

ASTROPHYSICS – SPECIALIZATION (SCIENCE) – BACHELOR OF SCIENCE (HONOURS)

ASPH-P-BSH

Subject: Administered by the Department of Physics, Engineering Physics and Astronomy.

Plan: Consists of 102.00 units as described below.

Program: The Plan, together with sufficient electives to total 120.00 units, will lead to a Bachelor of Science (Honours) Degree.

Code	Title	Units
1. Core		
A. Complete 6.00 units from the following:		6.00
PHYS 104	Fundamental Physics	
PHYS 106	General Physics	
B. Complete the following:		
CHEM 112	General Chemistry	6.00
C. Complete 6.00 units from the following:		6.00
MATH 110	Linear Algebra	
MATH 111	Linear Algebra	
D. Complete 6.00 units from the following:		6.00
MATH 120	Differential and Integral Calculus	
MATH 121	Differential and Integral Calculus	
MATH 123	Differential and Integral Calculus I & MATH 124 and Differential and Integral Calculus II	
E. Complete the following:		
PHYS 206	Dynamics	3.00
PHYS 212	Vibrations and Waves	3.00
PHYS 213	Computational Methods in Physics	3.00
PHYS 216	Introduction to Astrophysics	3.00
PHYS 239	Electromagnetism	3.00
PHYS 242	Relativity and Quanta	3.00
PHYS 250	Foundations of Experimental Physics	3.00
F. Complete 3.00 units from the following:		3.00
MATH 221	Vector Calculus	
MATH 280	Advanced Calculus	
G. Complete 3.00 units from the following:		3.00
MATH 225	Ordinary Differential Equations	
MATH 231	Differential Equations	
H. Complete the following:		
PHYS 315	Physical Processes in Astrophysics	3.00
PHYS 316	Methods in Mathematical Physics I	3.00
PHYS 317	Methods in Mathematical Physics II	3.00
PHYS 321	Advanced Mechanics	3.00

PHYS 344	Introduction to Quantum Mechanics	3.00
PHYS 345	Quantum Physics of Atoms, Nuclei and Particles	3.00
PHYS 350	General Laboratory	6.00
PHYS 372	Thermodynamics	3.00

I. Complete the following:

PHYS 414	Introduction to General Relativity	3.00
PHYS 432	Electromagnetic Theory	3.00
PHYS 435	Stellar Structure and Evolution	3.00
PHYS 453	Advanced Physics Laboratory	3.00
PHYS 590	Research Thesis	6.00

2. Option

A. Complete 6.00 units from the following: 6.00

PHYS at the 400-level or above

Electives

Elective Courses	18.00
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Total Units	120.00
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3. Notes

A. A maximum of 6.00 units from courses offered by other Faculties and Schools may be counted toward the program and/or Plan requirements. This includes courses in BMED, COMM, GLPH, HSCI, LAW, NURS, and courses in the Faculty of Engineering and Applied Science.