Physics B. S. Program
Program Planning and Check-off Sheet

Student Name: _____

Advisor Name: _____ Date: _____

General Education — 39 sh

Communications — 6 sh

Sem/Yr	Grade	Course	Course #	Credits
		College Composition I	COMP 01.111	3
		College Composition II	COMP 01.112	3

Science and Mathematics — 15 sh

Sem/Yr	Grade	Course	Course #	Credits
		Calculus I—MATH	MATH 01.130	4
		Chemistry I—LAB	CHEM 06.100	4
		Chemistry II	CHEM 06.101	4
		Intro. Sci. Prog. *or* Comp. Sci. & Prog.	CS 01.104 *or* CS 04.103	3

Social and Behavioral Sciences — 6 sh

Sem/Yr	Grade	Course	Course #	Credits

History, Humanities, and Languages — 6 sh

Sem/Yr	Grade	Course	Course #	Credits
		Phil of Science—WI,M/G (or other approved):	PHIL 09.369	3

Non-Program Courses (outside PHYS) — 6 sh

Sem/Yr	Grade	Course	Course #	Credits

Rowan Experience — ≥6 sh

Sem/Yr	Grade	Course	Course #	Credits
		Public Speaking—PS	CMS 06.202	3
		ACE course:		3

RS____ MATH____ LAB____ WI____ M/G____ LIT____

Major Requirements — 60–62 sh

Core Courses — 49 sh

Sem/Yr	Grade	Course	Course #	Credits
		Calculus II	MATH 01.131	4
		Calculus III	MATH 01.230	4
		Linear Algebra	MATH 01.210	3
		Differential Equations	MATH 01.231	3
		Introductory Mechanics—RS	PHYS 00.220	4
		Introductory Thermo, Fluids, Waves & Optics	PHYS 00.221	4
		Introductory Electricity & Magnetism	PHYS 00.222	4
		Modern Physics	PHYS 00.300	4
		Analytical Mechanics	PHYS 00.310	4
		Electricity & Magnetism I	PHYS 00.320	4
		Quantum Mechanics I	PHYS 00.410	4
		Statistical Physics	PHYS 00.430	3
		Advanced Lab	PHYS 00.440	4

Physics Electives — Choose at least two — 6–8 sh

Sem/Yr	Grade	Course	Course #	Credits
		Electricity & Magnetism II	PHYS 00.321	3
		Electric Circuits	PHYS 00.325	4
		Optics and Light	PHYS 00.340	4
		ZEMAX	PHYS 00.345	3
		Quantum Mechanics II	PHYS 00.411	3
		Selected Topics	PHYS 00.470	3–4
		Independent Study	PHYS 00.499	1–3
		Physics/Astronomy Research I, II, III, IV Maximum of 3 sh can count for Physics Electives	PHYS 00.250, 251, 350, 450, ASTR 11.250, 251, 350, 450	1–3

Restricted Electives — Choose at least one approved course from — 3–5 sh

Physics, Astronomy, Atmospheric Science, Earth Science, Materials Science, Engineering, Math, Chemistry, Computer Science, Biology, or Education, or any Physics Elective listed above

Sem/Yr	Grade	Course	Course #	Credits

Sum of Physics Electives and Restricted Electives must be at least 11 sh

Free Electives — 13–15 sh

Sem/Yr	Grade	Course	Course #	Credits

Total Credits Needed — 120 sh

A Possible Physics Major Program

Freshman Year

Fall	**15 s.h.**	**Spring**	**15 s.h.**
College Composition I [COM*]	3	College Composition II [COM*]	3
Calculus I—MATH [SM*]	4	Calculus II	4
Intro Mechanics—RS	4	Intro TFW&O	4
Chemistry I—LAB [SM*]	4	Chemistry II [SM*]	4

Sophomore Year

Fall	**17 s.h.**	**Spring**	**15 s.h.**
Public Speaking—PS	3	Phil. of Science—WI, M/G [HHL*]	3
Calculus III	4	Differential Equations	3
Intro E&M	4	Modern Physics	4
Programming course [SM*]	3	RE Elective—ACE	3
Linear Algebra	3	Free Elective	3

Junior Year

Fall	**14 s.h.**	**Spring**	**16–17 s.h.**
Analytical Mechanics	4	Quantum Mechanics I	4
Electricity & Magnetism I	4	Free Elective	3
Free Elective	3	Phys/Restr Elective	3–4
GE/RE Elective—LIT [HHL*]	3	GE Elective [SBS*]	3
		Free Elective	3

Senior Year

Fall	**13–14 s.h.**	**Spring**	**12–13 s.h.**
Advanced Lab	4	Physics Elective	3-4
Restr/Phys Elective	3–4	Statistical Physics	3
Gen Ed Elective [SBS*]	3	Gen Ed Elective [NPC*]	3
Gen Ed Elective [NPC*]	3	Free Elective	3

*General Education requirements are 6 semester hours in Communication (COM), 15 semester hours in Science & Mathematics (SM) 6 semester hours in Social & Behavioral Science (SBS), 6 semester hours in History, Humanities and Languages (HHL), and 6 semester hours in Non-Program Courses (NPC).

Rowan Experience requirements include 3 semester hours in Public Speaking (PS) and Artistic and Creative Experience (ACE) each, as well as at least one course each designated as Literature (LIT), Multicultural/Global (M/G), Writing Intensive (WI), Rowan Seminar (RS), Math (MATH), and Lab Science (LAB); the latter five requirements are accounted for in Program Requirements.

Note that electives, GE and RE courses may be taken at any time, the above specified courses are for illustration only.

Approved Restricted Elective Courses

- Physics
  - Physics of Everyday Life (PHYS 00.150)
  - Physics of Sound & Music (PHYS 00.175)
  - Mathematical Physics (PHYS 00.330)
- Astronomy — any 200+ level Astronomy (ASTR 11) course
- Atmospheric Science — any course from the PHSC 13 program
- Earth Science/Geology
  - Any course from the ASTR 17 program
  - Geology I (GEOG 06.103)
  - Geology II (GEOG 06.104)
  - Investigations in Physical Geography (GEOG 06.110)
- Materials Science
  - Material Science (ENGR 01.281)
  - Interdisciplinary Materials Science (INTR 01.486)
- Engineering — any 300+ level Engineering course
- Mathematics — any 200+ level Math course
- Chemistry — any 200+ level Chemistry course (except Chemistry in the Environment)
- Computer Science — any 200+ level Computer Science course
- Biology — any Biology course
- Education
  - Teaching/Learning A: Science (SMED 34.330)
  - Practicum in Teaching/Learning A: Science (SECD 03.330)
  - Teaching/Learning B: Science (SMED 34.331)
  - Practicum in Teaching/Learning B: Science (SECD 03.332)