

COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF SCIENCES		
ACADEMIC UNIT	DEPARTMENT OF PHYSICS		
LEVEL OF STUDIES	POSTGRADUATE		
COURSE CODE	M225	SEMESTER	2/3
COURSE TITLE	SYNOPTIC METEOROLOGY		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	CREDITS	
	3	4	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Special background / specialised general knowledge		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)	http://ecourse.uoi.gr/course/view.php?id=1700		

(2) LEARNING OUTCOMES

Learning outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

The course provides the postgraduate students with detailed knowledge about the procedures of weather analysis and forecasting. Specifically, after the successful completion of the course, the students will be able to:

- Connect the theoretical knowledge gained from the Meteorology course to the practice of weather analysis and forecasting.
- Interpret the weather forecast maps and extract useful conclusions about the expected meteorological conditions over a specific region.
- Analyze the geographical and relief factors that significantly affect the meteorological conditions over a specific region.
- Perform and express properly the weather forecast for a specific region, taking into account the outputs of the global-scale numerical prediction models and the high-resolution prediction models referring to specific regions (e.g. Epirus).
- Gain experience in weather forecasting, by performing the daily weather forecast procedure for the Epirus region for a sufficient time period.
- Utilize the knowledge on weather analysis and forecasting in case they work as

weather forecasters.	
General Competences	
<i>Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?</i>	
<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>
<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>
<i>Decision-making</i>	<i>Respect for the natural environment</i>
<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>
<i>Team work</i>	<i>Criticism and self-criticism</i>
<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>
<i>Working in an interdisciplinary environment</i>
<i>Production of new research ideas</i>	<i>Others...</i>

<p>Search for, analysis and synthesis of data and information, with the use of the necessary technology</p> <p>Working independently</p> <p>Team work</p> <p>Working in an international environment</p> <p>Working in an interdisciplinary environment</p> <p>Respect for the natural environment</p> <p>Production of free, creative and inductive thinking</p>	

(3) SYLLABUS

Meteorological observations. SYNOP and METAR telegrams. Weather analysis. Numerical weather prediction models. Weather forecast maps. Procedures and phrasing of weather forecast. Weather forecast practice for the Ioannina region.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face to face teaching	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Asynchronous online learning via Moodle is used for uploading files related to the course and the communication with the students.	
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i> <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	Activity	Semester workload
	Lectures	26
	Tutorials	13
	Preparation and writing of project	8
	Weather forecast practice	20
	Study and analysis of bibliography	15
	Non-directed study	15
	Examinations	3
	Course total	100
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions,</i>	Written examinations at the end of semester, comprising questions of knowledge and understanding of the course content.	

open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.

Additionally, a project requiring bibliographic study and analysis is assigned to the students, contributing to the final grade, under the condition that the final examination grade is promotable.

(5) ATTACHED BIBLIOGRAPHY

- Carlson TN (1998) Mid-latitude Weather Systems, American Meteorological Society.
- Lackmann G (2011) Midlatitude Synoptic Meteorology: Dynamics, Analysis and Forecasting, American Meteorological Society.
- Sahsamanoglou Ch, Makrogiannis T (1998) General Meteorology, Ziti Editions (in Greek).
- Ziakopoulos D, Frangouli P (2011) The weather forecaster manual, Hellenic National Meteorological Service (in Greek).