2022

FACULTY OF ARTS AND HUMANITIES

UNIVERSITY OF COLOGNE

DEANERY

MODULE MANUAL

Digital and Computational Archaeology
Master of Arts

ACCORDING TO THE EXAMINATION REGULATIONS FOR THE MASTER PROGRAMS OF THE FACULTY FOR ARTS AND HUMANITIES

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Universität zu Köln

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Legend

AM	Advanced Module	S	Seminar
BM	Basic Module	SM	Specialization module
EM	Complementary Module	SSt	Self Study
C	Class	SWS	Hours per week
CH	Contact hours (= amount of time in a class)	Ü	Tutorial
Col	Colloquium	VL	Lecture
CP	Credit Points	WL	Workload

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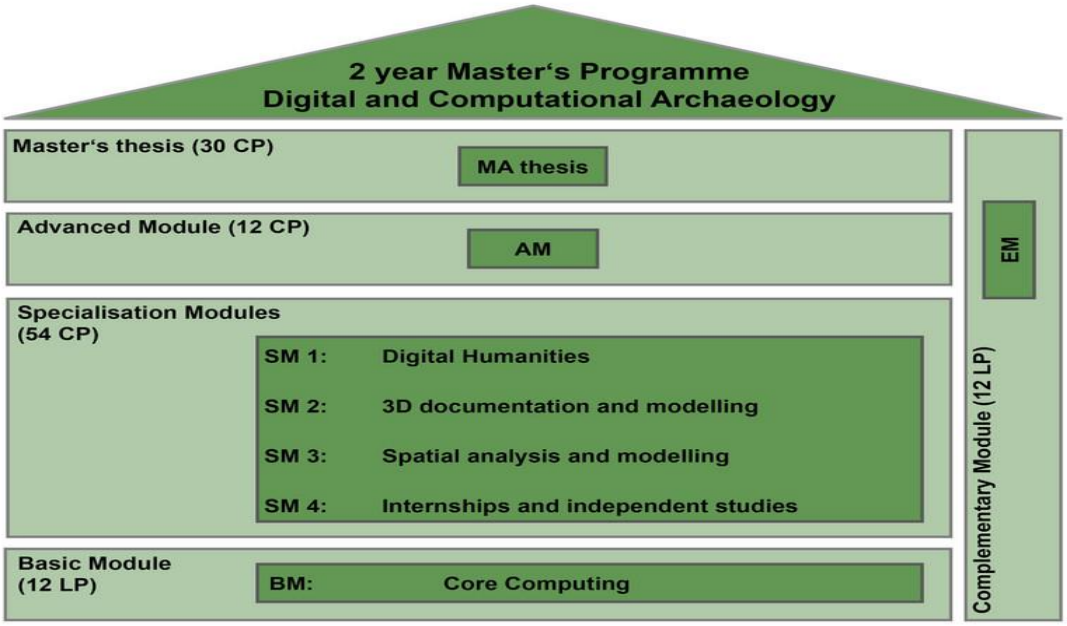
1 Digital and Computational Archaeology



Overview of the Master program "Digital and Computational Archaeology"

1.1 Content and study aims

Digital and Computational Archaeology is concerned with the development and application of digital technologies and computational methods in archaeology, seeking to facilitate and transform the practice of archaeological scholarship. The Master program "Digital and Computational Archaeology" is designed to equip Bachelor graduates with practical, theoretical and critical skills in a variety of established and emerging digital technologies in Archaeology and support a career in academia, cultural resource management, museums, public and private cultural heritage organisations. Students of this program are offered the opportunity to use the facilities of the Cologne Digital Archaeology Laboratory (CoDArchLab), which is equipped with teaching, research and study spaces, numerous workstations, a variety of commercial and open source software programs, as well as specialised computational imaging equipment.

Digital and Computational Archaeology does not have a specific temporal or geographic focus and its methodologies are applicable to all areas of archaeology. The program covers a number of IT topics that are especially tailored to the needs of Archaeology, ranging from database theory and design, data modelling and analysis, 3D recording and documentation of material culture artefacts, 3D modelling and reconstruction, GIS, 2D and 3D spatial analysis, spatial statistics and computational modelling. It also includes core computing courses that aim to offer important IT skills (in programming, Web science, Data Science etc.) as well as a module that introduces students to Digital Humanities methods more broadly.

Graduates of the Master program “Digital and Computational Archaeology” will:

- have developed core computing skills in Data Science (database theory and design, data visualisation and representation, data modelling), Web technologies and programming and have become acquainted with current issues in archaeological data management and policy.

- be familiar with the use of state-of-the-art 3D technologies and media and have learnt which techniques are best suited for data capture, documentation and analysis in different situations and contexts (e.g. fieldwork, museum, research projects).

- have learnt to think critically on the application of Geographic Information Systems (GIS), spatial analysis, spatial statistics, and computational modelling in Archaeology and understood how to best apply these methods to gain insights into past human behaviour and the socio-political organisation of pre-modern cultures.

- be able to identify current issues, problems and developments in the field of Digital Humanities and have gained practical experience in the application and development of methods and tools that can benefit Humanities research more broadly.

- be able to assess critically the links between developments in Digital Archaeology and debates in the areas of Archaeology and Archaeological Theory and contribute to these debates.

- have developed problem-solving skills, have learnt to deal with complex research questions and to bring research projects to fruition, both individually and in groups.

- have taken internships in excavations, museums, and cultural heritage management organisations and developed their practical skills in real life situations.

- have further enhanced, according to their preferences, their theoretical knowledge, research skills and/or practical competences via available elective courses in the fields of cultural historical studies, Digital Humanities, natural science methods in Archaeology and/or Computer Science.

- have gained significant experience in research communication, both written (reports, scientific articles, blogs) and verbal (presentations, group discussions).

1.2 Admission criteria

Students of the Master program “Digital and Computational Archaeology” should hold a bachelor’s degree (with at least 180 CP) in Archeology or an archaeological sub-discipline, such as Prehistoric Archaeology, Classical Archaeology, Ancient Near Eastern Studies, Archaeology of Roman Provinces, Egyptology or similar. At least 60 CP have to be obtained in an archaeological discipline during the BA studies. A decision upon the admission of students will be made by the Admissions Committee.

The Master program “Digital and Computational Archaeology” is fully taught in English. Knowledge of English needs to be certified at the C1 level in the Common European

Framework of Reference for Languages (CEF). Knowledge of German is not required for admission or the completion of the Master program, but students will have the opportunity to choose from a number of German electoral courses, should they wish to.

1.3 Course of Study

The Master program “Digital and Computational Archaeology” consists of one basic module, four specialisation modules, one advanced module, one complementary module and the Master thesis. Its duration is four semesters (120 CP) and attendance starts in the winter semester. The fourth semester is reserved for the Master’s thesis.

Attendance of the **Basic Module (BM),** where core competences are taught, is expected in the first semester. The **Specialisation Modules (SM),** the **Advanced Module (AM)** and the **Complementary Module (EM)** can be attended in the first, second or third semester (cf. exemplary study plan, p. 21). SM 1 focuses on tools and methods in Digital Humanities, SM 2 deals with the application of 3D technologies in archaeology, SM 3 is concerned with spatial analysis, statistics and computational modelling and SM 4 offers opportunities for internships and independent studies. With the Advanced Module, students can attend additional advanced courses in the fields of cultural historical studies, Digital Humanities, natural science methods (relevant to archaeological research) and/or Computer Science. Finally, students are required to choose one of the two Complementary Modules which offer a number of electoral courses. EM 1 includes English courses on a number of relevant subjects that are offered in other master programs at the University of Cologne (“Culture and Environment in Africa”, “International Master of Environmental Sciences”, “Archäologie”, the master programs of the Institute of Digital Humanities). EM 2 is an optional module that gives students the opportunity to claim credit points for studies abroad or at another German university, should they wish to.

1.4 Credit points overview

The MA program consists of altogether 120 CP (credit points, equal to ECTS) that are allocated as follows:

CP – overview	
Basic module	**12 CP**
Specialisation modules	**54 CP**
Advanced module	**12 CP**
Complementary Module	**12 CP**
Master’s thesis	**30 CP**
Total count	**120 CP**

1.5 Credit point overview for each semester

CP - overview: Master in Digital and Computational Archaeology				
Sem.	**Module**	**CH1**	**SSt.**	**CP**
1.	BM 1: Core Computing	90	270	12
1.-3.	SM 1: Digital Humanities	90	270	12
1.-3.	SM 2: 3D-Documentation and -Modelling	60	300	12
1.-3.	SM 3: Spatial Analysis and Modelling	90	360	15
1.-3.	SM 4: Internship and Independent Studies	0	4502	15
1.-3.	AM1: Specialization	90	270	12
1.-3.	EM1: Complementary Studies (elective)	90	270	12
1.-3.	EM2: Mobility (elective)	varies	varies	12
4.	Master's thesis	0	900	30
	Sum	**510**	**3090**	**120**

1.6 Calculation of final grade

The final grade of the Master's degree is calculated as the weighted average of five modules (BM1, SM1, SM2, SM3, AM1) and the *Master's Thesis.* Each module will contribute to the weighted average of the five modules as follows: *BM1 20%, SM 1 20%, SM 2 25%, SM 3 30%, AM1 5%.*

2 Module descriptions and tables

Note: According to § 15 Section 2 of the examination regulations, the following formats are generally provided for under "study achievements": electronic learning level surveys, essays, exercises, homework, short presentations, protocols, reviews, test exams, theses and similar formats.

2.1 Basic Module

Basic Module: Core Computing					
ID	**Workload**	**Credit Points**	**Semester**	**Frequency of offer**	**Duration**
4436BMFBM1	360 h	12 CP	1st	WiSe	1 Semester

1	**Courses**	**Contact hours**	**SSt**
	a) S.: Core Computing I: Data modelling and data science in Archaeology	30 h	60 h
	b) S: Core Computing II: Spatial data visualisation and management	30 h	60 h
	c) S: Core Computing III: Introduction to programming and web technologies	30 h	60 h
	c) Module exam: term paper (on content of a)		90 h

2	**Aim of the module and acquired skills** On successful completion of this module students will: • be familiar with core computing concepts and their use in archaeology • have gained experience in writing code/ short programs • be able to use a variety of software for data management, representation and analysis. • understand data modelling concepts and the implications of different data structures for data management and analysis based on example archaeological datasets.
3	**Module content** • In Seminar a) students will be introduced to important concepts of database theory and design and learn to produce archaeological data models and databases using example archaeological datasets. They will also work on the application of data science methods for data analysis and visualization using popular statistical programs and scripting languages. • Seminar b) will focus in particular on the representation and management of spatial data. Students will gain an overview of the uses of spatial data in archaeology and learn to use CAD and GIS software for digitizing and mapping archaeological information. • In Seminar c) students will be introduced to programming principles via the use of scripting and Markup languages. Through practical classes they will learn how to use web technologies in order to publish and disseminate information via the web and create web interfaces.
4	**Teaching and learning structure** Seminar
5	**Prerequisites for the module** None.
6	**Mode of Module Examination** Written exam on a) (term paper (project with practical component and report 4000-6000 words, ca. 10-15 pages), examination in English and German possible.
7	**Prerequisite for earning credit points** Study achievements in a), b) and c), successfully passed module exam.
8	**Use of the module in other study programs** Required module in the specialisation Archäoinformatik in the 1-Fach and 2-Fach-Masterstudiengang Archäologie (SM 1 in study profile A and B).
9	**Significance of the module mark for the end grade** This module will contribute 20% to the weighted average of the four modules considered in the final mark.
10	**Module coordinator** Professor of Computational Archaeology
11	**Notes** This module is offered only in the winter semester and has to be completed in the first semester. Students have to attend the BM courses prior or in parallel with the Specialisation Modules.

2.2 Specialisation Modules

<table>
<tr><td colspan="7">Specialisation module 1: Digital Humanities</td></tr>
<tr><td colspan="2">ID</td><td>Workload</td><td>CP</td><td>Semester</td><td>Frequency of offer</td><td>Duration</td></tr>
<tr><td colspan="2">4436BMFSM1</td><td>360 h</td><td>12 LP</td><td>1.-3.</td><td>WiSe/SoSe</td><td>2 Semester</td></tr>
<tr><td>1</td><td colspan="3">Courses
a) S.: Modelling in the Humanities
b) Ü.: Digital Humanities – Tools and Methods
c) Col.: Colloquium in Digital Cultural Heritage
c) Module exam.: Combined examination (Oral presentation and seminar paper, based on the seminar)</td><td>Contact h.
30 h
30 h
30 h
0 h</td><td>Sst
60 h
60 h
60 h
90h</td><td></td></tr>
<tr><td>2</td><td colspan="6">Aim of the module and acquired skills
On successful completion of this module students will have:
• gained an overview over the international research area of "Digital Humanities" (DH).
• learned to identify current issues, problems and developments from two perspectives: as it is seen from the traditional humanities in their current digital transformation, and in using the long critical tradition of the humanities to understand better the current development of the online digital world.
• learned, through their own projects, to evaluate existing approaches to Digital Humanities, develop new ones, model suitable data structures, and operationalise and formalise possible solutions.</td></tr>
<tr><td>3</td><td colspan="6">Module content
• In the seminar the students will work on a real-life problem and solve it through establishing models at different levels of formality. In combination with theory this will establish a link between practical modelling and model theory as it is currently understood in digital humanities.
• The tutorial will lead the students through tools and methods for processing and analysis of important technical media types such as texts, images, or 3D models. Through critical engagement with state-of-the-art tools and methods they will understand better the possibilities as well as the limits in the use of digital tools in the humanities.
• In the colloquium a series of presentations from researchers and professionals in digital humanities and cultural heritage will enable students to reflect on the variety, complexity, and rapid development of theory and praxis in these areas.</td></tr>
<tr><td>4</td><td colspan="6">Teaching and learning structure
Seminar, Tutorial, Colloquium</td></tr>
<tr><td>5</td><td colspan="6">Prerequisites for the module
None.</td></tr>
<tr><td>6</td><td colspan="6">Mode of Module Examination</td></tr>
</table>

	Oral presentation of a seminar paper on modelling.
7	**Prerequisite for earning credit points** Study achievements in a), b) and c), successfully passed module exam.
8	**Use of the module in other study programs** -
9	**Significance of the module mark for the end grade** This module will contribute 20% to the weighted average of the four modules considered in the final mark.
10	**Module coordinator** Prof. Dr. Øyvind Eide
11	**Notes** **-**

Specialisation module 2: 3D Documentation and -Modelling					
ID	**Workload**	**Credit points**	**Semester**	**Frequency of offer**	**Duration**
4436BMFSM2	360 h	12 CP	1.–3.	SoSe/WiSe	2 Semester

1	**Courses**	**Contact hours**	**Independent st**	
	a) S: 3D recording and documentation	30 h	90 h	
	b) S: 3D modeling and reconstruction	30 h	90 h	
	d) module exam: combined examination (on content of both courses)		120 h	
2	**Aim of the module and acquired skills** On successful completion of this module students will: • be able to assess critically the theoretical implications of the use of 3D technologies in archaeology • have a practical knowledge of a variety of computational 3D recording, documentation and modelling methods in archaeology and have become familiar with the use of popular commercial and open source software • understand how 3D technologies can be used to support archaeological interpretations and fieldwork practices and communicate archaeological information to peers and the public.			
3	**Module content** • In Seminar a) students learn via lectures, individual assignments and group discussion how 3D technologies can support and transform archaeological practice and how to critically assess the application of a variety of 3D methods in archaeology. Through supervised practical classes students acquire important practical skills for the successful implementation of 3D digitization tasks and projects. • Seminar b) focuses on the application of 3D-modeling and reconstruction in archaeology. Via lectures, practical classes and group work students have the opportunity to critically engage with, create and disseminate 3D models/reconstructions and become familiar with the use of related technologies (Virtual and Mixed Reality applications) in archaeology.			

4	**Teaching and learning structure** Seminar.
5	**Prerequisites for the module** None.
6	**Mode of Module Examination** Combined examination (computer-based assessment with report and essay, 4000-6000 words, ca. 10-15 pages)
7	**Prerequisite for earning credit points** Study achievements in a) and b), successfully passed module exam.
8	**Use of the module in other study programs** Module in the Studienrichtung Archäoinformatik in 1-Fach and 2-Fach-Masterstudiengang Archäologie (required in Studienprofil A: SM 2; elective in Studienprofil B: SM 3a).
9	**Significance of the module mark for the end grade** This module will contribute 25% to the weighted average of the four modules considered in the final mark.
10	**Module coordinator** Professor of Computational Archaeology
11	**Notes** -

Specialisation module 3: Spatial analysis and modelling					
ID	**Workload**	**Credit Points**	**semester**	**Frequency of offer**	**Duration**
4436BMFSM3	450 h	15 CP	1.-3.	SoSe	1 Semester

1	**Courses**	**Contact hours**	**SSt**	**Planned group size**
	a) VL.: Spatial analysis and modelling	30 h	60 h	VL: 15, Ü: 15 S: 30
	b) Ü.: Spatial analysis and modelling	30 h	60 h	
	c) S: Theory and current themes in Digital Archaeology	30 h	60 h	
	d) module exam: combined exam (on content of b)		180 h	

2	**Aims of the module and acquired skills:** On successful completion of this module students will : • have developed an understanding of the theoretical implications, the research potential and problems involved in the use of GIS, spatial analysis and spatial modelling in archaeology • be able to use a range of commercial and open-source software for spatial analysis and spatial modelling in archaeology • be familiar with basic and more advanced spatial statistics • be able to critically assess the links between developments in Digital and Computational Archaeology and wider debates in the field of Archaeology and Archaeological Theory
3	**Module content** • The lecture will cover theoretical, methodological and technical issues related to the application of spatial analysis and modelling in archaeology. It will discuss a variety of popular approaches and will encourage students to evaluate them critically so as to develop an understanding about the benefits and challenges of using these methods in archaeology. • In the tutorial students will have the chance to learn how to apply the spatial analysis and modelling methods discussed in the lecture via supervised step-by-step practical classes and the use of example archaeological datasets. The tutorial also gives students the opportunity to become familiar with a variety of relevant commercial and open source software. • In the seminar students discuss and critically comment upon published works on the theory and practice of Digital and Computational Archaeology aiming to develop a better understanding of the links between advances in computational methods and wider debates in the fields of Archaeology and Archaeological Theory. Furthermore, through the writing of short essays they are able to reflect further on the potential and problems related to the use of digital methods in archaeology.
4	**Teaching and learning structure** Lecture, Tutorial, Seminar.
5	**Prerequisites for the module** BM.1
6	**Mode of Module Examination** combined examination (computer-based assessment with report and essay, 4000-6000 words, ca. 10-15 pages)
7	**Prerequisite for earning credit points** Study achievements in a), b) and c), successfully passed module exam.
8	**Use of the module in other study programs** Module in the Studienrichtung Archäoinformatik in 1-Fach and 2-Fach-Masterstudiengang Archäologie (required in Studienprofil A: SM 4; elective in Studienprofil B: SM 3b).
9	**Significance of the module mark for the end grade** This module will contribute 30% to the weighted average of the four modules considered in the final mark.
10	**Module coordinator** Professor of Computational Archaeology
11	**Notes** Offered only in summer semester.

Specialisation module 4: Internships and independent studies					
ID	**Workload**	**Credit points**	**Semester**	**Frequency of offer**	**Duration**
4436BMFSM4	450 h	15 CP	1.–3.	Every semester	-

1	**Courses**	**Contact hours**	**SSt**	-
	a) internship	0 h	180 h	
	b) internship	0 h	180 h	
	c) independent studies	0 h	90 h	
	d) written exam (term paper)			

2	**Aim of the module and acquired skills** On successful completion of this module students will have: • gained further practical experience on the use of digital and computational methods in real life situations (in excavations, museums, and cultural heritage management organisations) • learned to work independently on a scientific project. • strengthened individual interests and skills.
3	**Module content** • In this module students complete internships in excavations, museums, and/or cultural heritage management organisations that give them the opportunity to develop further in real life situations their practical skills in Digital and Computational Archaeology. • Furthermore, they have the chance to engage in independent studies, for example, write a paper or complete a small project on a topic of their choice. The type of internships and the topic of independent studies will be decided after prior consultation with the module coordinator, who should be contacted at an early stage.
4	**Teaching and learning structure** Internship at field work, in the heritage management or in a museum, independent studies.
5	**Prerequisites for the module** BM.1
6	**Mode of Module Examination** Written exam on c): Term paper (4000-6000 words, ca. 10-15 pages) on a freely chosen topic.
7	**Prerequisite for earning credit points** Participation in a) and b) (certificate of internship), successfully passed module exam.
8	**Use of the module in other study programs** Required module in the Master Archäologie Studienprofil A (SM 5).
9	**Significance of the module mark for the end grade** The mark in this module is NOT used for the calculation of the end grade.
10	**Module coordinator** Professor of Computational Archaeology

11	**Notes** The internships should be organized by the student after consultation with the module coordinator and normally should not overlap with lectures. Internships in excavation, museums and other heritage organisations should be planned well in advance and all interested parties should be contacted at an early stage. Students should consult with the module coordinator before deciding the topic of independent studies.

2.3 Advanced Module

Advanced Module					
ID	**Workload**	**Credit Points**	**Semester**	**Frequency of offer**	**Duration**
4436BMFAM1	360 h	12 CP	1.–3. Sem.	WiSe/SoSe	1–2 Semester

1	**Courses**	**Kontaktzeit**	**Selbststudium**	**geplante Gruppengröße**
	a) Lecture/Seminar/Tutorial: Archaeology / Digital Humanities / Natural Sciences	30 h	60 h	VL/Col: 100
	b) Seminar/Tutorial: Archaeology / Digital Humanities / Natural Sciences	30 h	60 h	S, Ü: 30
	c) Seminar/Tutorial/Colloquium: Archaeology / Digital Humanities / Natural Sciences	30 h	60 h	
	d) Module Exam: term paper		90 h	

2	**Aim of the module and acquired skills** On successful completion of this module students: • will have gained additional advanced knowledge and research skills in elective fields that match their individual interests • depending on their preferred options, will have enhanced in breadth and depth their theoretical knowledge, research skills and/or practical competences in the fields of cultural historical studies, Digital Humanities, natural science methods in Archaeology and/or Computer Science.

3	**Module Content** Students may choose from relevant English-language courses that are being offered in the framework of the international Master program "Culture and Environment in Africa" and the "International Master of Environmental Sciences", for example: • Tutorial "GIS/Remote Sensing" • Tutorial Qualitative and Quantitative Methods, • Past African Environments • Seminar Museum Anthropology • Seminar Historical Ecology • Seminar Heritage Studies – Discourses and Practice • Lecture Introduction to Human-Environment Relations • Lecture Landscape Formation In addition, after consultation with the module co-ordinator, they can choose from relevant English-language courses occasionally offered by the Institute of Digital Humanities, the MA Archäologie, Computational Geosciences and other study programs of the University of Cologne. Students, after consultation with the module co-ordinator, can also elect relevant courses offered in German, should they wish to, although this is not required for the completion of the master's degree that can be completed fully in English.
4	**Teaching and learning structure** Seminar, Lecture, Tutorial or Colloquium.
5	**Prerequisites for the module** None.
6	**Mode of Module Examination** Written exam: Term paper (4000-6000 words, ca. 10-15 pages)
7	**Prerequisite for earning credit points** Study achievements in a), b) and c) (= study achievements), successfully passed module exam.
8	**Use of the module in other study programs** Elective course in 1-Fach-MA Archäologie (Profile A und B).
9	**Significance of the module mark for the end grade** This module will contribute 5% to the weighted average of the four modules considered in the final mark.
10	**Module coordinator** Professor of Computational Archaeology
11	**Notes** -

2.4 Complementary Modules

The courses of Complementary Module 1 offer students the possibility to develop further in breadth and depth individual areas of interest and competences within Archaeology, Digital Humanities, natural sciences in archaeology or a related subject. The Complementary Module 2 enables the recognition of CP obtained at another university in Germany or abroad. Students should choose one of the two Complementary Modules on offer.

<table>
<tr><th colspan="7">Complementary Module 1: Complementary Studies</th></tr>
<tr><th colspan="2">ID</th><th>Workload</th><th>Credit Points</th><th>Semester</th><th>Frequency of offer</th><th>Duration</th></tr>
<tr><td colspan="2">4436BMFEM1</td><td>360 h</td><td>12 CP</td><td>1.–3. Sem.</td><td>WiSe/SoSe</td><td>1–2 Semester</td></tr>
<tr><td>1</td><td colspan="3">Courses
a) Lecture/ Seminar / Tutorial / short internship*
b) Seminar / Tutorial
c) Seminar / Tutorial:
d) Module exam: Oral exam</td><td>Contact hours
30 h
30 h
30 h</td><td>SSt
60 h
60 h
60 h
90 h</td><td></td></tr>
<tr><td>2</td><td colspan="6">Aim of the module and acquired skills
On successful completion of this module students will have expanded further in depth and breadth their knowledge, research skills and/or practical competences in elective fields that match their individual interests in cultural historical studies, Digital Humanities, natural science methods in Archaeology and/or Computer Science.</td></tr>
<tr><td>3</td><td colspan="6">Module Content
This module aims at offering opportunities for complementary knowledge in Archaeology, Digital Humanities, Natural Sciences in Archaeology and/or Computer Science.
Students may choose from relevant English-language courses that are being offered in the framework of the international Master program “Culture and Environment in Africa” and the “International Master of Environmental Sciences”, for example:
• Tutorial “GIS/Remote Sensing”
• Tutorial Qualitative and Quantitative Methods,
• Past African Environments
• Seminar Museum Anthropology
• Seminar Historical Ecology
• Seminar Heritage Studies – Discourses and Practice
• Lecture Introduction to Human-Environment Relations
• Lecture Landscape Formation
In addition, after consultation with the module co-ordinator, they can choose from relevant English-language courses occasionally offered by the Institute of Digital Humanities, the MA Archäologie,</td></tr>
</table>

	Computational Geosciences and other study programs of the University of Cologne. Students, after consultation with the module co-ordinator, can also elect relevant courses offered in German, should they wish to, although this is not required for the completion of the master's degree that can be completed fully in English.
4	**Teaching and learning structure** Lecture, Seminars, Tutorial or Internship.
5	**Prerequisite for Module** None.
6	**Mode of Module Examination** Oral Exam: 30 Minutes
7	**Prerequisite for earning credit points** Study achievements in a), b) and c) (= study achievements), successfully passed module exam.
8	**Use of the module in other study programs** Elective course in 1-Fach-MA Archäologie (Profile A und B).
9	**Significance of the module mark for the end grade** The mark in this module is NOT used for the calculation of the end grade.
10	**Module coordinator** Professor of Computational Archaeology.
11	**Notes** * If an internship is chosen the contact hours are to be seen as independent studies.

Complementary Module 2: Mobility					
ID	**Workload**	**Credit Points**	**Semester**	**Frequency of offer**	**Duration**
4436BMFEM2	360 h	12 CP	1.–3. Sem.	-	-
1	**Courses** a) variable b) exam: depending on course selection		**Contact hours** variable	**Independent studies** variable	
2	**Aim of the Module and acquired skills** This module enables students to claim credit points obtained at another university in Germany or abroad. Students have the opportunity to enhance their skills in a freely chosen topic in the areas of Archaeology, Digital Humanities, Digital and Computational Archaeology, natural sciences in Archaeology and Computer Science, which maybe cannot be mapped on a Specialization module or Advanced Module in this master's course.				

3	**Module Content** In this module courses in Archaeology, Digital and Computational Archaeology, Digital Humanities, natural science methods in Archaeology, Computer Science or a relevant related subject may be chosen after consultation with the module co-ordinator.
4	**Teaching and Learning Structure** Lecture(s), Seminar(s), Tutorial(s), Colloquium
5	**Prerequisite for Module** depending on course selection
6	**Mode of Module Examination** depending on course selection
7	**Prerequisite for earning credit points** Credit points are acknowledged based on produced and evidenced credit points obtained at the foreign or German university as well as the exam taken there.
8	**Use of the module in other study programs** Elective course in 1-Fach-MA Archäologie (Profile A and B).
9	**Significance of the module mark for the end grade** The mark in this module is NOT used for the calculation of the end grade.
10	**Module coordinator** Professor of Computational Archaeology.
11	**Notes** -

2.5 Master's Thesis

<table>
<tr><td colspan="7">Module Master's thesis</td></tr>
<tr><td colspan="2">ID</td><td>Workload</td><td>Credit Points</td><td>Semester</td><td>Frequency of offer</td><td>Duration</td></tr>
<tr><td colspan="2">[xxx]</td><td>900 h</td><td>30 CP</td><td>4. Sem.</td><td>WiSe/SoSe</td><td>1 Semester</td></tr>
<tr><td>1</td><td colspan="3">Courses
a) Master's thesis</td><td>Contact hours</td><td>SSt
900 h</td><td></td></tr>
<tr><td>2</td><td colspan="6">Aim of the module and acquired skills
The aim of the module is the successful completion of a Master's thesis. Students will:
• be able to work and reflect upon a clearly defined topic within the area of Digital and Computational Archaeology in a given timeframe.
• be able to conceptualize and implement a research project under guidance and supervision.
• advance their methodological, theoretical and critical competences in the field of Digital and Computational Archaeology.
• enhance their written research communication skills and demonstrate the ability to present in writing complex research topics.</td></tr>
<tr><td>3</td><td colspan="6">Module Content
The Master's thesis constitutes the final part of the Master's program. Students will learn, among others, to define appropriate and up-to-date research questions, to plan their project considering an appropriate methodology, as well as to carry it through in a structured and systematic way in the given time frame. The thesis should be around 60 pages (without bibliography and appendices) and its preparation time is 26 weeks. Information about the formal requirements of the Master's thesis can be gathered from the official regulations of the Master's program.</td></tr>
<tr><td>4</td><td colspan="6">Teaching and learning structure
Master's thesis</td></tr>
<tr><td>5</td><td colspan="6">Prerequisite for Module</td></tr>
<tr><td>6</td><td colspan="6">Mode of Module Examination
Master's thesis</td></tr>
<tr><td>7</td><td colspan="6">Prerequisite for earning credit points
Successful completion of the Master's thesis; preparation time 26 weeks; word limit 25000 words (ca. 60 pages) without the Reference list and the Appendices)</td></tr>
<tr><td>8</td><td colspan="6">Use of the module in other study programs
-</td></tr>
<tr><td>9</td><td colspan="6">Significance of the module mark for the end grade
The mark of the Master's thesis will weight 1/3 in the final mark.</td></tr>
<tr><td>10</td><td colspan="6">Module coordinator
Professor of Computational Archaeology.</td></tr>
<tr><td>11</td><td colspan="6">Notes
The topic of the Master's thesis will be decided after consultation with the module co-ordinator.</td></tr>
</table>

3 Study help

3.1 Exemplary study plan

The exemplary study plan shows a possible course of study. Students may vary the order of courses taken, especially when it comes to elective classes (AM and EM). The Basic Module should be taken in the first semester of study. Internships (SM 4) should normally be completed in the lecture-free periods.

Exemplary study plan – Master Digital and Computational Archaeology

Module	*1st Sem.*	*2nd Sem.*	*3rd Sem.*	*4th Sem.*
	WS	*SS*	*WS*	*SS*
BM	S S S			
SM 1		S	Ü. Col	
SM 2	S	S		
SM 3		VL Ü. S		
SM 4			internship internship independent st.	
AM		VL	S S	
EM	S S S			
Master's thesis			Topic proposal	**MA**
Total LP	**30**	**30**	**30**	**30**

and independent studies undertaken in the lecture-free period will be counted as independent studies.

3.2 Study and exam consultation

At the beginning of their first semester students are advised to attend a study consultation meeting that will introduce them to the MA program. The date and time of the meeting will be posted on the website of the Institute of Archaeology. In addition, students are advised to arrange for an individual consultation with the student advisor during their studies. The office hours of the student advisor are published on the website.

The Examination Law Office in the Dean's Office of the Faculty of Humanities is responsible for providing information on all examination law matters.
https://phil-fak.uni-koeln.de/fakultaet/pruefungsrecht

3.3 Further possibilities for information and consultation

In addition, there are several consulting services at the University of Cologne, the most important of which are listed in the following table:

Zentrale Studienberatung (central study consultation) *http://verwaltung.uni-koeln.de/abteilung21/content/beratungsangebote/faecheruebergreifende_studienberatung/index_ger.html*	General questions regarding study courses, range of subjects etc.
Studierendensekretariat (secretary for students) *http://verwaltung.uni-koeln.de/studsek/content/*	Questions regarding registration, re-registration etc.
Kölner Studentenwerk (student union of Cologne) *http://www.kstw.de/*	Social aspects concerning the studies
ASTA (General Students‘ Committee) *http://www.asta.uni-koeln.de/*	Legal institution of student participation in German Universities
Servicezentrum Behinderung und Studium (service center for disabilty and studies) *http://inklusion.uni-koeln.de/*	Studying with a disability
Akademisches Auslandsamt (department for internationality) *http://verwaltung.uni-koeln.de/international/content/incoming/studium_in_koeln/index_ger.html*	Study with migration background
The Gender Commissioner (GC) *http://www.gb.uni-koeln.de/index_eng.html*	Compability of family and studies, gender discrimination