

## COURSE DESCRIPTION

### Archaeology and Big Data. Methods, Analysis and Interpretation in Contemporary Archaeology

Academic year **2026-2027**

#### 1. Programme-related data

|                                   |   |
|-----------------------------------|---|
| 1.1. Higher Education Institution | <b>Babeş-Bolyai University, Cluj-Napoca</b> |
| 1.2. Faculty                      | <b>Faculty of History and Philosophy</b>    |
| 1.3. Doctoral School              | <b>History. Civilization. Culture</b>       |
| 1.4. Field of study               | <b>History</b>                              |
| 1.5. Level of study               | <b>Doctoral Studies</b>                     |

#### 2. Course-related data

|                          |  |               |                  |                              |                      |
|--------------------------|--|---------------|------------------|------------------------------|----------------------|
| 2.1. Course title        | Archaeology and Big Data. Methods, Analysis and Interpretation in Contemporary Archaeology |               |                  | Course code                  | <b>?</b>             |
| 2.2. Course coordinator  | Prof. dr. Sorin Nemeti   |               |                  |                              |                      |
| 2.3. Seminar coordinator | Prof. dr. Sorin Nemeti   |               |                  |                              |                      |
| 2.4. Year of study       | I  | 2.5. Semester | I                | 2.6. Type of assessment      | <a href="#">Exam</a> |
| 2.7. Course status       | <a href="#">Compulsory</a>   |               | 2.8. Course type | <a href="#">Core subject</a> |                      |

#### 3. Total estimated time (hours per semester of teaching activities)

|   |          |                       |          |                                   |              |
|---|----------|-----------------------|----------|-----------------------------------|--------------|
| 3.1. Number of hours per week   | <b>3</b> | of which: 3.2. course | <b>2</b> | 3.3. seminar/ laboratory/ project | <b>1</b>     |
| 3.4. Total of hours in the curriculum   | 36       | of which: 3.5. course | 24       | 3.6. seminar/ laboratory          | <b>12</b>    |
| <b>Time allocation for individual study (IS) and self-taught activities (ST)</b>          |          |                       |          |                                   | <b>hours</b> |
| Learning from textbooks, course materials, bibliography, and notes (IS)                   |          |                       |          |                                   | 40           |
| Additional research in the library, on subject-specific electronic platforms, and on-site |          |                       |          |                                   | 30           |
| Preparing seminars/ laboratories/ projects, assignments, reports, portfolios, and essays  |          |                       |          |                                   | 20           |
| Tutoring (professional guidance)  |          |                       |          |                                   | 10           |
| Examinations  |          |                       |          |                                   | 6            |
| Other activities  |          |                       |          |                                   | 4            |
| <b>3.7. Total hours of individual study (IS) and self-taught activities (ST)</b>          |          |                       |          | <b>110</b>                        |              |
| <b>3.8. Total hours per semester</b>  |          |                       |          | <b>160</b>                        |              |
| <b>3.9. Number of credits</b>   |          |                       |          | <b>15</b>                         |              |

#### 4. Prerequisites (where applicable)

|                         |  |
|-------------------------|--|
| 4.1. curriculum-related |  |
| 4.2. skills-related     |  |

#### 5. Specific conditions (where applicable)

|                                 |   |
|---------------------------------|---|
| 5.1. course-related             | Mandatory attendance at 70% of the total number of class hours. Participation in the final evaluation is mandatory and is not conditional by the attendance |
| 5.2. seminar/laboratory-related | Participation in exercises and discussions at the seminar   |

## 6. Subject-specific learning outcomes

| <b>Knowledge</b>   |
|--|
| 1. The course is intended for all doctoral students, regardless of the historical period on which their doctoral thesis focuses. The course presents the various intersections between archaeology and other sciences (social, natural, exact) that give rise to interdisciplinary approaches. |
| 2. Advanced knowledge in the field; b) the ability to identify, formulate and solve research problems in a creative manner; c) mastery of advanced research methods and techniques;  |
| 3. Skills in documenting and capitalizing on scientific works; g) ability to write scientific works and other academic materials at an advanced level, in a style appropriate to the field of study and in compliance with its specific rigors at national and international level;            |
| 4. ...   |
| <b>Skills</b>  |
| 1. Written and oral communication skills in the field of science and culture; b) advanced linguistic skills in internationally spoken languages, including the ability to express and formulate ideas in multicultural and multilingual contexts;  |
| 2. Knowledge of critical thinking, including the ability to analyze, interpret or formulate reasoning in different contexts; i) knowledge of the use of legislation in the field of intellectual property rights   |
| 3. ...   |
| <b>Responsibility and autonomy</b>   |
| 1. ...   |
| 2. ...   |
| 3. ...   |

## 7. Contents

| <b>7.1. Course</b>  | <b>Teaching and learning methods</b>  | <b>Remarks<sup>1</sup></b> |
|---|---|----------------------------|
| I. History of archaeology. Archaeology in Romania.  | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate |                            |
| II-III. Interpretative trends in archaeology. Culture History. Processualism. Post-processualism. | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate |                            |
| IV. Archaeological research. Techniques.  | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate |                            |
| V-VI. Archaeology and social sciences. Anthropology. Ethnography.                                 | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate |                            |
| VII. Archaeology and evolutionary theory. Tipo-chronology.  | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate |                            |
| VIII. Archaeology and earth sciences. Stratigraphic method. Geophysics.                           | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate |                            |

<sup>1</sup> For example, organisational aspects, recommendations for students, specific aspects relating to the course/seminar, such as inviting experts in the field, etc.

|  |   |                |
|--|---|----------------|
| IX. Archaeology and geographical determinism. Landscape archaeology.   | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate |                |
| X. Climate change and archaeological remains. Environmental archaeology.   | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate |                |
| XI-XII. Archaeology and natural sciences. Physical anthropology. Bioarchaeology. Microbiology and aDNA analysis.   | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate |                |
| XIII-XIV. Archaeology in the digital age. Databases and matrix entries.  | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate |                |
| Bibliography   |   |                |
| <p>I. M. Anghelinu, <i>Evoluția gândirii teoretice în arheologia din România. Concepte și modele aplicate în preistorie</i>, Târgoviște, 2014.</p> <p>M. Bărbulescu, <i>Arheologia azi, în România</i>, Cluj-Napoca, 2016.</p> <p>VI. Dumitrescu, <i>Oameni și cioburi. Contribuții la istoria contemporană a arheologiei românești</i>, Călărași, s.a.</p> <p><b>II-III.</b> I. Hodder, <i>Theory and Practice in Archaeology</i>, London - New York, 1995</p> <p>G. A. Clark, <i>Paradigms in Science and Archaeology</i>, <i>Journal of Archaeological Research</i>, 1, 1993, 3, 203-234.</p> <p>K. R. Dark, <i>Theoretical Archaeology</i>, New York, 1995.</p> <p>I. Hodder, S. Hutson, <i>Reading the Past. Current Approaches to Interpretation in Archaeology</i>, Cambridge University Press, 2003.</p> <p>R. Lee Lyman, <i>What is the «process» in cultural process and in processual archaeology?</i>, <i>Anthropological Theory</i>, 7, 2007, 217-250.</p> <p><b>IV.</b> Ph. Barker, <i>Techniques of Archaeological Excavation</i>, London - New York, 2005.</p> <p>A. Carandini, <i>Storie dalla terra. Manuale di scavo archeologico</i>, Einaudi, 2000.</p> <p><b>V-VI.</b> C. Gosden, <i>Anthropology &amp; Archaeology. A Changing Relationship</i>, London - New York, 1999</p> <p>S. Jones, <i>The Archaeology of Ethnicity. Constructing Identities in the Past and Present</i>, London - New York, 2003.</p> <p>I. Hodder, <i>The Distribution of Material Culture Items in the Baringo District, Western Kenya</i>, <i>Man</i>, 12 (2), 1977, 239-269.</p> <p><b>VII.</b> L. S. Klejn, <i>Archaeological Typology</i>, Oxford, 1982.</p> <p>M. J. O'Brien, R. Lee Lyman, <i>Seriation, Stratigraphy, and the Index Fossils. The Backbone of Archaeological Dating</i>, New York - Boston - Dordrecht - London - Moscow, 2002.</p> <p><b>VIII.</b> N. Herz, E. G. Garison, <i>Geological Methods for Archaeology</i>, Oxford University Press, 1998.</p> <p>E. C. Harris, <i>Principles of Archaeological Stratigraphy</i>, Academic Press Limited, 1997.</p> <p>J. K. Johnson, <i>Remote Sensing in Archaeology</i>, The University of Alabama Press, 2006.</p> <p><b>IX.</b> I. Hodder, C. Orton, <i>Spatial Analysis in Archaeology</i>, Cambridge University Press, 1976.</p> <p>M. Aston, <i>Interpreting the Landscape. Landscape Archaeology and Local History</i>, London - New York, 1985.</p> <p><b>X.</b> J. G. Evans, <i>Environmental Archaeology and the Social Order</i>, London - New York, 2003.</p> <p>E. Le Roy Ladurie, <i>Histoire du climat depuis l'an mil</i>, I-II, Paris, 1983.</p> <p><b>XI-XII.</b> S. Mays, <i>The Archaeology of Human Bones</i>, London- New York, 1998.</p> <p>S. J. M. Davis, <i>The Archaeology of Animals</i>, Yale University Press, 1987.</p> <p>D. Ann Herring, A. C. Swedlung (eds.), <i>Human Biologists in the Archives. Demography, Health, Nutrition and Genetics in Historical Populations</i>, Cambridge University Press, 2003.</p> <p><b>XIII-XIV.</b> G. Lock, <i>Using Computers in Archaeology. Towards Virtual Pasts</i>, London- New York, 2003.</p> <p>M. J. Baxter, <i>Exploratory Multivariate Analysis in Archaeology</i>, Edinburgh University Press, 1994.</p> <p>Th. L. Evans, P. Daly, <i>Digital Archeology. Bridging Method and Theory</i>, London- New York, 2006.</p> |   |                |
| <b>7.2. Seminar/ laboratory</b>  | <b>Teaching and learning methods</b>  | <b>Remarks</b> |
|  |   |                |
|  |   |                |
|  |   |                |

|              |  |  |
|--------------|--|--|
|              |  |  |
| Bibliography |  |  |

## 8. Evaluation

| Type of activity  | 8.1 Evaluation criteria <sup>2</sup>  | 8.2 Evaluation methods <sup>3</sup>  | 8.3 Percentage in the final grade |
|---|---|--|-----------------------------------|
| 8.4. Course   | -interactive course with a basis of lecture and multimedia presentation<br>-problematization<br>-debate | theme with the application of advanced research and writing methods specific to philosophy | 50% of the final grade            |
| 8.5. Seminar/ laboratory  | -participation in exercises and debates; solving theoretical and practical problems                     | The evaluation will be done throughout the semester - oral examination                     | 50% of the final grade            |
| 8.6 Minimum standard for passing  |   |  |                                   |
| <ul style="list-style-type: none"> <li>• Planning and carrying out individual oral presentations at seminars: debate, commentary, exercises.</li> <li>• Elaboration of a final topic, of high complexity, which demonstrates knowledge of advanced research methods in philosophy and the principles of ethics and academic integrity.</li> <li>• Any appeal of the grade obtained in the final evaluation must be accompanied by a request from the student for a re-evaluation of the work. The result of this re-evaluation will be presented to the students within 2 days from the date of the appeal</li> </ul> |   |  |                                   |

## 9. SDG labels (Sustainable Development Goals)<sup>4</sup>

|  |   |   |   |   |  |   |   |   |
|--|---|---|---|---|--|---|---|---|
|  | <input type="radio"/>   | Sustainable Development Generic Label   |   |   |  |   |   |   |
|  |  |  |  |  |  |  |  |  |
| <input type="radio"/>  | <input type="radio"/>   | <input type="radio"/>   | <input type="radio"/>   | <input type="radio"/>   | <input type="radio"/>  | <input type="radio"/>   | <input type="radio"/>   | <input type="radio"/>   |
|  |  |  |  |  |  |  |  | No label applies  |

<sup>2</sup> The evaluation criteria must directly reflect the learning outcomes targeted at the level of the degree programme respectively at the level of the subject. More specifically, the learning outcomes set out in the expected learning outcomes are assessed.

<sup>3</sup> Both final evaluation methods and ongoing evaluation strategies should be established.

<sup>4</sup> Select a single label which, according to the [Implementation of SDG labels in the academic process](#), best matches the subject. If the subject addresses sustainable development in a generic manner (i.e. by presenting/introducing the general framework of sustainable development, etc.), then the Sustainable Development generic label may be applied. If none of the labels describe the subject, select the last option: "No label applies."

|   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
|---|---|---|---|---|---|---|---|---|

Date of entry:  
18.02. 2026

Signature of course coordinator

Prof. dr. Sorin Nemeti

Signature of seminar coordinator

Prof. dr. Sorin Nemeti

Date of approval in the department:

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Signature of the head of department

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