

**TABLE 2: COURSE DISTRIBUTION PER SEMESTER**

*The table below shows the course schedule for the Academic Year 2021-2022 which includes one mandatory course and all the elective courses from a large pool of courses consisting of the elective courses of all PhD programs and all courses of all Masters programs offered by the Graduate School. As described in the application this structure supports the integrated curriculum and enhances interdisciplinary among programs. Course distribution depends on Instructors' availability and students' demand.*

A/A	Course Type	Course Name	Course Code	Periods per week	Period duration	Number of weeks/ Academic semester	Total periods/ Academic semester	Number of ECTS
<b>A' Semester</b>								
1.	M	Fundamentals, Frontiers, and Methodologies in Environmental Sciences, Renewable Energy and Sustainable Built Environment	EAS 500	3	1 hour	14	42	10
2.	E	Monitoring and Modelling Terrestrial Ecosystems and Hydrologic Processes	EAS 511	3	1 hour	7	21	5
3.	E	Terrestrial Ecosystems	EAS 513	3	1 hour	7	21	5
4.	E	Renewable Energy Sources	EAS 515	3	1 hour	7	21	5
5.	E	Energy and the Built Environment	EAS 518	3	1 hour	7	21	5
6.	E	Energy Systems Analysis and Modelling	EAS 521	3	1 hour	7	21	5
7.	E	Energy and Environmental Policy	EAS 522	3	1 hour	7	21	5
8.	E	Interactive Visualisation of the Built Environment	EAS 523	3	1 hour	7	21	5
9.	E	Design, Modelling and Optimization of CST Power Plants	EAS 524	3	1 hour	7	21	5

10.	E	Fundamentals of Atmospheric Physics and Meteorology	ES 401	3	1 hour	14	42	10
11.	E	Climatology	ES 402	3	1 hour	14	42	10
12.	E	Atmospheric Chemistry and Biology	ES 406	3	1 hour	14	42	10
13.	E	Atmospheric Measurement Techniques	ES 407	3	1 hour	14	42	10
14.	E	Dynamic Meteorology	ES 408	3	1 hour	14	42	10
15.	E	Synoptic Meteorology	ES 409	3	1 hour	14	42	10
16.	E	Atmospheric Modelling	ES 416	3	1 hour	14	42	10
17.	E	Hydrology and the Atmosphere-Water Cycle	ES 417	3	1 hour	14	42	10
18.	E	Aerosol Physics and Chemistry	ES 418	3	1 hour	14	42	10
19.	E	Climate Change: Concepts and Perspectives	ES 419	3	1 hour	14	42	10
20.	E	Simulations for physical systems	COS 504	3	1 hour	7	21	5
21.	E	Quantum Computing for physical systems	COS 506	3	1 hour	7	21	5
22.	E	Computational approaches for complex molecular systems	COS 510	3	1 hour	7	21	5
23.	E	Advanced topics in Computational and Mathematical Biology	COS 514	3	1 hour	7	21	5
24.	E	Climate Modelling	COS 518	3	1 hour	7	21	5
25.	E	Computational methods for quantum field theories	COS 522	3	1 hour	7	21	5
26.	E	Large-scale simulations for Lattice Quantum Chromodynamics	COS 524	3	1 hour	7	21	5

27.	E	Computational Fluid Dynamics - Finite difference and volume of fluid methods	COS 528	3	1 hour	7	21	5
28.	E	Computational Fluid Dynamics - The Lattice Boltzmann method	COS 530	3	1 hour	7	21	5
29.	E	Mathematical Modelling and Algorithms	SDS 401	4	1 hour	14	56	10
30.	E	Introduction to High Performance Computing	SDS 402	4	1 hour	14	56	10
31.	E	Fundamentals of Data Science and Statistics	SDS 403	4	1 hour	14	56	10
32.	E	Machine Learning and its Applications	SDS 404	4	1 hour	14	56	10
33.	E	Visualization and Advanced Data Structures	SDS 416	4	1 hour	14	56	10
34.	E	Advanced Computer Architectures	SDS 417	4	1 hour	14	56	10
35.	E	Deep Learning Approaches	SDS 418	4	1 hour	14	56	10
36.	E	Modelling and Simulation for Scientific Applications	SDS 419	4	1 hour	14	56	10
37.	E	Advanced Methods in Archaeobotany: from the field to the interpretation of the data	ACH 502	3	1 hour	7	21	5
38.	E	Advanced Challenges in Archaeological Sciences	ACH 504	3	1 hour	7	21	5
39.	E	Advanced Research Topics in Built Heritage and Cultural Landscapes	ACH 506	3	1 hour	7	21	5
40.	E	Advanced Methods in Human Osteoarchaeology	ACH 508	3	1 hour	7	21	5

41.	E	Advanced Research Topics in Human Bioarchaeology: Contributing to Key Questions within the Archaeology of the Eastern Mediterranean and South West Asia	ACH 509	3	1 hour	7	21	5
42.	E	Arts, Humanities & Culture in the Digital Age	DCH 401	3	1 hour	14	42	10
43.	E	Fundamentals of Digital Cultural Heritage	DCH 402	3	1 hour	14	42	10
44.	E	Digital Innovation and Cultural Heritage	DCH 403	3	1 hour	14	42	10
45.	E	Scientific Reading & Advanced Academic Writing (Part A & Part B)	DCH 404	3	1 hour	7+7	21+21	5+5
46.	E	3D Documentation & Scientific Visualization and Cultural Heritage Research	DCH 416	3	1 hour	7	21	5
47.	E	The Data Life Cycle in Cultural Heritage	DCH 417	3	1 hour	7	21	5
48.	E	Modelling and Simulation of Social & Cultural Phenomena	DCH 418	3	1 hour	7	21	5
49.	E	Digital Curatorship & the Museum of the Future	DCH 419	3	1 hour	7	21	5
50.	E	Community Engagement & Heritage Education in a Digital World	DCH 421	3	1 hour	7	21	5
51.	E	Heritage Science in the Digital Age	DCH 422	3	1 hour	7	21	5

52.	E	Synchrotron Radiation (SR)-enabled Research in Heritage Sciences & Archaeology	DCH 423	3	1 hour	7	21	5
53.	E	Environmental & Climate Perspectives on Cultural Heritage	DCH 424	3	1 hour	7	21	5
<b>B' Semester</b>								
1.	E	Monitoring and Modelling Terrestrial Ecosystems and Hydrologic Processes	EAS 511	3	1 hour	7	21	5
2.	E	Terrestrial Ecosystems	EAS 513	3	1 hour	7	21	5
3.	E	Renewable Energy Sources	EAS 515	3	1 hour	7	21	5
4.	E	Energy and the Built Environment	EAS 518	3	1 hour	7	21	5
5.	E	Energy Systems Analysis and Modelling	EAS 521	3	1 hour	7	21	5
6.	E	Energy and Environmental Policy	EAS 522	3	1 hour	7	21	5
7.	E	Interactive Visualisation of the Built Environment	EAS 523	3	1 hour	7	21	5
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