

Biophysics PhD Programme

www.pmfst.hr/biophysics/

List of Obligatory & Elective Courses at **Biophysics PhD Programme** for the academic year 2013/2014.

List of Courses							
Study Year: 1.							
Semester: 1.							
Course Type	Course Code	Course Title (Course Leaders)	Course Structure*				ECTS
			L	S	E	LE	
Obligatory	PMP500	Cell Biophysics (I. Weber, I.M. Tolić-Norrelykke, D. Juretić)	24	4	0	0	10
	PMP501	Modeling of Biomacromolecules and their Complexes (Sanja Tomić, Larisa Zoranić)	20	4	8	4	10
		Elective Course and/or Student's Research in Biophysics					6
		Student's Research in Biophysics					4
	Total ECTS						30
	* hours of L=Lectures, S=Seminars, E=Exercises, LE=Laboratory Exercises						
Elective	PMP510	Bioinformatics, Biophysics and Bioenergetics of Membrane Proteins (D. Juretić)	20	4	10	0	6
	PMP511	Molecular Structure and Dynamics, Spectroscopy and Simulations (F. Sokolić)	20	0	15	0	6
	PMP512	Nonequilibrium Thermodynamics (P. Županović)	30	0	15	0	6
	PMP514	Physics of DNA, chromatin and viruses (R. Podgornik)	20	0	20	0	6
	PMP515	Molecular Genetics (J. Terzić)	24	10	12	0	6
	PMP517	Models and Methods in Structural Bioinformatics (B. Lučić)	15	5	15	0	6
	PMP518	Methods in Molecular Biology and Medicine (A. Ambriović-Ristov)	0	0	30	0	6
	PMP519	Laboratory Exercises in Molecular Biology (J. Puizina)	0	0	30	0	6
		Student's Research in Biophysics	0	6	20	0	6
	After consultation with his/her mentor and study leader, student can chose one elective course						

List of Courses							
Study Year: 1.							
Semester: 2.							
Course Type	Course Code	Course Title (Course Leaders)	Course Structure*				ECTS
			L	S	E	LE	
Obligatory	PMP502	Experimental Methods of Physics in Biophysics (A. Bilušić, V. Svetličić; B. Rakvin, G. Baranović, D. Vikić-Topić, I. Weber)	26	4	30	0	10
	PMP503	Selected Research Topics at ICAST: Simulations of Nano-biomolecules for Biosensors (V. Bonačić-Koutecky)	10	2	34	0	8
		Elective Course II and/or Student's Research in Biophysics					6
		Elective Course III and/or Student's Research in Biophysics					≥2 i ≤6
		Participation in a International Summer School					≥0 i ≤6
	Total ECTS						30
	* hours of L=Lectures, S=Seminars, E=Exercises, LE=Laboratory Exercises						
Elective	PMP521	Theory and Experiment in the Study of Protein Folding (B. Žagrović)	20	6	10	0	6
	PMP522	Applications of Maximum Entropy Production Principle inPhysics and Biology (P. Županović, D. Juretić)	12	4	4	0	6
	PMP523	Physics of Medical Diagnostics (D. Eterović)	7	8	15	0	6
	PMP524	Mathematical Modeling of Biological Systems; Selected Topics (M. Brumen)	10	5	20	0	6
	PMP525	Structure and Interactions in Polyelectrolytes: Basic Theory and Experimental Verification (Silvia Tomić i T. Vuletić)	10	5	15	0	6
	PMP526	Biophysical and Biomedical Aspects of Oxidative Stress (N. Žarković)	6	4	0	0	2
	PMP527	Basics of systems biomedicine (K. Pavelić, S. Kraljević Pavelić, M. Sedić, K. Hock, M. Baus Lončar)	10	4	0	0	3
	PMP528	Biomechanics (M. Dželalija)	20	1	10	0	6
	PMP529	Structural, Electronic and Dynamical Aspects of Biophysical Processes (V. Bonačić-Koutecky)	10	2	24	0	6
	PMP530	Planning of Research and Writing Scientific Report (M. Marušić)	10	6	4	0	6
		Student's Research in Biophysics	0	6	20	0	6
	After consulation with his/her mentor and study leader, student can chose two elective courses						

List of Courses							
Study Year: 2.							
Semester: 3.							
Course Type	Course Code	Course Title (Course Leaders)	Course Structure*				ECTS
			L	S	E	LE	
Obligatory		Research in Biophysics					26
	PMP505	Seminars and Workshops from Interdisciplinary Life Sciences (D. Juretić, V. Bonačić-Koutecky, M. Dželalija, D. Eterović, M. Raguž, D. Kovačić, Ž. Antunović, Lj. Fruk, Silvia Tomić, R. Podgornik, A. Tossi, A. Kriško, M. Radman, V. Paar).	0	20	0	0	4
	Total ECTS						30
	* hours of L=Lectures, S=Seminars, E=Exercises, LE=Laboratory Exercises						

List of Courses							
Study Year: 2.							
Semester: 4.							
Course Type	Course Code	Course Title (Course Leaders)	Course Structure*				ECTS
			L	S	E	LE	
Obligatory		Research in Biophysics and Student's Seminars					≥22 ≤26
	PMP505	Seminars and Workshops from Interdisciplinary Life Sciences (D. Juretić, V. Bonačić-Koutecky, M. Dželalija, D. Eterović, M. Raguž, D. Kovačić, Ž. Antunović, Lj. Fruk, Silvia Tomić, R. Podgornik, A. Tossi, A. Kriško, M. Radman, V. Paar).	0	20	0	0	4
		Participation in a International Summer School					≤4
	Total ECTS						30

List of Courses							
Study Year: 3.							
Semester: 5.							
Course Type	Course Code	Course Title (Course Leaders)	Course Structure				ECTS
			L	S	E	LE	
Obligatory		Research related to the chosen Ph.D. thesis research topic					27
		Student's research seminars and first seminar about results of student's Ph.D. research					3
	Total ECTS						30

List of Courses							
Study Year: 3.							
Semester: 6.							
Course Type	Course Code	Course Title (Course Leaders)	Course Structure				ECTS
			L	S	E	LE	
Obligatory		Research on chosen Ph.D. thesis research topic					27
		Two student's seminars about research results pertaining to student's Ph.D. research and thesis defense seminar					3
	Total ECTS						30