g. CV) in the educational platforms of the three Partner Universities, so that the high scientific and professional qualification of the teaching staff does not appear at once.

*Critical issues/areas for improvement*

A possible solution to the problem of the incompleteness of the information concerning the lecturers (e.g. CV) in the educational platforms of the three Partner Universities, is to collect all the information in one common international platform (e.g. web page connected to the EU programme) and then link this information to the platforms of the single national partner universities.

see Objective n. 2 – D.CDS.1/2/RC-2023: Setting up of an ARCHMAT joint webpage with links to the Partner Universities



## D.CDS.3.2 Dotazione di personale, strutture e servizi di supporto alla didattica

### Fonti documentali:

#### Documenti chiave:

- Titolo: Sapienza web page of the ARCHMAT Programme  
Breve Descrizione: online catalogue of the ARCHMAT programme, Sapienza University  
Riferimento: Contacts, services, facilities  
Link del documento: <https://corsidilaurea.uniroma1.it/en/corso/2022/30388/contatti>

#### Documenti a supporto:

- Titolo: Laboratorio Hercules  
Breve Descrizione: research and education infrastructure from University of Évora  
Riferimento: Education  
Link del documento: <https://www.hercules.uevora.pt/index.php>
- Titolo: Piattaforma Syllabus  
Breve Descrizione: Hub for the growth of human capital in public administrations.  
Riferimento: offerta formativa  
Link del documento: <https://www.syllabus.gov.it/syllabus/>

### Self evaluation

ARCHMAT students have access to all the facilities and support available to all regular students at [UEVORA](#), [AUTH](#), and [UNIROMA1](#). These are clearly reported in the web page of the ARCHMAT programme at Sapienza University. In addition, [a guide for ARCHMAT students](#) is available from the University of Evora and a [guide for international students](#) is available at Sapienza University. Practical information for students at AUTH is available online (<https://eurep.auth.gr/en/students/info>).

Teaching support services (infrastructures, equipment and resources) ensure effective support for the activities of the Programme. In addition to lecture rooms, all equipped with PC, internet, projectors, and interactive whiteboards, educational laboratories equipped with microscopes and chemistry bench, as well as technical instruments and educational materials, are available at all three partner universities. A special mention is deserved by the [Hercules laboratory](#), a research infrastructure at the University of Évora, devoted to the study and valorisation of Cultural Heritage, focusing on the integration of physical and material sciences methodologies and tools in interdisciplinary approaches, available for advanced practical training of the ARCHMAT students.

During the fourth semester, which is dedicated to thesis work, students have a wide variety of laboratories to choose from, including university labs as well as the facilities and tools of non-academic and professional partners. (see [ARCHMAT Consortium Agreements 2020-2023](#) and [2022-2028](#)).

There are numerous libraries at each of the three partner universities where students can find quiet spaces to study and reference textbooks and scholarly articles. A number of 48 [libraries at Sapienza university](#) provide students with the largest university library holdings in Italy, supported by around 160 librarians. Besides, students have online access to >170 databases for research. An integrated system of 20 [museums](#) containing a wealth of scientific knowledge is also available to students. Additional services/facilities at Sapienza University include a [student housing service](#), [Health and well-being services](#), [Campus software for students](#), [Sapienza wireless](#), [e-learning facilities](#), [sporting facilities](#), religious centres ([University Chapel](#)), and [student collaboration scholarships](#). This information, as well as links to the Educational and Administrative Affairs Offices, Services for students with physical or learning disabilities, and lecture rooms, is available on the Sapienza Web page and linked to the [webpage of the ARCHMAT programme](#) at Sapienza University (Contact, services, facilities). A Student Ombudsperson is available both at [Sapienza University](#) and at the [University of Evora](#).

The-administrative staff of Sapienza participates in training and updating activities promoted and organized by the University. In addition, Sapienza University has joined the digital training programme aimed at PA employees, as part of the Strategic Plan for the enhancement and development of human capital "Re-form the PA. Investing in the digital knowledge and skills of civil servants" promoted by the Department of Public Administration



*(<https://www.syllabus.gov.it/syllabus>). For non-academic staff, the programme represents an opportunity to invest in their professional career; for the Administration a great opportunity to grow its organizational skills system.*

*A weakness of the ARCHMAT programme is the difficulty of coordinating the activities of the Educational offices in the three partner Universities and to evaluate the effectiveness of the teaching and support services offered by the administrative Offices.*

**Critical issues/areas for improvement**

*Given the international character of the ARCHMAT programme with mandatory mobility in 3 Partner Universities, the production of a joint student handbook summarizing all academic procedures/services/facilities would be especially useful to students.*

*See Objective n. 6 – D.CDS.3/2/RC-2023: Production of a joint student handbook*

*Considering the international nature of the ARCHMAT Programme the Educational offices in the three partner Universities should be better connected in order to effectively support the administrative tasks.*

*See Objective n. 3 – CDS.1/3/RC-2023: Improving international connection of Student Educational Offices in the ARCHMAT Partner Universities.*



### .CDS.3.c OBIETTIVI E AZIONI DI MIGLIORAMENTO

<b>Obiettivo n.6</b>	<b>D.CDS.3/2/RC-2023: Production of a joint student handbook</b>
<b>Problema da risolvere Area di miglioramento</b>	<i>Considering the international nature of the ARCHMAT Programme, a Joint student handbook, including all services and facilities for ARCHMAT students at the three universities would be very helpful to students.</i>
<b>Azioni da intraprendere</b>	<i>production of a joint student handbook, to be delivered to students in the first semester and also available online.</i>
<b>Indicatore/i di riferimento</b>	<i>D.CDS.3.2 Dotazione di personale, strutture e servizi di supporto alla didattica</i>
<b>Responsabilità</b>	<i>The Coordinator of the ARCHMAT Programme</i>
<b>Risorse necessarie</b>	<i>The necessary resources can be supported by the EU funding of the ARCHMAT Programme</i>
<b>Tempi di esecuzione e scadenze</b>	<i>A Joint student handbook for ARCHMAT students will be available starting from the academic year 2023/2024.</i>



## D.CDS.4 RIESAME E MIGLIORAMENTO DEL CDS

### D.CDS.4.a SINTESI DEI PRINCIPALI MUTAMENTI RILEVATI DALL'ULTIMO RIESAME (con riferimento al Sotto-ambito)

#### Description

*This is the first CRR presented for the ARCHMAT programme, which started in the academic year 2019-2020.*

*In both Annual Reports 2021 and 2022 the need was reported to accomplish the enrolment of students at Sapienza University during the first year of the MSc programme. The enrolment at Sapienza of ARCHMAT students in the first year of the programme has so far been impossible, since students enrol in Portugal at the beginning of the first semester, study in Greece in the second semester and arrive to Sapienza only at the beginning of the second year of the programme. Students are therefore enrolled when arriving to Italy, at the beginning of the third semester (second year). It is necessary to regularize the position of students in Sapienza as early as the first year of the course, so that students can be counted among those enrolled in the ANVUR statistics and the Sapienza QT, which would benefit also Sapienza University.*

<b>Azione Correttiva n. 1</b>	<i>To accomplish the enrolment of students at Sapienza University during the first year of the MSc programme</i>
<b>Azioni intraprese</b>	<i>In 2022, the procedures for the enrolment of students from non-European countries in the Faculty of Mathematical, Physical and Natural Sciences has greatly improved, thanks also to the Teaching Manager (Dr. Loredana De Ieso) e and the responsible for the Erasmus Office (Dr. Alfredo Trovato). The Faculty of Mathematical, Physical and Natural Sciences has also financed the collaboration of a temporary employee using part of the contribution disbursed by Sapienza International Office for international study programmes.</i>
<b>Stato di avanzamento dell'Azione Correttiva</b>	<i>Despite the great help provided by the Faculty of Mathematical, Physical and Natural Sciences, the problem is still not solved, also because of increased administrative requirements from the University Office of Students Administrative affairs. We propose the same objective in this RCC: Objective n. 9 – IND/1/RC-2023: Enrolment of students at Sapienza University during the first year of the MSc programme</i>



#### D.CDS.4.1 Contributo dei docenti, degli studenti e delle parti interessate al riesame e miglioramento del CdS

##### Fonti documentali :

##### Documenti chiave:

- Titolo: Scheda SUA-CdS 2022/2023  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: quadri B6, B7, C1, C2, C3  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/58828>
- Titolo: Scheda SMA 2021  
Breve Descrizione: *Schede di Monitoraggio Annuale*  
Riferimento: commissione Gestione AQ  
Upload / Link del documento: [https://drive.google.com/file/d/1u\\_Qi7FpkPXiUSIsI55PMz1UakWlxxVFN/view?usp=sharing](https://drive.google.com/file/d/1u_Qi7FpkPXiUSIsI55PMz1UakWlxxVFN/view?usp=sharing)
- Titolo: Scheda SMA 2022  
Breve Descrizione: *Schede di Monitoraggio Annuale*  
Riferimento: commissione Gestione AQ  
Upload / Link del documento: [https://drive.google.com/file/d/1rHIpYd5ccb9f1tyZP\\_pfKJkzE92B7Ish/view?usp=sharing](https://drive.google.com/file/d/1rHIpYd5ccb9f1tyZP_pfKJkzE92B7Ish/view?usp=sharing)
- Titolo: Scheda CPDS SMFN 2022  
Breve Descrizione: *Relazione annuale della CPDS SMFN 2022*  
Riferimento:  
Upload / Link del documento: [https://drive.google.com/file/d/1MKxjb1qpq3TIF9s\\_YThnb5C9xKqX6uT/view?usp=sharing](https://drive.google.com/file/d/1MKxjb1qpq3TIF9s_YThnb5C9xKqX6uT/view?usp=sharing)

##### Documenti a supporto:

- Titolo: ARCHMAT Consortium Agreement 2022-2028  
Breve Descrizione: *Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)*  
Riferimento: *Article 3 ARCHMAT Management Structure*  
Upload / Link del documento: [https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw\\_BXNUUK/view?usp=drive\\_link](https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw_BXNUUK/view?usp=drive_link)
- Titolo: ARCHMAT Summer School 2022-2024  
Breve Descrizione: ARCHMAT Summer School 22-28 June 2023  
Riferimento: Programme  
Upload / Link del documento: [https://drive.google.com/file/d/16YOB5tW\\_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=drive\\_link](https://drive.google.com/file/d/16YOB5tW_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=drive_link)

##### Self evaluation

The ARCHMAT Quality Assurance Board has delivered the Annual Monitoring reports in 2021 and 2022. The Board includes the Portuguese coordinator of the ARCHMAT Programme, non-teaching staff (educational student office) and student representatives. Since 2022 the report is written in English, in order to facilitate the discussion with the international students' representatives and



academic staff of the three Partner Universities. The Council of the ARCHMAT programme has systematically considered the outcome of the consultations. Actions have been undertaken to solve the main weaknesses highlighted in the reports. Annual consultations with stakeholders during the Summer School at the end of the second semester are included in objective D.CDS.1/1/RC-2023: Updating Stakeholder consultation of the present CRR.

In particular, a regular election of the students' representatives has been implemented in the first year of the ARCHMAT programme. Other issues raised by the students concern difficulties in communication between the three partner universities' student services. For this reason, a meeting of the student service officers of the three partner universities is planned during the Summer School (22-28 June 2023) at Kalandra University Camp - Aristotle University of Thessaloniki (see attached document), to agree on times and modes for transferring the ToRs, as well to establish common strategy to ensure joint QA reports and actions. For this reason, the present Cyclic Review Report also includes members from the partner universities UEVORA and AUTH.

In order to set up easily accessible procedures to manage remarks and suggestions from students and to take charge of the critical issues that may arise from the academic and non-academic staff, the Programme approved by the European Commission and agreed by the three Partner Universities (see attached Partnership agreement 2022-2028) includes the following:

- **ARCHMAT Quality Assurance Board**, composed by 3 ARCHMAT academic teaching staff (UEVORA + AUTH + UNIROMA1), 1 active student representative, 1 representative from the HEI Associated Partners, and 1 representative from the non-HEI Associated Partners, with the aim to monitor and evaluate the quality of the course implementation and suggest improvements when/if needed
- **ARCHMAT Academic Board**, composed by the Programme Coordinator, 3 academic Directors (UEVORA + AUTH + UNIROMA1), 3 representatives of the academic officers, 1 representative from the HEI Associated Partners, 1 representative from the non-HEI Associated Partners, and 2 student representatives, aimed to ensure communication between all the partners of the consortium, define the overall pedagogic and thematic priorities offered by the partners, and implement the Programme, as well suitable correction actions suggested by the Quality Assurance Board.

The CPDS (Joint Commission Teachers Students of the Faculty of Mathematical, Physical and Natural Sciences) has taken into consideration students' suggestions especially regarding the requirement for more basic knowledge and the necessity for educational materials to be made available enough in advance.

Apart from the OPIS (teacher and student opinion surveys) at Sapienza University, no other online anonymous system for the collection and management of observations and improvement proposals from teachers, researchers, technical-administrative staff and students, as well as for the collection and management of complaints from students has been implemented at UEVORA and AUTH for the first and second semester of the ARCHMAT Programme. To overcome this deficiency, an "ARCHMAT survey" will be administered at the end of the Summer School to students, as well as to academic and non-academic staff.

The results of Sapienza survey on the opinions of undergraduate students are adequately analyzed and considered, but it is still challenging to ascertain graduates' opinions due to the fact that the majority of them disperse around the globe after graduation, making it challenging to monitor their post-graduation outcomes. For this reason, a representative of the alumni has been included in the Quality Assurance Board of the present Cyclic Review Report.

#### Critical issues/areas for improvement

Apart from the OPIS (teacher and student opinion surveys) at Sapienza University, no other online anonymous system for the collection and management of observations and improvement proposals from teachers, researchers, technical-administrative staff and students, as well as for the collection and management of suggestions and complaints from students has been implemented at UEVORA and AUTH for the first and second semester of the ARCHMAT Programme.

See Objective n. 7 – D.CDS.4/1/RC-2023: Administration of an "ARCHMAT evaluation survey"



## D.CDS.4.2 Revisione della progettazione e delle metodologie didattiche del CdS

### Fonti documentali:

#### Documenti chiave:

- Titolo: Dati carriere studenti  
Breve Descrizione: Dati carriere student aggiornato al 05.05.2023  
Riferimento: LM-11 Archaeological Material Science  
Upload / Link del documento:  
[https://www.uniroma1.it/sites/default/files/field\\_file\\_allegati/dati\\_carriere\\_studenti\\_2.zip](https://www.uniroma1.it/sites/default/files/field_file_allegati/dati_carriere_studenti_2.zip)
- Titolo: Scheda SUA-CdS 2022/2023  
Breve Descrizione: Obiettivi formativi specifici del corso e profilo professionale  
Riferimento: quadri B1, B2, B4, B5, B6, B7, C1, C2, C3, D4  
Upload / Link del documento: <https://www.universitaly.it/index.php/scheda/sua/58828>
- Titolo: Scheda SMA 2021  
Breve Descrizione: *Schede di Monitoraggio Annuale*  
Riferimento: commissione Gestione AQ  
Upload / Link del documento:  
[https://drive.google.com/file/d/1rHlpYd5ccb9f1tyZP\\_pfKJkzE92B7ISh/view?usp=drive\\_link](https://drive.google.com/file/d/1rHlpYd5ccb9f1tyZP_pfKJkzE92B7ISh/view?usp=drive_link)
- Titolo: Scheda SMA 2022  
Breve Descrizione: *Schede di Monitoraggio Annuale*  
Riferimento: commissione Gestione AQ  
Upload / Link del documento:  
[https://drive.google.com/file/d/1VxREQoT1RV6Y5JRtRDaLEY16WnlQmUP9/view?usp=drive\\_link](https://drive.google.com/file/d/1VxREQoT1RV6Y5JRtRDaLEY16WnlQmUP9/view?usp=drive_link)
- Titolo: Scheda CPDS SMFN 2022  
Breve Descrizione: *Relazione annuale della CPDS SMFN 2022*  
Riferimento: 2.2 Lauree Magistrali – LM-11 Archaeological Materials Science  
Upload / Link del documento:  
[https://drive.google.com/file/d/1MKxjb1qpq3TIF9s\\_YThnb5C9xKqX6uT/view?usp=drive\\_link](https://drive.google.com/file/d/1MKxjb1qpq3TIF9s_YThnb5C9xKqX6uT/view?usp=drive_link)

#### Documenti a supporto:

- Titolo: *ARCHMAT Consortium Agreement 2022-2028*  
Breve Descrizione: *Partnership agreement among the Rectors of Sapienza University of Rome, University of Evora (PT) and Aristotle University of Thessaloniki (Greece)*  
Riferimento: *Article 3 ARCHMAT Management Structure*  
Upload / Link del documento:  
[https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw\\_BXNUUK/view?usp=drive\\_link](https://drive.google.com/file/d/1XNoLNjibhdNXexOUd2m9s2jFw_BXNUUK/view?usp=drive_link)
- Titolo: ARCHMAT Summer School 2022-2024  
Breve Descrizione: ARCHMAT Summer School 22-28 June 2023  
Riferimento: Programme  
Upload / Link del documento: [https://drive.google.com/file/d/16YOB5tW\\_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=drive\\_link](https://drive.google.com/file/d/16YOB5tW_qKIH9HoTEZbpz8PWX-2BrnkM/view?usp=drive_link)



### Self evaluation

Due to the ARCHMAT programme's international nature, collaborative course structure and coordination, teaching strategies and learning outcomes assessment, schedule streamlining, exam scheduling, and support activities are typically challenging to achieve. These issues have been particularly severe during the joint programme's initial phase, corresponding to the Partnership agreement 2020-2023. Starting in the academic year 2022-2023, the new Partnership agreement 2022-2028 (see supporting information) has tackled the issue of joint planning and implementation of the Programme, according to scientific progresses and technological innovations, through regular meetings of the Academic Board, the Quality Assurance Board and the Outreach Board. The first meeting of these boards in the academic year 2022-2023 is planned during the ARCHMAT Summer School in June 2023 (see supporting information).

These strategies make it possible to homogenize the educational path, and each partner University elaborated a uniform and well organised calendar for lessons, exams and other activities, so as to facilitate the students in succeeding in their career.

The training offer, which includes, in addition to the 3 Partner universities, a satellite network of EU (Portugal, Greece, France, Italy, Spain, Belgium) and non-EU (Israel, China, Brazil and Colombia) academic and non-academic Associated Partners, has been renewed in 2022, on the occasion of the call of the European Commission for the Erasmus Mundus Joint Masters, which was successfully evaluated and financed. The call has been an excellent occasion to update the training offer to the most relevant techniques and applications, teaching methods and professional perspectives. The Academic Board of the programme, meeting at least once a year, has the responsibility to make sure the educational offering is continually updated to reflect the most cutting-edge disciplinary knowledge in regard to the advancement of science and innovation as well as in relation to succeeding study cycles, including PhD and professional masters.

An important task of the Academic Board is to monitor and homogenize the results of the learning assessments and the final exam, with the aim of improving the students' careers, as well as employment outcomes. The main difficulty encountered is the different evaluation criteria of the final exam in the 3 partner universities: while in Italy a mark is frequently assigned to the degree exam in addition to the weighted average of the exams, in Portugal and Greece, the 30 ECTS corresponding to the thesis work are evaluated as an exam and are considered as such for the weighted average of the final grade. By adopting the Portuguese and Greek evaluation method, the final grade of ARCHMAT students is lower than the average of the corresponding LM-41 class in Italy.

As a whole, ARCHMAT students normally graduate in time, and, even if their grades are generally not very high (due to the difficult conversion and equivalence among the very different evaluation systems of the three partner Universities), the large part of them finds an occupation or continue their studies (PhD) within one year after the end of the programme. Thus, as demonstrated by the substantial number of employed (even PhD) graduates after 1 year from graduation, the ARCHMAT students' lower final grade compared to Italian graduates of the same faculty does not negatively affect their job outcome (see section D.CDS.1.1).

As already specified, it is especially difficult to trace the outcome of ARCHMAT graduates, for which reason we have included ARCHMAT Alumni as participants in the Summer School, also to keep track of their advancement.

### Critical issues/areas for improvement

A major challenge is to trace the outcome of ARCHMAT graduates, who often disperse after graduation or go back to their own countries, so it is difficult to keep track of their advancement in career.

See Objective n. 8 – CDS.4/2/RC-2023: Monitoring of professional outcomes of graduates

## D.CDS.4.c OBIETTIVI E AZIONI DI MIGLIORAMENTO

<b>Obiettivo n. 7</b>	<b>D.CDS.4/1/RC-2023: Administration of an "ARCHMAT evaluation survey"</b>
<b>Problema da risolvere Area di miglioramento</b>	Apart from the OPIS (teacher and student opinion surveys) at Sapienza University, no other online anonymous system for the collection and management of observations and improvement proposals from teachers, researchers, technical-administrative staff and students, as well as for the collection and management of suggestions and complaints from students has been implemented at UEVORA and AUTH for the first and second semester of the ARCHMAT Programme.
<b>Azioni da intraprendere</b>	An "ARCHMAT evaluation survey" will be administered at the end of the Summer School to students, as well as to academic and non-academic staff.
<b>Indicatore/i di riferimento</b>	iC25 Proportion of students about to graduate who are overall satisfied with the degree program.
<b>Responsabilità</b>	The coordinator of the ARCHMAT Programme
<b>Risorse necessarie</b>	No specific resources are necessary
<b>Tempi di esecuzione e scadenze</b>	Administration of an "ARCHMAT evaluation survey" starting from the Summer School 2023



<b>Obiettivo n. 8</b>	<b>D.CDS.4/2/RC-2023: Monitoring of professional outcomes of graduates</b>
<b>Problema da risolvere Area da migliorare</b>	<i>Due to the peculiar international features of the ARCHMAT Programme, the follow up of graduate students, who often move to other countries or go back to their homeland, is difficult. In order to monitor the CdS and to promote possible necessary adjustments, it is fundamental to get information on how the Master's formation helps the students in their professional progress.</i>
<b>Azioni da intraprendere</b>	<i>Creation of a wider and more connected network between students, graduates, administrative staff and professors through joint ARCHMAT meetings</i>
<b>Indicatore di riferimento</b>	
<b>Responsabilità</b>	<i>The Coordinator of the ARCHMAT Programme</i>
<b>Risorse necessarie</b>	<i>The necessary resources (travel expenses) can be supported by the EU funding of the ARCHMAT Programme</i>
<b>Tempi di esecuzione e scadenze</b>	<i>An annual meeting with ARCHMAT Alumni will be organized during the Summer School at the end of the second semester starting from June 2023</i>



## Commento agli indicatori

### Fonti documentali:

#### Documenti chiave:

- Titolo: Dati sulle carriere degli studenti predisposti dal Team Qualità  
Breve Descrizione: Dati sulle carriere degli studenti aggiornato al 05.05.2023  
Riferimento: LM-11 Archaeological Materials Science  
Upload / Link del documento: [https://www.uniroma1.it/sites/default/files/field\\_file\\_allegati/dati\\_carriere\\_studenti\\_2.zip](https://www.uniroma1.it/sites/default/files/field_file_allegati/dati_carriere_studenti_2.zip)
- Titolo: Dati sulle carriere degli studenti predisposti dal l'ANVUR  
Breve Descrizione: indicatori AVA  
Riferimento: LM-11 Archaeological Materials Science  
Upload / Link del documento: <https://www.uniroma1.it/it/pagina/applicativo-opinioni-studenti-reportistica-i-docenti>
- Titolo: Dati OPIS  
Breve Descrizione: Applicativo Opinioni Studenti  
Riferimento: LM-11 Archaeological Materials Science  
Upload / Link del documento: <https://www.uniroma1.it/it/pagina/applicativo-opinioni-studenti-reportistica-i-docenti>

## A SINTESI DEI PRINCIPALI MUTAMENTI INTERCORSI DALL'ULTIMO RIESAME

### Description

*This is the first CRR presented for the ARCHMAT programme, which started in the academic year 2019-2020.*

## B ANALISI DELLA SITUAZIONE SULLA BASE DEI DATI

Includervi i principali problemi individuati, le sfide, i punti di forza e le aree da migliorare che emergono dall'analisi del periodo in esame e dalle prospettive del periodo seguente

### Description

*Due to the peculiarity of the ARCHMAT MSc Programme, whose students are initially enrolled at the University of Evora in Portugal and are registered at Sapienza University only at the beginning of the third semester, i.e. September-October of the second year of the programme. the number of students enrolled at Sapienza made available by the Quality Team of Sapienza and the official data of ANVUR are incomplete. Due to transfer from a previous Multiple degree programme to the current Joint programme, the students enrolled in 2020 (22 students) were registered at Sapienza only in November 2021. The 31 students enrolled in 2021 faced even more difficult problems following new, more restrictive regulations for the registration of international students at Sapienza University. For this reason, it has not been possible to record the Transcript of Records from UEVORA, AUTH and UNIROMA1 until June 2023. This delay does not affect the regular running of the courses and of the thesis work but prevents a numerical evaluation of the records of examinations and of the students' educational path. The 17 students currently running their first year of the MSc at AUTH are not enrolled at Sapienza university yet.*

*A further delay occurs in the process of the recognition of the exams at Sapienza University. The first year of the ARCHMAT Master is run at the University of Evora (first semester) and at the Aristotle University of Thessaloniki (second semester). The respective Student Secretariat transmits the Transcript of Records (ToR) to Sapienza*



University. The grades of the ToR assigned according to the Portuguese and Greek regulations, respectively, are then converted into the Italian grading system, approved by the Committee of the MSc and sent to the Sapienza Student Secretariat for input on the Infostud platform. In contrast, the final exam (Thesis defence) is run jointly at the three partner universities, so that the time lost for administrative procedures in Sapienza is fully recovered at the end of the programme.

In consideration of the problem reported above, the 2021 and 2022 Annual Monitoring Reports (see attached documents) take into account the real number of ARCHMAT students, career regularity and internationalization data obtained directly from the Infostud platform and not the data provided by ANVUR and the Quality Team (see supporting documents).

In summary, the main indicators show the following trends:

**Percentage of ECTS obtained during the first year out of the expected ECTS:** over 95% of the expected ECTS were obtained during the first year of the MSc.

**Percentage of students enrolled in the second year of the MSc programme who have achieved at least 2/3 (40 ECTS) of the credits required in the first year of the programme.** Based on the ToR received from the Universities of Evora and Thessaloniki, 100% of the students enrolled in the second year of the MSc have achieved at least 2/3 of the ECTS required in the first year of the programme. The reason for this overall success is due both to the high degree of motivation of the students, who are interested in completing the programme within the set limit of two years, and the strict requirements of this joint MSc, which provides for compulsory international mobility.

**Percentage of students who continue in the second year in the same Programme.** 100% of the students have continued in the second year of the ARCHMAT Programme

**Percentage of graduates within the normal duration of the programme.** Two cohorts of students have currently achieved graduation. In the cohort 2019-2021, a number of 19 out of the 20 enrolled students (95%) graduated within the normal duration of the programme, the late one being due to health issues of the student concerned. In the cohort 2020-2022, a number of 20 out of the 22 enrolled students (91%) graduated within the normal duration of the programme, one student graduated with a few months of delay, and one student has not graduated yet.

**Percentage of enrolled students who graduate within one year beyond the normal duration of the Programme in the same MSc.** 100% of the 2019–2021 cohort and 95% of the 2020–2022 cohort, respectively, graduated within one year from the normal duration of the Programme. A reason for this excellent result is that many ARCHMAT students have an Erasmus Mundus scholarship for only two years, and would have difficulties in renewing their VISA after the end of the Programme. In all the cases of delayed graduation, the students concerned were from European countries.

**Percentage of tenured teachers belonging to basic and characterizing scientific-disciplinary sectors (SSD), of which they are reference teachers.** 76% of reference teachers belong to basic and characterizing SSDs. Note that reference teachers also include two teachers from the University of Evora.

**Percentage of teaching hours provided by permanent teachers out of the total hours of teaching provided.** In the semester run at Sapienza University, 27 out of 42 ECTS (64%) are provided by permanent teachers, each ECTS corresponding to 30 hours teaching. This percentage is destined to increase as three lecturers are going to end their tenure track in one year time. We cannot assess the percentage of teaching hours provided by permanent teachers at UEVORA and AUTH because of the different academic systems.

**Ratio of students enrolled/teachers (weighted by the hours of teaching).** This information cannot be obtained, as the first and second semester of the MSc are run abroad.

**Ratio of students enrolled in the first year/teachers of courses in the first year (weighted by teaching hours).** This information cannot be obtained, as the first and second semesters of the MSc are run abroad.

These indicators depict an excellent situation for the ARCHMAT students, compared to other programmes of the same Faculty/University. For example, the percentage of ARCHMAT students who graduated in 2021 within the normal duration of the MSc (95%) is significantly higher than the average of Sapienza University (68.2%) and the national average (81.7%), as is the percentage of students who acquire at least 12 ECTS abroad (100% versus 6.7% at Sapienza University and 29.4 at a national level). This result is closely connected to the international character of the ARCHMAT programme.

#### **Problemi da risolvere/Aree da migliorare**

It is necessary to regularize the position of students in Sapienza as early as the first year of the course, so that students can be counted among those enrolled in the ANVUR statistics and the Sapienza QT, which would benefit also Sapienza University. We intend to proceed with the enrolment of students through online guided procedures before the end of the first semester at Evora University, as soon as the students have obtained (online) the Italian tax code.

See Objective n. 9 – IND/1/RC-2023: Enrolment of students at Sapienza University during the first year of the MSc programme



## C OBIETTIVI E AZIONI DI MIGLIORAMENTO

<b>Obiettivo n. 9</b>	<b>IND/1/RC-2023: Enrolment of students at Sapienza University during the first year of the MSc programme</b>
<b>Problema da risolvere Area da migliorare</b>	<i>The enrolment at Sapienza of ARCHMAT students in the first year of the course has so far been impossible, since students enrol in Portugal at the beginning of the first semester, study in Greece in the second semester and arrive to Sapienza only at the beginning of the second year of the programme. Students are therefore enrolled when arriving to Italy, at the beginning of the third semester (second year).</i>
<b>Azioni da intraprendere</b>	<i>It is necessary to regularize the position of students in Sapienza as early as the first year of the course, so that students can be counted among those enrolled in the ANVUR statistics and the Sapienza QT, which would benefit also Sapienza University. In 2022, the procedures for the enrolment of students from non-European countries in the Faculty of Mathematical, Physical and Natural Sciences has greatly improved, thanks also to the Teaching Manager e and the responsible for the Erasmus Office. With the help of these officers, we intend to proceed with the enrolment of students through online guided procedures before the end of the first semester at Evora University, as soon as the students have obtained (online) the Italian tax code.</i>
<b>Indicatore di riferimento</b>	<i>iC13 Percentuale di CFU conseguiti al I anno su CFU da conseguire</i>
<b>Responsabilità</b>	<i>The Coordinator of the ARCHMAT Programme</i>
<b>Risorse necessarie</b>	<i>The collaboration of a temporary employee is required, which can be financed as part of the contribution disbursed by Sapienza International Office for international study programmes.</i>
<b>Tempi di esecuzione e scadenze</b>	<i>The goal can be achieved starting from the academic year 2023/2024.</i>