



MINISTÉRIO DA EDUCAÇÃO
UNIVERSIDADE FEDERAL DE OURO PRETO
PRÓ-REITORIA DE GRADUAÇÃO



COURSE OF PHYSICS - 2020/1 (curriculum 2)
OURO PRETO'S CAMPUS

CODE	MANDATORY DISCIPLINES	PREREQUISITE	SWL	CWL	CLASSES		SEM
					T	P	
FIS119	PHYSICS IN THE MODERN WORLD		60	72	4	0	1
FIS305	THEORETICAL PHYSICS I		60	72	4	0	1
FIS315	EXPERIMENTAL PHYSICS I		60	72	0	4	1
MTM122	DIFFERENTIAL AND INTEGRAL CALCULUS I		90	108	6	0	1
MTM131	ANALYTICAL GEOMETRY AND VECTOR CALCULUS		60	72	4	0	1
FIS306	THEORETICAL PHYSICS II	FIS305 FIS315	60	72	4	0	2
FIS316	EXPERIMENTAL PHYSICS II	FIS305 FIS315	30	36	0	2	2
MTM112	INTRODUCTION TO LINEAR ALGEBRA	MTM131	60	72	4	0	2
MTM123	DIFFERENTIAL AND INTEGRAL CALCULUS II	MTM122	60	72	4	0	2
QUI242	GENERAL CHEMISTRY		60	72	4	0	2
QUI243	EXPERIMENTAL GENERAL CHEMISTRY		30	36	0	2	2
BCC701	COMPUTER PROGRAMMING I	FIS305 FIS306 MTM122	60	72	2	2	3
FIS307	THEORETICAL PHYSICS III	FIS306 FIS316 MTM122 MTM131	60	72	4	0	3
FIS317	EXPERIMENTAL PHYSICS III	FIS306 FIS316 MTM122 MTM131	30	36	0	2	3
MTM124	DIFFERENTIAL AND INTEGRAL CALCULUS III	MTM123	60	72	4	0	3
MTM125	INTRODUCTION TO ORDINARY DIFFERENTIAL EQUATIONS	MTM112 MTM122	60	72	4	0	3
FIS301	COMPUTATIONAL PHYSICS I	BCC701 FIS305 FIS306 MTM123	60	72	3	1	4
FIS304	THERMODYNAMICS I	FIS306	60	72	4	0	4
FIS308	THEORETICAL PHYSICS IV	FIS307 FIS317	60	72	4	0	4
FIS318	EXPERIMENTAL PHYSICS IV	FIS307 FIS317	30	36	0	2	4
FIS424	METHODS OF THEORETICAL PHYSICS I	MTM125	60	72	4	0	4
FIS302	STRUCTURE OF MATTER I	FIS308	60	72	4	0	5
FIS414	RATIONAL MECHANICS I	FIS305 MTM123	60	72	4	0	5
FIS515	THEORY OF ELECTROMAGNETISM I	FIS424	60	72	4	0	5
FIS628	THEORY OF ELECTROMAGNETISM II	FIS515	60	72	4	0	6
FIS516	QUANTUM MECHANICS I	FIS302	60	72	4	0	7
FIS630	ADVANCED EXPERIMENTAL PHYSICS I	FIS302 FIS318	120	144	0	8	7
FIS724	INTRODUCTION TO STATISTICAL PHYSICS	FIS302	60	72	4	0	7
FIS832	PROJECT AND MONOGRAPH I	1200 hours	15	18	1	0	7
FIS629	QUANTUM MECHANICS II	FIS516	60	72	4	0	8
FIS822	SOLID STATE PHYSICS	FIS302	60	72	4	0	8
FIS833	PROJECT AND MONOGRAPH II	FIS832	60	72	1	3	8
BACHELOR OF PHYSICS IN MATERIALS SCIENCE							
FIS520	PHASE TRANSITION	FIS304	60	72	4	0	5
FIS522	STRUCTURE AND PROPERTIES OF CERAMICS	FIS308	60	72	4	0	5
QUI244	ORGANIC CHEMISTRY	QUI242	30	36	2	0	5
QUI245	EXPERIMENTAL ORGANIC CHEMISTRY	QUI242	30	18	0	2	5
FIS319	MATERIAL PHYSICS I	FIS308	60	72	4	0	6
FIS521	STRUCTURE AND PROPERTIES OF METALS	FIS302	60	72	3	1	6
FIS523	MATERIALS CHARACTERIZATION TECHNIQUES	FIS302	60	72	2	2	6
FIS620	DIFFUSION IN MATERIALS	FIS304	60	72	4	0	6
FIS320	POLYMERS PHYSICS	FIS319	60	72	4	0	7
FIS621	CERAMICS PROCESSING	FIS522	60	72	3	1	7
FIS666	SUPERVISED INTERNSHIP	FIS302 FIS305 FIS306 FIS307 FIS308 FIS319	90	108	0	6	8
BACHELOR OF BASIC PHYSICS							
FIS517	METHODS OF THEORETICAL PHYSICS II	FIS424	60	72	4	0	5
FIS215	CONTINUUM MECHANICS	FIS414	60	72	4	0	6



MINISTÉRIO DA EDUCAÇÃO
UNIVERSIDADE FEDERAL DE OURO PRETO
PRÓ-REITORIA DE GRADUAÇÃO



CODE	MANDATORY DISCIPLINES	PREREQUISITE	SWL	CWL	CLASSES		SEM
					T	P	
FIS514	RATIONAL MECHANICS II	FIS414	60	72	4	0	6
FIS831	RELATIVITY	FIS515	60	72	4	0	6

CODE	ELECTIVE DISCIPLINES	PREREQUISITE	SWL	CWL	CLASSES		SEM
					T	P	
BCC702	COMPUTER PROGRAMMING II	BCC701	60	72	2	2	
BCC760	NUMERICAL CALCULUS		60	72	2	2	
EST202	STATISTICS AND PROBABILITY	MTM122	60	72	4	0	
FIS500	HISTORY OF PHYSICS		60	72	2	2	
FIS501	PHYSICS TEACHING PRACTICE I		90	108	4	2	
FIS524	CRYSTALS GROWTH	FIS304	60	72	4	0	
FIS623	SURFACES AND INTERFACES I	FIS520	60	72	4	0	
FIS624	MODELING AND SIMULATION	FIS301	60	72	4	0	
FIS723	SURFACES AND INTERFACES II	FIS623	60	72	4	0	
FIS725	ELECTRODYNAMICS	FIS628	60	72	4	0	
FIS820	SPECIAL TOPICS IN ADVANCED CERAMICS	FIS522	60	72	2	2	
FIS823	SEMICONDUCTORS PHYSICS AND TECHNOLOGY	FIS516	60	72	4	0	
FIS824	INTRODUCTION TO SEMICONDUCTORS PHYSICS	FIS302	60	72	4	0	
FIS825	QUANTUM STRUCTURE OF MATTER II	FIS516	60	72	4	0	
FIS826	TOPICS IN ANALYTICAL MECHANICS AND NONLINEAR DYNAMICS	FIS305 FIS414 MTM125	60	72	4	0	
FIS827	INTRODUCTION TO QUANTUM INFORMATION		60	72	4	0	
FIS828	POLYMERS ELECTRICAL PROPERTIES	FIS307 FIS308	60	72	4	0	
FIS834	COMPLEX SISTEM SIMULATION I	MTM122	60	72	4	0	
GEO104	MINERALOGY		60	72	2	2	
GEO110	GENERAL GEOLOGY		45	54	3	0	
GEO161	GEOPHYSICS		120	144	4	4	
GEO228	GEOTECTONIC		45	54	3	0	
GEO231	STRUCTURAL GEOLOGY		75	90	3	2	
LET966	INTRODUCTION TO BRAZILIAN SIGN LANGUAGE (LIBRAS)		60	72	2	2	
MET123	METALLURGICAL PROCESSING I		75	90	3	2	
MET138	METALS HEAT TREATMENT	FIS520	75	90	2	3	
MET139	FOUNDRY	FIS521	60	72	4	0	
MET222	MECHANICAL BEHAVIOR OF METALS	FIS521	60	72	3	1	
MET247	MECHANICAL PROCESS ENGINEERING	FIS521	60	72	3	1	
MET702	METALLURGY PROCESS ENGINEERING	FIS521	60	72	4	0	
MTM118	LINEAR ALGEBRA II	MTM112	60	72	4	0	
MTM129	ELEMENTS OF PARTIAL DIFFERENTIAL EQUATIONS	MTM125	60	72	4	0	
MTM136	INTRODUCTION TO DIFFERENTIAL GEOMETRY	MTM112 MTM124 MTM125	60	72	4	0	
MTM236	INTRODUCTION TO DYNAMICAL SYSTEMS	MTM112 MTM125	90	108	6	0	
MUL450	GENERAL ASTRONOMY		60	72	4	0	
MUL451	FUNDAMENTALS TO ASTRONOMY TEACHING		30	36	2	0	
MUL452	TOPICS IN ASTRONOMY		15	18	1	0	
PRO201	QUALITY MANAGEMENT		60	72	4	0	
PRO301	ENTREPRENEURSHIP		60	72	4	0	
QUI137	ANALYTICAL CHEMISTRY	QUI242 QUI243	45	54	1	2	
QUI160	POLYMERS		60	72	4	0	
QUI161	STRUCTURE AND PROPERTIES OF POLYMERIC MATERIALS	QUI160	60	72	2	2	
QUI165	SPECIAL TOPICS IN POLYMER TECHNOLOGY	QUI161	60	72	4	0	
QUI166	POLYMERS PROCESSING AND BENEFITING	QUI160	60	72	4	0	
BACHELOR OF PHYSICS IN MATERIALS SCIENCE							
FIS215	CONTINUUM MECHANICS	FIS414	60	72	4	0	
FIS514	RATIONAL MECHANICS II	FIS414	60	72	4	0	
FIS517	METHODS OF THEORETICAL PHYSICS II	FIS424	60	72	4	0	
FIS831	RELATIVITY	FIS515	60	72	4	0	
BACHELOR OF BASIC PHYSICS							
QUI244	ORGANIC CHEMISTRY	QUI242	30	36	2	0	
QUI245	EXPERIMENTAL ORGANIC CHEMISTRY	QUI242	30	18	0	2	



MINISTÉRIO DA EDUCAÇÃO
UNIVERSIDADE FEDERAL DE OURO PRETO
PRÓ-REITORIA DE GRADUAÇÃO



CODE	ACTIVITIES	PREREQUISITE	CHARACTER	SWL	SEM
BACHELOR OF PHYSICS IN MATERIALS SCIENCE					
ATV100	ACADEMIC-SCIENTIFIC-CULTURAL ACTIVITY		MANDATORY	30	
BACHELOR OF BASIC PHYSICS					
ATV100	ACADEMIC-SCIENTIFIC-CULTURAL ACTIVITY		MANDATORY	120	

Required Courses Load on Bachelor Of Physics In Materials Science	Work Load
Mandatory Disciplines	2475
Elective Disciplines	60
Optative Disciplines	0
Facultative Disciplines	0
Activities	30
Total	2565

Required Courses Load on Bachelor Of Basic Physics	Work Load
Mandatory Disciplines	2085
Elective Disciplines	240
Optative Disciplines	0
Facultative Disciplines	0
Activities	120
Total	2445