Republic of the Philippines
Cebu Normal University
Osmeña Blvd., Cebu City, 6000, Philippines

College of Computing, Artificial Intelligence, and Sciences
Telephone No.: (+63 32) 254 6814 loc. 140
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BACHELOR OF SCIENCE IN PHYSICS

CMO No. 20 s.2007 ; BOR Res. No. _____
Effectivity AY: 2023 - 2024

FIRST YEAR

FIRST SEMESTER			SECOND SEMESTER		
Course No.	Descriptive Title	Units	Course No.	Descriptive Title	Units
GE MMW	Mathematics in the Modern World	3	GE US	Understanding the Self	3
GE WF	Wikang Filipino	3	Phys 102a	University Physics II (Lecture)	3
Phys 101a	University Physics I (Lecture)	3	Phys 102b	University Physics II (Laboratory)	1
Phys 101b	University Physics I (Laboratory)	1	Phys 104a	Computational Physics I (Lecture)	3
Chem 101a	Principles of Chemistry (Lecture)	3	Phys 104b	Computational Physics I (Laboratory)	1
Chem 101b	Principles of Chemistry (Laboratory)	1	Math 107	Calculus II	4
PATHfit 1	Movement Competency Training	2	GE PC	Purposive Communication	3
Math 104	Calculus 1	4	PATHfit2	Exercise-based Fitness Activities	2
NSTP 1	National Service Training Program 1	(3)	NSTP 2	National Service Training Program II	(3)
	Total Units	22		**Total Units**	23

SECOND YEAR

FIRST SEMESTER			SECOND SEMESTER		
Course No.	Descriptive Title	Units	Course No.	Descriptive Title	Units
GE PP	Panitikan ng Pilipinas	3	GE CW	Contemporary World	3
GE LOG	Logic	3	Math 113	Differential Calculus	3
Phys 103a	University Physics III (Lecture)	3	Phys 106a	Computational Physics III (Lecture)	3
Phys 103b	University Physics III (Laboratory)	1	Phys 106b	Computational Physics III (Laboratory)	1
Phys 105a	Computational Physics II (Lecture)	3	MathPhys 101	Mathematical Physics I	3
Phys 105b	Computational Physics II (Laboratory)	1	Phys 108	Modern Physics	3
GE STS	Science, Technology and Society	3	Phys 109	Theoretical Mechanics I	3
Math 110	Calculus III	4	PATHfit 4	Menu of Dance, Sports, Martial Arts, Group Exercise, Outdoor and Adventure Activities	(2)
PATHfit 3	Menu of Dance, Sports, Martial Arts, Group Exercise, Outdoor and Adventure Activities	(2)			
	Total Units	21		**Total Units**	21

THIRD YEAR

FIRST SEMESTER			SECOND SEMESTER		
Course No.	Descriptive Title	Units	Course No.	Descriptive Title	Units
GE ETH	Ethics	3	GE AA	Art Appreciation	3
Free Elec 1	Free Elective	3	FreeElec2	Free Elective II	3
Phys 110	Theoretical Mechanics II	3	Phys 111	Quantum Mechanics I	3

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Phys 113	Electromagnetism I	3	Phys 114	Electromagnetism II	3
Phys Elec1	Physics Elective	3	Phys 115	Advanced Laboratory	3
MathPhys 102	Mathematical Physics II	3	Phys 116a	Electronics (Lecture)	3
Phys 107a	Computational Physics IV (Lecture)	3	Phys 116b	Electronics (Laboratory)	1
Phys 107b	Computational Physics IV (Laboratory)	1	Phys Elec2	Physics Elective	3
	Total Units	22		**Total Units**	22

THIRD YEAR (SUMMER)

Course No.	Descriptive Title	Units			
	Internship	3			
	Total Units	3			

FOURTH YEAR

FIRST SEMESTER			**SECOND SEMESTER**		
Course No.	Descriptive Title	Units	Course No.	Descriptive Title	Units
GE RPH	Readings in Philippine History	3	GE LWR	Life and Works of Rizal	3
Phys 112	Quantum Mechanics II	3	Phys 120	Physics Research II	3
Phys 118	Thermal and Statistical Physics	3	Phys Elec 3	Physics Elective	3
Phys 119	Physics Research I	3	Phys Elec 4	Physics Elective	3
Phys 117	Optics	3			
	Total Units	15		**Total Units**	12

Total Credit Units: 163

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Physics Elective Courses:	**Description**	**No. of Units**
1. Solid State Physics	This is a one semester course on solids with emphasis on crystal structure and bonding, lattice vibrations and thermal properties, the free electron Fermi gas, energy bands metals, conducting and semiconducting crystals.	3.0
2. Atmospheric Physics	This is a lecture-laboratory course that covers the fundamentals of atmospheric composition and structure, as well as thermodynamic processes and stability. Solar and thermal radiation scattering, absorption, and transmission; dependence on aerosols, clouds, and other variable components; greenhouse and climate effects	3.0
3. General Relativity	This is a one semester course that focuses on special relativity and relativistic dynamics, covariant formulation of mechanics and electrodynamics, the principle of equivalence and its consequences, tensors and geodesics, the Schwartzchild metric, application to stellar and cosmic dynamics.	3.0
4. Biophysics Instrumentation	Introduces students to the basic use of equipment in the biophysics lab.	3.0
5. Condensed Matter Physics	This course will introduce students to the latest quantum and statistical mechanical concepts in condensed matter physics. It is divided into three sections that cover phase transitions and Anderson localisation, electronic structure and band theory using superatoms and superconductivity as examples.	3.0
6. Medical and Health Physics	This course introduces students to the fundamental principles of health physics and radiation protection in medical physics settings. Radiation detection and measurement, instrumentation, counting statistics, radiation protection criteria, exposure limits and regulations, shielding techniques, personnel dose monitoring, and radiation safety are all covered.	3.0
7. Physics Education	The Physics Education course will help students develop the mathematical, modeling, computational, and laboratory skills they will need to be a successful or effective teacher.	3.0
8. Physics Seminar	This course is intended to prepare students for oral presentations. Presenting your work requires almost as much thought and planning as the work itself. With practice, you can improve your oral presentation skills. We will also go over the best techniques for presenting to various audiences.	3.0
9. Instrumentation Physics	This course is intended to prepare students in handling equipment both in the atmospheric lab and medical biophysics lab.	3.0
10. Environmental Physics	This course teaches students the physical principles that underpin nature, allowing them to explain everyday environmental phenomena. These principles serve as the foundation for deciphering Earth science, climate and environmental change, and energy systems.	3.0
11. Special Topics in Physics	This course will be focused on the specific field of expertise of the professor handling the subject.	3.0
Free Elective Courses:		
1. White Noise Analysis for Non-Markovian Stochastic Processes	A one semester course that focuses on the Hida-Streit calculus in dealing with stochastic systems especially non-Markovian stochastic systems.	3.0
2. Data Science and Machine Learning I and II	This one semester course focuses on developing basic understanding of the principles of machine learning and derive practical solutions using predictive analytics. This course also covers examining why algorithms play an essential role in Big Data analysis.	4.0