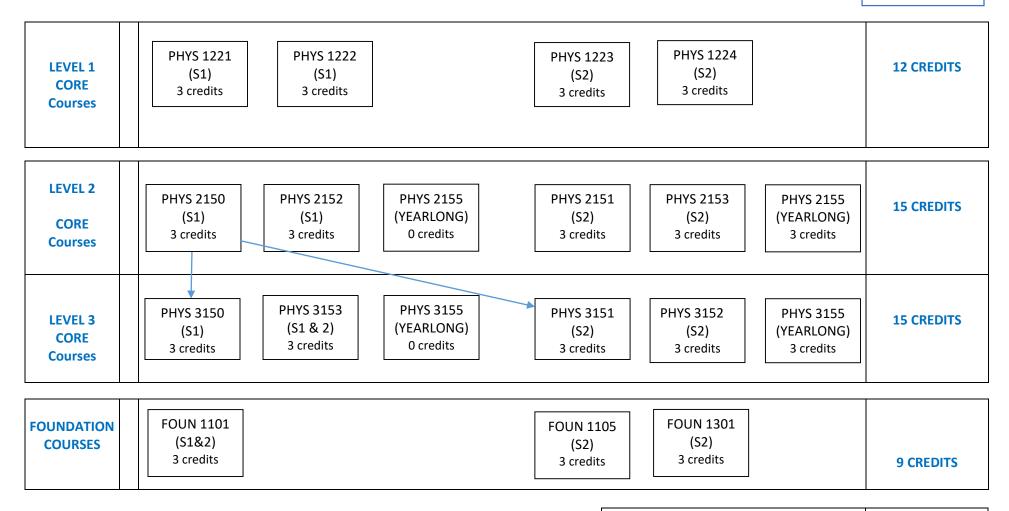
B.Sc. GENERAL IN PHYSICS

KEY

S1- Semester 1

S2- Semester 2



Total credits needed to graduate with a degree in Physics = 93

So an additional 42 credits needed in the ratio of:

12 level ones from anywhere + 30 level two/three credits from anywhere to make up the total 93

TOTAL CREDITS

51 /93 CREDITS

Foundation : 3 = 9/9 CREDITS

courses

Level 1 courses : 4/8 courses = 12/24 credits – 12 additional credits to be obtained from anywhere

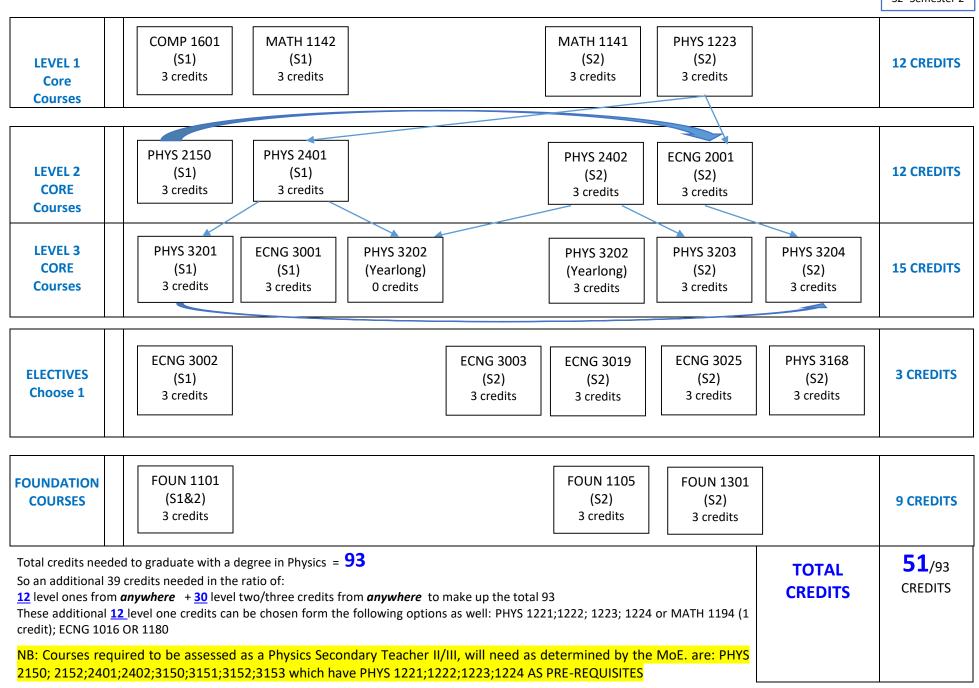
Core courses : 10/20 courses = 30/**60 credits**- 30 additional credits to be obtained from anywhere such as Physics Minors, Electronics Major or anywhere

Elective courses : 4 Level 1 + 10 Level 2/3 = 14 courses = 42 credits

BSc GENERAL IN ELECTRONICS

KEY

S1- Semester 1 S2- Semester 2



PHYSICS MINORS LISTING

KEY

S1- Semester 1 S2- Semester 2 Pre-Req.- Pre-requisites

Electronics

PHYS 2401 (S1) 3 credits PHYS 3201 (S1) 3 credits Pre-Req.- PHYS 2401

PHYS 3202 (Yearlong) 0 credits Pre-Req.- PHYS 2401 & 2402

PHYS 2402 (S2) 3 credits PHYS 3203 (S2) 3 credits Pre-Req.- PHYS 2402

PHYS 3202 (Yearlong) 3 credits Pre-Req.- PHYS 2401 & 2402

15 CREDITS

Environmental Physics

PHYS 2156 (S1) 3 credits Alternates with PHYS 3156

PHYS 3156 (S1) 3 credits PHYS 3159 (Yearlong) 0 credits PHYS 2157 (S2) 3 credits Alternates with PHYS 3157

PHYS 3157 (S2) 3 credits

PHYS 3158 (S2) 3 credits PHYS 3159 (Yearlong) 3 credits

15 CREDITS

Medical Physics & Bioengineering BMET 2001 (S1) 3 credits

BMET 2002 (S1) 3 credits PHYS 3160 (Yearlong) 0 credits PHYS 3167 (S2) 3 credits PHYS 3168 (S2) 3 credits PHYS 3160 (Yearlong) 3 credits

15 CREDITS

Materials Science PHYS 2165 (S1) 3 credits PHYS 3164 (S1) 3 credits Alternates with PHYS 2165

PHYS 3166 (Yearlong) 0 credits PHYS 2166 (S2) 3 credits Alternates with PHYS 3165 Pre-Req- PHYS 2165

PHYS 3165 (S2) 3 credits Pre-Req- PHYS 2166 PHYS 3166 (Yearlong) 3 credits

15 CREDITS

*****Minors only afford students a total of 15 advanced level (Level 2/3) credits (5 three credit courses) and so, can be pursed as a single minor or double minor option with any Major.

FOR THE MATERIAL SCIENCE MINOR:

Sem. I: PHYS 2165 - Materials Science I alternates with PHYS 3164-Ceramics Science

Sem. II: PHYS 3165 - Materials Science II alternates with PHYS 2166- Technological Materials

FOR THE ENVIRONMENTAL PHYSICS MINOR:

Sem. I: PHYS 3156 - Principles of Physical Oceanography and Geohydrology alternates with PHYS 2156 - Meteorology and Climatology

Sem. II: PHYS 3157 - Earth Science alternates with PHYS 2157- Solid Earth Geophysics

BSc SPECIAL IN BIOMEDICAL TECHNOLOGY (BMET)

KEY

S1- Semester 1 S2- Semester 2

		. 1						1	1	
LEVEL 1	BMET 1004 (S1) 3 credits	*MATH 1115 (S1) 3 credits	PHYS 1221 (S1) 3 credits	PHYS 1222 (S1) 3 credits		BMET 1005 (S2) 3 credits	*MATH 1125 (S2) 3 credits	PHYS 1223 (S2) 3 credits	PHYS 1224 (S2) 3 credits	24 CREDITS
CORE Courses								1		
LEVEL 2	BIOL 2163 (S1) 3 credits	BMET 2001 (S1) 3 credits	BMET 2002 (S1) 3 credits	PHYS 2150 (S1) 3 credits		BMET 3003 (S2) 3 credits	PHYS 2402 (S2) 3 credits	PHYS 3168 (S2) 3 credits		
CORE Courses	PHYS 2401 (S1) 3 credits	PHYS 3160 (Yearlong) 0 credits	PHYS 3163 (Yearlong) 0 credits			PHYS 3160 (Yearlong) 3 credits	PHYS 3163 (Yearlong) 3 credits			30 CREDITS
CORE Courses	BMET 3000 (Yearlong) 0 credits	BMET 3001 (S1) 3 credits	BMET 3002 (S1) 3 credits	PHYS 3201 (S1) 3 credits		BMET 3000 (Yearlong) 6 credits	BMET 3004 (S2) 3 credits	PHYS 3167 (S2) 3 credits	PHYS 3203 (S2) 3 credits	24 CREDITS
FOUNDATION COURSES	FOUN 1101 (S1&2) 3 credits					FOUN 1105 (S2) 3 credits	FOUN 1301 (S2) 3 credits			9 CREDITS
So an additional b credits at the Advanced Level are needed. Students may pursue any 6 credits at Level II/III from the Department of Physics or any other Department provided 1									87/93 CREDITS	
*Students with passes in CAPE Pure Maths (Units I & II) or equivalent may apply for EXEMPTIONS WITHOUT CREDITS from MATH 1115 and MATH 1125. Where EXEMPTIONS WITHOUT CREDITS are granted, students must pursue alternative Level 1 courses.										

B.Sc. DOUBLE MAJOR IN PHYSICS & ELECTRONICS

1/	-\/

S1- Semester 1 S2- Semester 2

CORE Courses	PHYS 1221 (S1) 3 credits	PHYS 1222 (S1) 3 credits	COMP 1601 (S1) 3 credits	MATH 1142 (S1) 3 credits		PHYS 1223 (S2) 3 credits	PHYS 1224 (S2) 3 credits	MATH 1141 (S2) 3 credits			21 CREDITS
CORE Courses	PHYS 2150 (S1) 3 credits	PHYS 2152 (S1) 3 credits	PHYS 2401 (S1) 3 credits	PHYS 2155 (Yearlong) 0 credits		PHYS 2151 (S2) 3 credits	PHYS 2153 (S2) 3 credits	PHYS 2402 (S2) 3 credits	ECNG 2001 (S2) 3 credits	PHYS 2155 (Yearlong) 3 credits	24 CREDITS
LEVEL 3	PHYS 3150 (S1) 3 credits	PHYS 3153 (S1&2) 3 credits	PHYS 3155 (Yearlong) 0 credits			PHYS 3151 (S2) 3 credits	PHYS 3152 (S2) 3 credits	PHYS 3155 (Yearlong) 3 credits			30 CREDITS
CORE Courses	PHYS 3201 (S1) 3 credits	ECNG 3001 (S1) 3 credits	PHYS 3202 (Yearlong) 0 credits			PHYS 3202 (Yearlong) 3 credits	PHYS 3203 (S2) 3 credits	PHYS 3204 (S2) 3 credits			
ELECTIVES Choose 1	ECNG 3002 (S1) 3 credits					ECNG 3003 (S2) 3 credits	ECNG 3019 (S2) 3 credits	ECNG 3025 (S2) 3 credits	PHYS 3168 (S2) 3 credits		3 CREDITS
FOUNDATION COURSES	FOUN 1101 (S1&2) 3 credits					FOUN 1105 (S2) 3 credits	FOUN 1301 (S2) 3 credits				9 CREDITS
An additional 5 Level 1 credits are required in order to meet the required 24 Level 1 credits for graduation. This can be a course from within the Faculty or from another Faculty once the necessary pre-									87/93 CREDITS		

Diagrams Created by zwp and entire document Updated August 2021

PRE-REQUISITES FOR ALL PHYSICS PROGRAMMES & COURSES

No.	LEVEL	COURSE CODE	COURSE TITLE	PRE-REQUISITES		
1.	0	PHYS 0100	N1 Physics I	CSEC Physics OR Equivalent		0
2.	0	PHYS 0200	N1 Physics II	CSEC Physics OR Equivalent	2	0
3.		BMET 1004	Introductory Human Anatomy and Physiology I	Available only to B.Sc. Biomedical Technology (BMET) STUDENTS	1	3
4.		BMET 1005	Introductory Human Anatomy and Physiology II	Available only to B.Sc. Biomedical Technology (BMET) STUDENTS	2	3
5.		COMP 1601	Computer Programming I	None	1	3
6.		FOUN 1101	Caribbean Civilization	None	1,2	3
7.		FOUN 1105	Scientific & Technical Writing	CSEC English Language Grade I (General Proficiency) AND Grade I or II in CAPE Communication Studies OR General Paper Grade A or B OR A Pass in the English Language Proficiency Test OR A Pass in English as a Foreign Language (Intermediate)	2	3
8.		FOUN 1301	Law, Governance, Economy and Society	lone .		3
9.	1	MATH 1115	Fundamental Mathematics for the General Sciences I	one		3
10.	1	MATH 1125	Fundamental Mathematics for the General Sciences II	EITHER CSEC Mathematics (or equivalent) OR MATH 1115	2	3
11.	1	MATH 1141	Introductory Linear Algebra & Analytical Geometry	Two Units of CAPE Pure Mathematics, OR equivalent	2	3
12.	1	MATH 1142	Calculus I	Two Units (1 & 2) of CAPE Pure Mathematics OR MATH 0100 AND MATH 0200, OR equivalent	1	3
13.		PHYS 1001	Introduction to Astronomy	None	1	3
14.		PHYS 1002	Introduction to Astrobiology	None	Summer	3
15.		PHYS 1221	Introduction to Mechanics	CAPE Physics (Units I and II) OR CAPE Mathematics (Units I AND II) AND CSEC (CXC) Physics OR PHYS 0100 AND PHYS 0200 OR their equivalent	1	3
16.		PHYS 1222	Introduction to Optics, Oscillations and Waves	CAPE Physics (Units I and II) OR CAPE Mathematics (Units I AND II) AND CSEC (CXC) Physics OR PHYS 0100 AND PHYS 0200 OR their equivalent	1	3
17.		PHYS 1223	Introduction to Electricity and Magnetism	CAPE Physics (Units I and II) OR CAPE Mathematics (Units I AND II) AND CSEC (CXC) Physics OR PHYS 0100 AND PHYS 0200 OR their equivalent	2	3
18.	1	PHYS 1224	Introduction to Thermodynamics & Modern Physics	CAPE Physics (Units I and II) OR CAPE Mathematics (Units I AND II) AND CSEC (CXC) Physics OR PHYS 0100 AND PHYS 0200 OR their equivalent	2	3
19.	II	BIOL 2163	Biostatistics	9 credits from the following: BIOL 1262, BIOL 1263, BIOL 1364, BIOL 1364, BIOL 1362, ESST 1001, ESST 1001, ESST 1002, ESST 1005, ESST 1005, ESST 1005, BMET 1005, PHYS 1221, PHYS 1222, PHYS 1223 and PHYS 1224 AND any one of the following: MATH 1115 OR MATH 1125 OR CAPE Units I & II Pure Mathematics OR CAPE Units I & II Applied Mathematics OR A/O' Level Additional Mathematics OR equivalent	1	3
20.	II	BMET 2001	Bioengineering	Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1223, PHYS 1224	1	3
21.	II	BMET 2002	Introduction to Medical Physics	PHYS 1221, PHYS 1222, PHYS 1223 AND PHYS 1224	1	3
22.	II	ECNG 2001	Communication Systems I	ECNG 2011 AND ECNG 2013 OR PHYS 2150 (for Physics students only)	2	3
23.	II .	PHYS 2150	Mathematics for Physicists	Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1223, PHYS 1224	1	3
24.	II	PHYS 2151	Classical and Statistical Mechanics	Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1223, PHYS 1224	2	3
25.	II	PHYS 2152	Vibrations, Waves and Optics	Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1223, PHYS 1224	1	3
26. 27.	II II	PHYS 2153	Astrophysics	Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1223, PHYS 1224 Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1223, PHYS 1224	<u>Z</u>	3
		PHYS 2155	Major Laboratory Level II Meteorology and Climatology	Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1223, PHYS 1224 PHYS 1221, AND PHYS 1224	Year-long	3
28. 29.	II II	PHYS 2156 PHYS 2157	Solid Earth Geophysics	FINS 1221, AND PHYS 1221	2	3
30.	11	PHYS 2165	Materials Science I	EITHER any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1223, PHYS 1224 OR CHEM 1066, CHEM 1067, CHEM 1068 AND CHEM 1070	1	3
31.	11	PHYS 2166	Technological Materials	PHYS 2165	2	3
32.	11	PHYS 2401	Optoelectronics	PHYS 1223	1	3
33.	ii ii	PHYS 2402	Digital Circuits and Logic Design	PHYS 1223	2	3
34.	III	BMET 3000	Biomedical Technology Project	Available only to BSc Biomedical Technology students with at least 30 level II/III credits	Year-long	6
35.	III	BMET 3001	Laboratory Management and Practice	Available only to BSc Biomedical Technology students	1	3
36.	III	BMET 3002	Light and Optics in Medicine	PHYS 1221, PHYS 1222, PHYS 1223 AND PHYS 1224	1	3
37.	III	BMET 3003	Biomedical Technology Laboratory	Available only to BSc Biomedical Technology students	2	3
38.	III	BMET 3004	Metrology & Regulatory Standards	Available only to BSc Biomedical Technology students	2	3
39.	III	ECNG 3001	Communication Systems II	ECNG 2001	1	3
40.	Ш	ECNG 3002	Data Communication Systems	None	1	3
41.		ECNG 3003	Telecommunication Networks	ECNG 3001 AND ECNG 3002	2	3
42.	III	ECNG 3019	Advanced Control Systems Design	ECNG 2009 OR PHYS 3201 (for Physics students only)	2	3
43.	Ш	ECNG 3025	Discrete Signal Processing	None	2	3
44.	III	PHYS 3150	Electromagnetism	PHYS 2150	1	3
45.	Ш	PHYS 3151	Quantum Mechanics	PHYS 2150	2	3
46.	III	PHYS 3152	Advanced Thermodynamics and Solid State Physics	Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1223, PHYS 1224	2	3
47.	III	PHYS 3153	Physics Major Research Project	Available only to Physics Majors	1, 2	3
48.	III	PHYS 3155	Major Laboratory Level III	Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1224, PHYS 1220, PHYS 1224, PHYS 1224, PHYS 1225, PHYS 1224, PHYS 1225, PHYS 1225, PHYS 1225, PHYS 1226, PHYS 1226, PHYS 1227, PHYS 1226, PHYS 1226, PHYS 1226, PHYS 1227, PHY	Year-long	3
49.	III	PHYS 3156	Principles of Physical Oceanography and Geohydrology	PHYS 1221, AND PHYS 1222	1	3
50. 51.	III	PHYS 3157 PHYS 3158	Earth Science Fundamentals of Renewable Energy	PHYS 1221, AND PHYS 1222 ESST 2004 OR Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1223, PHYS 1224	2	3
51.	==	PHYS 3158 PHYS 3159	Environmental Physics Laboratory	PHYS 1221, AND PHYS 1224	2 Year-long	3
53.	III	PHYS 3159 PHYS 3160	Medical Physics & Bioengineering Laboratory	Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1224, PHY	Year-long Year-long	3
54.			Electronics Laboratory	Any nine (y) credits from the following: PHYS 1221, PHYS 1222, PHYS 1224 AND ONLY AVAILABLE TO BSc BIOMEDICAL TECHNOLOGY (BMET) STUDENTS	Year-long	3
55	111	PHYS 3164	Ceramics Science	Any nine (p) credits from the following: PHYS 1221, PHYS 1223, PHYS 1224, PHY	1	3
56.	111	PHYS 3165	Materials Science II	PHYS 2165	2	3
57.	- 111	PHYS 3166	Materials Science Laboratory	All credits from the following: PHYS 1221, PHYS 1222, PHYS 1224, PHYS 1224 PHYS 1225 PHYS 1224 PHYS 1225 PHYS 1225 PHYS 1224 PHYS 1225 PHYS 1225 PHYS 1224 PHYS 1225 P	Year-long	3
58.	III	PHYS 3167	Radiation Biophysics and Medicine	Any nine (9) credits from the following: PHYS 1221, PHYS 1222, PHYS 1224	2	3
59.	III	PHYS 3168	Medical Instrumentation	Any nine (9) credits from the following: PHYS 1221, PHYS 1223, PHYS 1224	2	3
60.	III	PHYS 3201	Advance Electronics and Control Theory	PHYS 2401	1	3
61.	III	PHYS 3202	Practical Electronics I	PHYS 2401 AND PHYS 2402	Year-long	3
62.	III	PHYS 3203	Microprocessor and Modern Digital Design	PHYS 2402	2	3
63.	III	PHYS 3204	Practical Electronics II	ECNG 2001 AND PHYS 3201	2	3

ONE PAGE SNAP-SHOT OF ALL PHYSICS PROGRAMMES & OFFERINGS

	YEAR 1		YEAR 2			YEAR 3		
MAJORS	SEMESTER 1	SEMESTER 2	SEMESTER 1	SEMESTER 2	SEMESTER 1	SEMESTER 2	ELECTIVES	
GENERAL PHYSICS	PHYS 1221 PHYS 1222	PHYS 1223 PHYS 1224	PHYS 2150 PHYS 2152	PHYS 2151 PHYS 2153	PHYS 3150 PHYS 3153	PHYS 3151 PHYS 3152	Electives can be chosen from the four Physics Minors or from anywhere in the University	
	PHYS 1222		PHYS 2155			PHYS 3155		
ELECTRONICS	COMP 1601 MATH 1142	MATH 1141 PHYS 1223	PHYS 2150 PHYS 2401	ECNG 2001 PHYS 2402	ECNG 3001 PHYS 3203 PHYS 3201 PHYS 3204		Any 1 of the following:	
	MAIH 1142			PHYS 2402	PHYS 3202		ECNG 3002, ECNG 3003, ECNG 3019, ECNG 3025, PHYS 3168	
BIOMEDICAL TECHNOLOGY (SPECIAL) Full B.Sc.	BMET 1004 MATH 1115 PHYS 1221 PHYS 1222	BMET 1005 MATH 1125 PHYS 1223	BIOL 2163 BMET 2001 BMET 2002 PHYS 2150 PHYS 2401	BMET 3003 PHYS 2402 PHYS 3168	BMET 3001 BMET 3002 PHYS 3201	PHYS 3167	Students may pursue any 6 elective credits at Level II/III preferably from Physics, another FST Department or UNIVERSITY WIDE, provided that they have the necessary pre-requisites and, with the Head of Department's approval.	
	F1113 1222	PHYS 1224	PHYS 3160 PHYS 3163		BMET 3000			

MINORS	YEAR 1		YEAR 2		YEAR 3		NOTES	
MINORS	SEMESTER 1	SEMESTER 2	SEMESTER 1	SEMESTER 2	SEMESTER 1	SEMESTER 2	NOTES	
ELECTRONICS			PHYS 2401	PHYS 2402	PHYS 3201	PHYS 3203		
ELECTRONICS			11113 2401	PHYS 2402	PHYS 3202			
				PHYS 2157	PHYS 3156	PHYS 3157	Any 4 of the following courses are to be pursued, along with PHYS 3159, for the Minor in Environmental Physics:	
						PHYS 3158	Semester I: PHYS 2156, PHYS 3156	
ENVIRONMENTAL			PHYS 2156				Semester II: PHYS 2157, PHYS 3157, PHYS 3158	
PHYSICS					PH	YS 3159	Sem. I : PHYS 3156 - Principles of Physical Oceanography and Geohydrology alternates with PHYS 2156 - Meteorology and Climatology	
							Sem. II: PHYS 3157 - Earth Science alternates with PHYS 2157- Solid Earth Geophysics	
			PHYS 2165	PHYS 2166	PHYS 3164	PHYS 3165	Sem I: PHYS 2165 - Materials Science I alternates with PHYS 3164-Ceramics Science	
MATERIALS SCIENCE					РН	YS 3166	Sem II: PHYS 3165 - Materials Science II alternates with PHYS 2166-Technological Materials	
			YEAR 2 &/OR YEAR 3					
MEDICAL PHYSICS &			SEME	SEMESTER 1		ESTER 2		
BIOENGINEERING			BMET 2001 BMET 2002			YS 3167 YS 3168		
				PH	'S 3160			