PROGRAM CURRICULUM

Program : BS Physics
Department : Department of Natural Sciences
College : College of Arts and Sciences (CAS)
Effectivity : 1st Semester A.Y. 2018- 2019
Basis : CMO Draft PSG BS Physics as of October 27, 2018

FIRST YEAR

Grade	*FIRST SEMESTER* COURSE CODE	DESCRIPTIVE TITLE	Units Total	Lec.	Lab.	Contact Hrs. Total	Lec.	Lab.	Pre-requisite (s)	Co-requisite (s)
	UTS	Understanding the Self	3	3	0	3	3	0	NONE	
	MMW	Mathematics in the Modern World (with Lab)	3	3	0	3	3	0	NONE	
	MATH 13	Calculus I	4	4	0	4	4	0	NONE	
	MATH A	Math Intervention Program for Math 13*	0	0	0	0	0	0	NONE	
	Chem 16	Principles of Chemistry	5	3	2	9	3	6	NONE	
	SE 101	Orientation to University Life	0			1.5				
	PE 1	Physical Fitness	2	2	0	2	2	0	NONE	
	NSTP 1	CWTS/LTS/ROTC I	3	3	0	3	3	0	NONE	
		Total	**20**	18	2	**25.5**	18	6		

Course(s) with * should be taken by non-STEM graduates

Noted:
ROLANDO N. PALUGA, Ph.D.
VPAA

FIRST YEAR

Grade	*SECOND SEMESTER* COURSE CODE	DESCRIPTIVE TITLE	Units Total	Lec.	Lab.	Contact Hrs. Total	Lec.	Lab.	Pre-requisite (s)	Co-requisite (s)
	STS	Science, Technology and Society	3	3	0	3	3	0	NONE	
	PC	Purposive Communication	3	3	0	3	3	0	NONE	
	MATH 14	Calculus II	4	4	0	4	4	0	Calculus I	
	Phys 21	University Physics I (Mechanics with Fluid mechanics)	4	3	1	6	3	3		
	SE 102	The Elements of Success	0			1.5				
	PE 2	Rhythmic Activities	2	2	0	2	2	0	PE 1	
	NSTP 2	CWTS/LTS/ROTC II	3	3	0	3	3	0	NSTP 1	
	EEP 1	English Enhancement Program 1	2	2	0	2	2	0		
		Total	**21**	20	1	**24.5**	20	3		

Verified by:
ESAMEL M. PALUGA, Ph.D.
Dean, CAS

SECOND YEAR

Grade	*FIRST SEMESTER* COURSE CODE	DESCRIPTIVE TITLE	Units Total	Lec.	Lab.	Contact Hrs. Total	Lec.	Lab.	Pre-requisite (s)	Co-requisite (s)
	Eth	Ethics	3	3	0	3	3	0	NONE	
	TCW	The Contemporary World	3	3	0	3	3	0	NONE	
	MATH 15	Calculus III	4	4	0	4	4	0	Calculus II	
	BioSci 1	General Biology	5	3	2	9	3	6	NONE	
	Phys 31	University Physics II (Thermodynamics, Waves, and Optics)	4	3	1	6	3	3	University Physics I	
	PE 3	Individual/Dual Sports	2	2	0	2	2	0	PE 1	
	SE 103	Intrapersonal and Interpersonal Skills	0			1.5			NONE	
	EEP 2	English Enhancement Program 2	2	2	0	2	2	0	NONE	
		Total	**23**	**20**	**3**	**30.5**	**20**	**9**		

SECOND YEAR

Grade	*SECOND SEMESTER* COURSE CODE	DESCRIPTIVE TITLE	Units Total	Lec.	Lab.	Contact Hrs. Total	Lec.	Lab.	Pre-requisite (s)	Co-requisite (s)
	RPH	Readings in the Philippine History	3	3	0	3	3	0	NONE	
	Free Elective	_____	3	3	0	3	3	0		
	MATH 113	Differential Equations I	3	3	0	3	3	0	Calculus II	
	Phys 41	University Physics III (Electricity and Magnetism)	4	3	1	6	3	3	University Physics I	
	Phys 111	Mathematical Physics I	3	3	0	3	3	0	Calculus II, University Physics II	Differential Equations I, University Physics III
	SE 104	Social Responsibility and Accountability	0			1.5			NONE	
	PE 4	Major/team Sports	2	2	0	2	2	0	PE 1	
	EEP 3	English Enhancement Program 3	2	2	0	2	2	0	NONE	
		Total	**20**	19	1	**23.5**	19	3		

Prepared by:
JESSA MAE T. LAZARTE
Program Coordinator, Physics Division
Chair, Department of Natural Sciences

THIRD YEAR

Grade	*FIRST SEMESTER* COURSE CODE	DESCRIPTIVE TITLE	Units Total	Lec.	Lab.	Contact Hrs. Total	Lec.	Lab.	Pre-requisite (s)	Co-requisite (s)
	LWR	Life & Works of Rizal	3	3	0	3	3	0	NONE	

	Phys 121	Classical Mechanics I	3	3	0	3	3	0	University Physics I, Differential Equations I
			3	3	0	3	3	0	
	Phys 151	Modern Physics I							University Physics II & III, Calculus II
	Phys 141	Classical Electromagnetism I	3	3	0	3	3	0	University Physics III, Differential Equations I
	Phys 112	Mathematical Physics II	3	3	0	3	3	0	Mathematical Physics I, Differential Equations I
	Phys 143	Electronics and Instrumentation	4	3	1	6	3	3	Jniversity Physics III
	SE 105	Career Readiness 1	0			1.5			
		Total	**19**	18	1	**22.5**	18	3	

THIRD YEAR

Grade	*SECOND SEMESTER* COURSE CODE	DESCRIPTIVE TITLE	Units Total	Lec.	Lab.	Contact Hrs. Total	Lec.	Lab.	Pre-requisite (s)	Co-requisite (s)
	Phys 122	Classical Mechanics II	3	3	0	3	3	0	Classical Mechanics I	
	Phys 142	Classical Electromagnetism II	3	3	0	3	3	0	Classical Electromagnetism I	
	Phys 131	Thermal & Statistical Physics I	3	3	0	3	3	0	University Physics II, Differential Equations I	
	Phys 161	Advanced Physics Laboratory	3	0	3	9	0	9	University Physics II & III	
	Phys 198	Undergraduate Thesis I (Methods of Research)	3	3	0	3	3	0		
	Art App	Art Appreciation	3	3	0	3	3	0		
	TEM	The Entrepreneurial Mind	3	3	0	3	3	0		
	SE 106	Career Readiness 2	0			1.5				
		Total	**21**	**18**	**3**	**28.5**	**18**	**9**		

THIRD YEAR

Grade	*SUMMER* COURSE CODE	DESCRIPTIVE TITLE	Units Total	Lec.	Lab.	Contact Hrs. Total	Lec.	Lab.	Pre-requisite (s)	Co-requisite (s)
	Phys 196	Practicum	2	0	2	18	0	18	University Physics II & III	
		Total	**2**	0	2	**18**	0	18		

FOURTH YEAR

Grade	*FIRST SEMESTER* COURSE CODE	DESCRIPTIVE TITLE	Units Total	Lec.	Lab.	Contact Hrs. Total	Lec.	Lab.	Pre-requisite (s)	Co-requisite (s)
	Phys 123	Quantum Mechanics I	3	3	0	3	3	0	Modern Physics I, Mathematical Physics II	
	Physics Elective 1	_____	3	3	0	3	3	0		
	Phys 162	Computational Physics	4	3	1	6	3	3	University Physics II & III, Calculus II	
	Phys 137	Optics	3	2	1	5	2	3	University Physics II & III, Calculus II	
	Phys 197	Undergraduate Seminar	1	1	0	1	1	0		
	Chem	_____	5	3	2	9	3	6	None	
	SE 107	Pre- Employment Seminar 1	0			1.5				
		Total	**19**	15	4	**28.5**	15	12		

FOURTH YEAR

Grade	*SECOND SEMESTER* COURSE CODE	DESCRIPTIVE TITLE	Units Total	Lec.	Lab.	Contact Hrs. Total	Lec.	Lab.	Pre-requisite (s)	Co-requisite (s)
	Physics Elective 2	_____	3	3	0	3	3	0		
	Physics Electi	_____	3	3	0	3	3	0		
	Physics Electi	_____	3	3	0	3	3	0		
	Phys 199	Undergraduate Thesis II	3	3	0	3	3	0	Undergraduate Thesis I	
	Free Elective	_____	3	3	0	3	3	0		

Noted:

ROLANDO N. PALUGA, Ph.D.
VPAA

Verified by:

ESAMEL M. PALUGA, Ph.D.
Dean, CAS

Prepared by:

JESSA MAE T. LAZARTE
Program Coordinator, Physics Division
Chair, Department of Natural Sciences

_____	Free Elective	_____	3	3	0	3	3	0	
_____	SE 108	Pre-Employment Seminar 2	0			1.5			
		Total	**18**	**18**	**0**	**19.5**	**18**	**0**	
		OVER-ALL TOTAL	**163**	146	17	**221**	146	63	

Pre-requisite course(s) - refers to a course or set of courses which should be enrolled in and passed accordingly before the specified course can be enrolled in.

Co-requisite course(s) - refers to a course or set of courses which may be enrolled in earlier or the latest taken simultaneously with specific course. However the respective incurred grade will not affect the validity of the grade of the other specified course.

LIST OF ELECTIVES

PHYSICS ELECTIVES

Grade	COURSE CODE	DESCRIPTIVE TITLE	Units			Contact Hrs.			Pre-requisite (s)	Co-requisite (s)
			Total	Lec.	Lab.	Total	Lec.	Lab.		
_____	Phys 113	Advanced Mathematical Physics	3	3	0	3	3	0	Mathematical Physics II	
_____	Phys 114	Complex Physics	3	3	0	3	3	0	Thermal & Statistical Physics I, Mathematical Physics I	
_____	Phys 124	Quantum Mechanics II	3	3	0	3	3	0	Quantum Mechanics I	
_____	Phys 132	Thermal & Statistical Physics II	3	3	0	3	3	0	Thermal & Statistical Physics I	
_____	Phys 133	Solid State Physics I	3	3	0	3	3	0	Thermal & Statistical Physics I, Mathematical Physics II	Quantum Mechanics I
_____	Phys 134	Solid State Physics II	3	3	0	3	3	0	Solid State Physics I, Quantum Mechanics I	
_____	Phys 135	Condensed Matter Physics	3	3	0	3	3	0	Solid State Physics I, Quantum Mechanics I	
_____	Phys 136	Superconductivity	3	3	0	3	3	0	Solid State Physics I, Quantum Mechanics I	
_____	Phys 138	Photonics	3	2	1	5	2	3	Optics	
_____	Phys 144	Advanced Electronics	4	3	1	6	3	3	Electronics & Instrumentation	
_____	Phys 152	Modern Physics II	3	3	0	3	3	0	Modern Physics I	
_____	Phys 153	General Relativity	3	3	0	3	3	0	Modern Physics I, Classical Mechanics II	
_____	Phys 154	Nuclear and Particle Physics	3	3	0	3	3	0	Modern Physics I, Calculus II	
_____	Phys 155	Medical and Health Physics	3	3	0	3	3	0	General Biology, University Physics II & III	
_____	Phys 156	Biophysics	3	3	0	3	3	0	General Biology, University Physics II & III	
_____	Phys 163	Special Topics I	3	3	0	3	3	0	University Physics II & III, Calculus II	
_____	Phys 164	Special Topics II	3	3	0	3	3	0	University Physics II & III, Calculus II	
_____	Phys 165	Physics Education	3	3	0	3	3	0	University Physics II & III	
_____	Phys 171	Environmental Physics	3	3	0	3	3	0	Thermal & Statistical Physics I	
_____	Phys 172	Geophysics	3	3	0	3	3	0	Thermal & Statistical Physics I	
_____	Phys 173	Atmospheric Physics	3	3	0	3	3	0	University Physics II & III, Calculus II	

Noted:

ROLANDO N. PALUGA, Ph.D.
VPAA

Verified by:

ESAMEL M. PALUGA, Ph.D.
Dean, CAS

Prepared by:

JESSA MAE T. LAZARTE
Program Coordinator, Physics Division
Chair, Department of Natural Sciences

	Phys 174	Agricultural Physics	3	3	0	3	3	0	University Physics II & III, Calculus II
	Phys 181	Astrophysics & Planetary Physics	3	3	0	3	3	0	Optics
	Phys 182	Space Weather Physics	3	3	0	3	3	0	University Physics II & III, Calculus II
	Phys 183	Plasma Physics	3	3	0	3	3	0	University Physics II & III, Calculus II

FREE ELECTIVES

	MATH 101	Fundamental Concepts of Mathematics	3	3	0	3	3	0	NONE
	MATH 102	Set Theory	3	3	0	3	3	0	Fundamental Concepts of Mathematics
	MATH 114	Linear Algebra	3	3	0	3	3	0	Fundamental Concepts of Mathematics
	MATH 116	Modern Geometry	3	3	0	3	3	0	Fundamental Concepts of Mathematics
	MATH 117	Advanced Calculus I	3	3	0	3	3	0	Calculus III
	MATH 111	Abstract Algebra I	3	3	0	3	3	0	Fundamental Concepts of Mathematics
	MATH 112	Abstract Algebra II	3	3	0	3	3	0	Abstract Algebra I
	MATH 110	College Statistics and Probability	3	3	0	3	3	0	NONE
	MATH 152	Differential Equations II	3	3	0	3	3	0	Differential Equations I
	MATH 153	Partial Differential Equations	3	3	0	3	3	0	Differential Equations I
	MATH 121	Real Analysis	3	3	0	3	3	0	Advanced Calculus I
	CHEM 120	Analytical Chemistry I	5	3	2	9	3	6	Principles of Chemistry
	CHEM 121	Analytical Chemistry II	5	3	2	9	3	6	Analytical Chemistry I
	CHEM 130	Organic Chemistry I	5	3	2	9	3	6	Principles of Chemistry
	CHEM 131	Organic Chemistry II	5	3	2	9	3	6	Organic Chemistry I
	CHEM 150	Physical Chemistry I	4	3	1	6	3	3	Principles of Chemistry, University Physics I, Calculus II
	CHEM 151	Physical Chemistry II	4	3	1	6	3	3	Physical Chemistry I
	CHEM 160	Inorganic Chemistry I	3	3	0	3	3	0	Principles of Chemistry
	CHEM 161	Inorganic Chemistry II	3	3	0	3	3	0	Inorganic Chemistry I
	BIOL 101	General Botany	5	3	2	9	3	6	NONE
	BIOL 102	General Zoology	5	3	2	9	3	6	NONE
	BIOL 103	General Ecology	5	3	2	9	3	6	General Botany, General Zoology
	CSC 101	Elementary Computational Analysis	3	3	0	3	3	0	NONE
	ITE 111	Computer Fundamentals and Programming for Engineers	3	1	2	7	1	6	NONE
	GE 100	General Surveying I	3	2	1	5	2	3	NONE
	GE 134	Fundamentals of Geo-informatics	3	1	2	7	1	6	NONE
	GE 135	Fundamentals of Surveying and Mapping	3	2	1	5	2	3	NONE
	ENS 101	Fundamentals of Environmental Science	3	3	0	3	3	0	NONE
	GEOL 100	Principles of Geology	3	3	0	3	3	0	NONE
	EDUC 101	The Child and Adolescent Learners & Learning	3	3	0	3	3	0	NONE
	EDUC 102	Foundation of Special and Inclusive Education	3	3	0	3	3	0	NONE
	EDUC 103	Facilitating Learner-Centered Teaching	3	3	0	3	3	0	NONE
	EDUC 105	Technology for Teaching and Learning	3	3	0	3	3	0	NONE

Prepared by:
JESSA MAE T. LAZARTE
Program Coordinator, Physics Division
Chair, Department of Natural Sciences

Verified by:
ESAMEL M. PALUGA, Ph.D.
Dean, CAS

Noted:
ROLANDO N. PALUGA, Ph.D.
VPAA

EDUC 108	The Teacher and Community, School Culture and Organizational Leadership	3	3	0	3	3	0	NONE

Admission Policy

1. The student must be at least one level higher than the university cut-off level in Mathematics in his/her entrance examination and must satisfy the minimum cut-off of the university. (e.g. if the university cut-off is Level V, the student must have Level VI or better in Mathematics)

Retention Policy

1. First year and second year students must have at least a Grade Point Average (GPA) of 2.75.
2. Third year and fourth year students must have no more than three (3) failing grade in any physics major subjects and must have at least a GPA of 3.0 or better.
3. Failure to qualify the above requirements will be advised to shift.

Noted:

ROLANDO N. PALUGA, Ph.D.
VPAA

Verified by:

ESAMEL M. PALUGA, Ph.D.
Dean, CAS

Prepared by:

JESSA MAE T. LAZARTE
Program Coordinator, Physics Division
Chair, Department of Natural Sciences