NAME OF THE COURSE	Meteorology 2				
Code	PMP260	Year of study	1		
Course teacher	Jadranka Šepić, PhD, Assistant Professor	Credits (ECTS)	5		
Associate teachers		Type of instruction (number of hours)	L	S	E	F
			30	0	15	0
Status of the course	Compulsory	Percentage of application of e-learning				

COURSE DESCRIPTION

Course objectives	- provide knowledge on dynamical and physical processes in the atmosphere - provide knowledge on vorticity - provide knowledge on synoptic processes - provide knowledge on waves in the atmosphere
Course enrolment requirements and entry competences required for the course	- Meteorology 1 - Introduction to Fluid Mechanics - Programming
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	It is expected that students will gain advanced knowledge on: - dynamical processes in the atmosphere - vorticity in the atmosphere - synoptic-scale dynamics - quasi-geostrophic dynamics and processes - atmospheric waves
Course content broken down in detail by weekly class schedule (syllabus)	1. Natural coordinates; basic equations (3 hours of lectures) 2. Barotropic and baroclinic atmosphere (1 hour of lecture) 3. Thermal wind; vertical motions (2 hours of lectures) 4. The Kelvin circulation theorem (2 hours of lectures) 5. Vorticity (2 hours of lectures) 6. Potential and absolute vorticity (4 hours of lectures) 7. Synoptic-scale dynamics (2 hours of lectures) 8. Quasi-geostrophic analysis (4 hours of lectures) 9. Omega equation (2 hours of lectures) 10. Atmospheric oscillations; the perturbation method (2 hours of lectures) 11. Gravity waves (2 hours of lectures) 12. Inertial gravity waves (2 hours of lectures) 13. Rossby vawes (2 hours of lectures)
Format of instruction	☒ lectures ☐ seminars and workshops ☒ exercises ☐ *on line* in entirety ☐ partial e-learning ☒ field work ☐ independent assignments ☐ multimedia ☐ laboratory ☐ work with mentor ☒ homework
Student responsibilities	Attend at least 70% of lectures and 70% of exercises.

Screening student work *(name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)*						
	Class attendance	1	Research		Practical training	
	Experimental work		Report		Homework	1
	Essay		Seminar essay		(Other)	
	Tests		Oral exam	1.5	(Other)	
	Written exam	1.5	Project		(Other)	

<table>
<tr><td>Grading and evaluating student work in class and at the final exam</td><td colspan="3">Twice during the semester, students take preliminary exams (the first preliminary exam consists of the first six lessons, and the second one of the last seven lessons). Students who acquire more than 50% at preliminary exams are exempt from the written exam. Students receive and submit homework during the course. The final grade is formed based on the written exam (or preliminary exams) (40%), homework (20%), and oral exam (40%).</td></tr>
<tr><td rowspan="2">Required literature (available in the library and via other media)</td><td>Title</td><td>Number of copies in the library</td><td>Availability via other media</td></tr>
<tr><td>James R. Holton & Gregory J. Hakim
An Introduction to Dynamic Meteorology
Academic Press, 2013.</td><td>2</td><td>no</td></tr>
<tr><td>Optional literature (at the time of submission of study programme proposal)</td><td colspan="3">Roland B. Stull
An Introduction to Boundary Layer Meteorology
Kluwer, 1988.</td></tr>
<tr><td>Quality assurance methods that ensure the acquisition of exit competences</td><td colspan="3">Exam results statistics and student evaluation through an anonymous survey at the end of the course. The survey is conducted according to the regulations of the University of Split.</td></tr>
<tr><td>Other (as the proposer wishes to add)</td><td colspan="3"></td></tr>
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