

## STUDY PROGRAMME CURRICULUM MEDICAL PHYSICS

Name of study programme	<b>Medical physics</b>
Programme characteristics	
Type	master's
Cycle	master
University of Ljubljana members	• Faculty of Mathematics and Physics, Jadranska ulica 19, 1000 Ljubljana, Slovenija

### Year 1

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0079022	Nuclear and particle physics	Peter Križan, Svjetlana Fajfer	45	0	15	0	0	120	180	6	1st semester	no
2.	0079023	Radiation physics and dosimetry	Marko Mikuž, Tomaž Podobnik	45	0	15	0	0	120	180	6	1st semester	no
3.	0079021	Experimental nuclear and particle physics	Peter Križan	30	0	15	0	0	105	150	6	1st semester	no
4.	0109629	Izbirni predmet 1		30	15	0			105	150	6	1st semester	yes
5.	0109630	Izbirni predmet 2		30	15				105	150	6	1st semester	yes
6.	0109631	Model analysis 1	Simon Širca	30	0	30	0	0	180	240	8	2nd semester	no
7.	0079027	Health physics	Andrej Studen	45	15	15	0	0	105	180	6	2nd semester	no
8.	0079026	Physics of radiotherapy	Robert Jeraj	45	15	15	0	0	105	180	6	2nd semester	no
9.	0080218	Physiology	Borut Kirn	45	0	15	0	0	120	180	6	2nd semester	no
10.	0109632	Elective 1		30	15				75	120	4	2nd semester	yes
		Total		375	75	120	0	0	1140	1710	60		

\* V dvoletnem ciklu se izmenjujejo:

*Ekperimentalna fizika jedra in osnovnih delcev, Zdravstvena fizika, Fizika radioterapije in Fizika anatomskega slikanja, Fizika funkcionalnega in molekularnega slikanja terelective predmet 1 v poletnem semestru*

## Year 2

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0079028	Experimental medical physics	Damijan Škrk, Peter Križan	0	15	45	0	0	120	180	6	All-year	no
2.	0079029	Physics of anatomical imaging	Damijan Škrk, Igor Serša	45	15	15	0	0	105	180	6	1st semester	no
3.	0109633	Izbirni predmet 1		30	15				105	150	6	1st semester	yes
4.	0080223	Physics of functional and molecular imaging	Urban Simončič	45	15	15	0	0	105	180	6	2nd semester	no
5.	0109635	Izbirni predmet 1*		30	15				105	150	6	2nd semester	yes
6.	0109634	Master thesis research						120	780	900	30	All-year	no
		Total		150	75	75	0	120	1320	1740	60		

\* Available every two years:

Experimental physics in basic particles, Physics in health care, Physics in radiotherapy, Physics of anatomy imaging, Physics of functional and molecular imaging and elective 1 in summer semester.

## Year 1, Year 2, elective

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0080228	Physics of neutron nuclear facilities	Luka Snoj	30	0	15	0	0	75	120	4	1st semester, 2nd semester	yes

2.	0080231	Clinical aspects of imaging and therapy	Primož Strojan	45	30	0	0	0	105	180	6	1st semester, 2nd semester	yes
3.	0080227	Cell biology and molecular biology	Gregor Serša, Maja Čemažar	30	15	0	0	0	105	150	6	1st semester, 2nd semester	yes
4.	0080233	Radiobiology	Gregor Serša, Maja Čemažar	30	15	0	0	0	105	150	6	1st semester, 2nd semester	yes
5.	0080232	Optical methods in medicine	Boris Majaron	30	0	15	0	0	105	150	6	1st semester, 2nd semester	yes
6.	0080226	Bioelectromagnetism	Rok Hren	30	0	15	0	0	105	150	6	1st semester, 2nd semester	yes
7.	0080234	Statistical methods in physics	Tomaž Podobnik	30	0	15	0	0	105	150	6	1st semester, 2nd semester	yes
8.	0080235	Experiments in physics 1	Peter Križan	0	0	45	0	0	75	120	4	1st semester, 2nd semester	yes
9.	0080229	Experiments in physics 2	Peter Križan	0	0	45	0	0	75	120	4	1st semester, 2nd semester	yes
10.	0080230	Selected topics in physics	Boštjan Golob	0	60	0	0	0	30	90	3	1st semester, 2nd semester	yes
11.	0111900	Anatomy	Dean Ravnik	45	15		0	0	120	180	6	1st semester, 2nd semester	yes
Total				270	135	150	0	0	1005	1560	57		

Year 1, elective

	University Course Code	Course title	Lecturers	Contact hours					Individual student work	Total hours	ECTS	Semesters	Elective
				Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study					
1.	0079745	Seminar I	Anton Ramšak, Denis Arčon	0	90	0	0	0	30	120	4	All-year	yes
2.	0159162	Advanced particle detectors and data analysis	Boštjan Golob, Peter Križan	30	0	15	0	0	105	150	5	2nd semester	yes
Total				30	90	15	0	0	135	270	9		

## Year 2, elective

				Contact hours									
	University Course Code	Course title	Lecturers	Lectures	Seminar	Tutorials	Clinical tutorials	Other forms of study	Individual student work	Total hours	ECTS	Semesters	Elective
1.	0080069	Seminar 2	Peter Križan	0	45	0	0	0	75	120	4	1st semester	yes
2.	0544097	Laboratory of Machine Learning Methods in Physics	Borut Paul Kerševan, Jernej Fesl Kamenik	30	0	45	0	0	105	180	6	1st semester	yes
Total				30	45	45	0	0	180	300	10		