

Faculty	Natural Sciences		
Home Department	Physics and Astronomy		
Module Topic	Physics		
Generic Module Name	Physics 317		
Alpha-numeric Code	PHY317		
NQF Level	7		
NQF Credit Value	30		
Duration	Semester		
Proposed semester to be offered	First Semester		
Programmes in which the module will be offered	BSc (Physical Science) (3233,3120); BSc (Computer Science) (3221,3023)		
Year level	3		
Main Outcomes	<p>On completion of this module students should be able to:</p> <ul style="list-style-type: none"> • Explain the concept of energy sources. • Discuss and explain renewable energy sources. • Do standard evaluations for applications of renewable energy sources. • Know about energy issues in SA. • Discuss international issues on energy supply and demand. • Explain the practical applications of renewable energy sources. • Do standard PV systems sizing. 		
Main Content	<ul style="list-style-type: none"> • Renewable fuels and electricity generation, Design of solar cells, Standard silicon solar cell technology incl. Crystalline, Polycrystalline, Thin film amorphous PV systems and design, Wind energy, Wave and Tidal energy. • Overview of energy in SA, energy technology in SA. Fossil, nuclear and renewable energy sources. International energy supply and demand. Future scenarios. • Practical: applications of renewable energies in the laboratories and in practice, Site visits of industrial applications 		
Pre-requisite modules	PHY227		
Co-requisite modules	None		
Prohibited module Combination	None		
Breakdown of Learning Time	Hours	Timetable Requirement per week	Other teaching modes that does not require time-table
<i>Contact with lecturer / tutor:</i>	42	<i>Lectures p.w.</i>	3
<i>Assignments & tasks:</i>	36	<i>Practicals p.w.</i>	4
<i>Practicals:</i>	70	<i>Tutorials p.w.</i>	1
<i>Tutorials:</i>	0		
<i>Tests & Examinations:</i>	6		
<i>Selfstudy:</i>	126		
<i>Other:</i>	28		
Total Learning Time	308		
Methods of Student Assessment	Continuous Assessment (CA): 60% Final Assessment (FA): 40%		
Assessment Module type	Continuous and Final Assessment (CFA)		

