This is a translation for information purposes. Only the German wording of the study and examination regulations of March 5th 2024 is legally binding.

**Faculty**
**Informatics/Mathematics**

Hochschule für Technik und Wirtschaft Dresden
University of Applied Sciences

# Study Regulations

# for the

# Master study course

# Computer and Geoscience in Archaeology

at the Hochschule für Technik und Wirtschaft Dresden -
University of Applied Sciences

dated

**March 5th 2024**

On the basis of § 35 Paragraph 1 of the University Act in the Free State of Saxony (SächsHSG) in the version published on May 31st 2023 (Gazette on Laws and Ordinances for Saxony – SächsGVBl. p. 329), most recently amended by Article 8 Paragraph 9 of the Act on July 6th 2023 (SächsGVBl. p. 467), the Hochschule für Technik und Wirtschaft Dresden - University of Applied Sciences, hereinafter referred to as the HTW Dresden, has decreed these examination regulations as statutes.

## Overview of contents



### Appendices

## § 1 Scope

These Study Regulations govern the content and structure of the study programme in the consecutive, English-language Computer and Geoscience in Archaeology Master study course of the Informatics/Mathematics Faculty at the HTW Dresden on the basis of the Examination Regulations.

## § 2 Aim of the study course

(1) The Computer and Geoscience in Archaeology Master study course has as its goal a training that is characterised in equal measure by scientific requirements and practical application. Graduates will acquire the skills to:
   a. understand and solve problems and problem structures in the fields of archaeology and cultural heritage using computer science, geomatics and remote sensing methods,
   b. apply methods and technologies of digital documentation, remote sensing and data processing in order to create verifiable, authentic, reusable and recyclable data on the archaeological cultural heritage,
   c. manage, research, present and utilise heterogeneous archaeological data in a technically, legally and ethically appropriate manner,
   d. realise complex projects in teamwork and in professional communication with the respective domain experts,
   e. produce independent scientific research work.

(2) Furthermore, the goal and benchmarks of the Computer and Geoscience in Archaeology Master study course are also expressed in the division of the modularised curriculum into compulsory and compulsory elective modules. The compulsory modules are designed to familiarise students with the most important computer science and geoinformation/remote sensing technologies applicable in archaeology and their scientific foundations. The courses offered in English prepare students for working in an international environment. The language module embedded in the curriculum is intended to enable international exchange through language skills. Participation in archaeological fieldwork, the compulsory elective modules and the Master thesis should enable students to deepen and specialise their acquired knowledge.

(3) The Computer and Geoscience in Archaeology Master degree awarded opens up access to the higher echelons of public administration and development opportunities in all sectors of the economy while also paving the way to a post-graduate qualification in the form of a doctoral study in Germany or abroad.

## § 3 Entrance requirements

(1) General entrance requirement to study in the Computer and Geoscience in Archaeology Master study course is a first university degree in:
   a. one of the following archaeological disciplines: Egyptology, Ancient American Studies, Medieval Archaeology or Medieval and Modern Archaeology, Christian Archaeology, Classical Archaeology, Provincial Roman Archaeology, Prehistoric Archaeology or Pre- and Early History, Near Eastern Archaeology, or

b. Excavation Technology or Field Archaeology, or
c. another culturally orientated subject related to material cultural heritage. In the latter case, the aptitude must be recognised by the examination board.

A further requirement is a proven knowledge of English of at least level B2 according to the Common European Framework of Reference for Languages (CEFR) of the Council of Europe. These language skills must be proven by suitable tests, e.g. TOEFL, Cambridge Certificate. German language skills at level A2 are recommended.

(2) The entrance requirements for the Master study course can be acquired at a university in Germany or abroad.

(3) If the number of applicants should exceed the number of study places available, a selection process shall take place. The awarding of study places shall ensue in accordance with the Selection Regulations of the HTW Dresden (*Auswahlordnung*) based on the overall grade of the first certificate of higher education leading on to a professional career.

## § 4 Structure of the study course

(1) The study in the Computer and Geoscience in Archaeology Master study course at the HTW Dresden is in the form of a direct study. The course begins in the winter semester. The standard period of study for the full-time course is four semesters. These study regulations, together with the examination regulations, the study contents and the course offerings are designed to ensure that the study can be successfully completed within the standard period of study.

(2) The first three study semesters ensue in the form of attendance and self-study. The fourth semester can be completed at the HTW Dresden or in a comparable study programme at a foreign partner university of the Master study course in Computer and Geoscience in Archaeology at the HTW Dresden. Upon application by the student, an alternative foreign university may be chosen. The decision is made by the study commission. In the fourth study semester, a Master thesis is written and orally defended.

(3) The study is modularised. The modules comprise self-contained learning units, each one defined in terms of learning objectives described as competences, knowledge, abilities and skills. They consist of lectures and self-study units and are completed by a module examination, which can be composed of one or more examination performances. Insofar as academic performances represent an admission requirement to module examinations (pre-examination performances), this is identified in the examination schedule (Appendix to the Examination Regulations). The courses, with the exception of the language modules, are held in the English language.

(4) Insofar as admission to module examinations is made dependent on successful completion of previous module examinations, this is indicated in the study schedule (see Appendix).

(5) The credit point system corresponds to the European Credit Transfer System (ECTS). Credits (performance points) are allocated to each module. Credits are the quantitative measure for the workload of the students. One credit corresponds to a student workload of 40 full hours. The number of credits is based on the average workload to be provided

by the students for the respective module. The workload includes participation in lectures (attendance study) and all types of self-study, such as preparation and follow-up times relating to lectures, preparation for examinations, completion of study and examination performances – including practical study periods. Each module generally corresponds to five ECTS credits. A total of 30 credits are awarded per semester, corresponding to a workload of 900 full hours.

(7) The number of semester hours per week per module can be found in the study plan (see Appendix).

## § 5 not applicable

## § 6 Study schedule

(1) The study schedule (see Appendix) is a recommendation to the students for a proper conduct of the study.

(2) In studying abroad, the respective study programme is applicable as the study schedule set in consultation with the HTW Dresden supervising tutor and the partner university abroad in a learning agreement and – as appropriate – a cooperation agreement.

## § 7 Study contents / Forms of courses

(1) The Computer and Geoscience in Archaeology Master study course modules are explained in a module description indicating the following criteria:

- Period and frequency of module/module type,
- Workload,
- Subject areas and forms of teaching,
- Performance points (credits),
- Requirements for participation,
- Learning objectives / competences,
- Contents,
- Pre-examination performances and examination performances,
- Learning materials,
- Usability of module.

The module descriptions can be viewed on the website of the HTW Dresden.

(2) The contents of the modules offered in study abroad programmes are described by the foreign partner universities.

(3) Teaching events in the Computer and Geoscience in Archaeology Master study course at the HTW Dresden are differentiated into:

- Lectures,
- Exercises and seminars,
- Laboratory work experiences.

(4) Lectures serve the concentrated acquisition of knowledge. Exercises contribute to the consolidation of the lecture material. They are conducted in the form of calculative, theoretical-methodical or practical exercises in seminar form. Seminars act as a guide to working independently on a scientific basis. In addition, they are intended to prepare the students for writing (and defending) the Master thesis. Particular importance is attached to work experiences in the computer laboratory, which make a decisive contribution to the acquisition of material knowledge and analytical skills.

(5) The course offerings consist of compulsory and compulsory elective modules. Compulsory modules are modules that are binding for all students. Compulsory elective modules can be chosen from the Student Compulsory Elective Module Catalogue. The number of modules to be taken can be found in the study schedule (see Appendix), whereby the choice per semester is limited to the number stated in the study schedule minus the compulsory elective modules already passed. Furthermore, additional modules can be attended at the HTW Dresden or other universities on an optional basis. These include the Studium Integrale. Following notification to the Examinations Office at the end of a semester or not later than the date of defence, an additional module from the compulsory elective studies passed by a student can replace a selected compulsory elective module.

(6) At the student's request and with the consent of the Examinations Committee, other modules offered at the HTW Dresden inside and outside the Faculty of Informatics/Mathematics, which are equivalent both in scope and requirements, can also be attended as compulsory elective modules up to five ECTS credits per semester.

(7) The choice of a compulsory elective module shall be declared in the first semester by the end of the second week of lectures and then by the end of the previous lecture period for the following semester; the Dean determines the modalities (type of enrolment, dates, lower and upper capacity limitation, etc.). Participation in additional modules shall be declared within the first two weeks of the lecture period with the university teacher responsible. Participation in a compulsory elective or additional module is limited by the available capacities. The selection ensues following receipt of the participation declaration by the responsible university lecturer. In the event of insufficient participants, the Faculty reserves the right to forego conducting individual compulsory elective or additional modules. In the cases of Sentences 4 and 5, the Dean shall inform the students within which deadline other compulsory elective or additional modules can be chosen.

## § 8 not applicable

## § 9 Academic counselling

(1) Academic counselling is provided at the Faculty of Informatics/Mathematics of the HTW Dresden by the university teachers involved in the study course and the Academic Dean. The General Student Advisory Service supports students in their studies by providing subject-specific advice during their studies, in particular on study opportunities and study techniques in the study course in question, on the design, structure and realisation of the study and of the examinations.

(2) Making use of academic counselling is voluntary with the restriction that students, who have not provided any of the examination performances envisaged in the examination schedule (Appendix on Examination Regulations) by the beginning of the third study semester, should attend academic counselling in the third semester.

## § 10 Graduation

(1) The required examination performances as well as the manner of their performance are set forth in the Examination Regulations for the Computer and Geoscience in Archaeology Master study course; in addition, they are also explained and – as appropriate – clarified by the teaching staff at the beginning of the module.

(2) The requirements for graduation are the successful completion of all modules from the compulsory and compulsory elective subjects in the attendance study and self-study (90 ECTS credits) and the Master thesis (30 ECTS credits). Students can therefore acquire a total of 120 ECTS credits.

(3) Following successful completion of the Master study, the

**Master of Science, M.Sc.**

university degree is conferred.

## § 11 not applicable

## § 12 Entry into force

These Study Regulations apply to students who begin their study in the Computer and Geoscience in Archaeology Master study course at the HTW Dresden from the 2024/25 winter semester.

The Regulations come into force on the day after publication in the HTW Dresden's official gazette.

Drawn up on the basis of a decision by the Informatics/Mathematics Faculty Council on February 7th 2024 and the approval of the Rectorate of the HTW Dresden on March 5th 2024.

Dresden, March 5th 2024

Prof. Dr. rer. nat. Katrin Salchert

Rector

# I49m-2024 – Computer and Geoscience in Archaeology

Hochschule für Technik und Wirtschaft Dresden
University of Applied Sciences

## Course schedule

| Structure unit/ module | Type | Credits | Semester hours per week (L/E/P) | | | |
|---|---|---|---|---|---|---|
| | | | 1. Sem. | 2. Sem. | 3. Sem. | 4. Sem. |
| **Geodesy**<br>Geodesy<br>G901 | Compulsory module | 5 | 2/2/0 | | | |
| **Geographic Information Systems**<br>Geographic Information Systems<br>G975 | Compulsory module | 5 | 2/0/2 | | | |
| **Introduction to Digital Archaeology**<br>Introduction to Digital Archaeology<br>I855 | Compulsory module | 5 | 2/2/0 | | | |
| **Applied Mathematics and Computer Science**<br>Applied Mathematics and Computer Science<br>I860 | Compulsory module | 5 | 2/2/2 | | | |
| **Applied Programming (Python)**<br>Applied Programming (Python)<br>I928 | Compulsory module | 5 | 0/2/2 | | | |
| **Photogrammetry**<br>Photogrammetry<br>G902 | Compulsory module | 5 | | 2/0/2 | | |
| **Foundations in Data Science and Engineering**<br>Foundations in Data Science and Engineering<br>I851 | Compulsory module | 3 | | 1/0/1 | | |
| **Academic Research and Writing**<br>Academic Research and Writing<br>I854 | Compulsory module | 3 | | 1/2/0 | | |

| Structure unit/ module | Type | Credits | Semester hours per week (L/E/P) | | | |
|---|---|---|---|---|---|---|
| | | | 1. Sem. | 2. Sem. | 3. Sem. | 4. Sem. |
| **Databases and Research Data Management in Archaeology**<br>Databases and Research Data Management in Archaeology<br>I856 | Compulsory module | 5 | | 2/0/2 | | |
| **Computational Archaeology**<br>Computational Archaeology<br>I857 | Compulsory module | 5 | | 2/0/2 | | |
| **Archaeological Fieldwork / Internship**<br>Archaeological Fieldwork / Internship<br>I861 | Compulsory module | 5 | | X | 0/1/0 | |
| **Remote Sensing**<br>Remote Sensing<br>G982 | Compulsory module | 5 | | | 2/2/0 | |
| **Digital 3D Documentation in Archaeology**<br>Digital 3D Documentation in Archaeology<br>I850 | Compulsory module | 5 | | | 2/0/2 | |
| **Project Seminar Digital Archaeology**<br>Project Seminar Digital Archaeology<br>I858 | Compulsory module | 5 | | | 0/2/0 | |
| **Reconstructive 3D-Modeling in Archaeology**<br>Reconstructive 3D-Modeling in Archaeology<br>I859 | Compulsory module | 4 | | | 1/0/3 | |
| **Introduction to Programming in Java**<br>Introduction to Programming in Java<br>I863 | Compulsory module | 5 | | | 2/0/2 | |
| **Masterarbeit**<br>Master's Thesis<br>I862 | Compulsory module | 30 | | | | X |
| Compulsory elective moduls 2nd Semester<br>You have to choose at least 1 module. | Block | 5 | | 4 | | |

| Structure unit/ module | Type | Credits | Semester hours per week (L/E/P) | | | |
|---|---|---|---|---|---|---|
| | | | 1. Sem. | 2. Sem. | 3. Sem. | 4. Sem. |
| **Interdisciplinary Elective Course** [1,4]<br>Studium Integrale | Compulsory elective module | 5 | | 4 | | |
| **Geography**<br>Geography<br>G676 | Compulsory elective module | 5 | | 2/0/2 | | |
| **Information Visualization**<br>Information Visualization<br>I853 | Compulsory elective module | 5 | | 1/0/3 | | |
| Compulsory elective moduls 3rd Semester<br>You have to choose at least 1 module. | Block | 5 | | | 4 | |
| **Interdisciplinary Elective Course** [1,4]<br>Studium Integrale | Compulsory elective module | 5 | | | | |
| **Building Information Modeling (BIM)**<br>Building Information Modeling (BIM)<br>G449 | Compulsory elective module | 5 | | | 2/0/2 | |
| German Language - Deutsch as a Foreign Language [3]<br>You have to choose at least 1 module. | Block | 5 | 4 | | | |
| **German A1 I**<br>DaF B A1 I<br>S101 | Compulsory elective module | 5 | 0/4/0 | | | |
| **German A2 I**<br>DaF B A2 I<br>S102 | Compulsory elective module | 5 | 0/4/0 | | | |
| Total semester hours per week (SWS) per semester: | | | 26 | 21 | 23 | 0 |
| Total ECTS credits per semester: | | | 30 | 30 | 30 | 30 |

[1] - The module is selected from the Studium Integrale Catalogue of the HTW Dresden. It must have a minimum of 4 SWS and at least 5 ECTS credits and be completed with an examination.

[3] - Students who can provide suitable evidence of German language level A2 may choose another language level in the German course, depending on their previous education or English C1. Students who can provide suitable evidence of German language level A2 and the English language level C1, choose another foreign language with at least the same number of ECTS credits specified in the study regulations.

[4] - The module is selected from the Studium Integrale Catalogue of the HTW Dresden. It must be subject-related to the program "Computer and Geoscience in Archaeology" and be completed with an examination.