

2008-2009 Program Advising Guide

Department of Engineering and Physics
 Hydrology Building, Room 114
 Telephone: (254) 968-9863
<http://www.tarleton.edu/~engrphys>
 for

Bachelor of Science in Physics (Nuclear Track)

Freshman Year					
Fall Semester		Hours	Spring Semester		Hours
ENGL 111 ^a		3	ENGL 112 ^a		3
MATH 120 ^b		4	MATH 209* (MATH 120)		4
PHYS 122* ^c (MATH 120)		4	PHYS 242* (MATH 209, PHYS122)		4
PE or HLTH 101		2	Visual & Performing Arts		3
Approved CS elective		3	NUEN101* (MATH 120)		1
Total		16	Total		15

Sophomore Year					
Fall Semester		Hours	Spring Semester		Hours
MATH 333* (MATH 209)		4	MATH 306* (MATH 209)		3
HIST 201		3	HIST 202		3
MATH 232*		3	PHYS 334* (PHYS242)		3
POLS 201		3	POLS 202		3
			Nuclear Support ^d		3
Total		13	Total		15

Notes:

- English:** Students will be placed into English courses in accordance with the University's Placement and Continuing Enrollment Rules. Students must enroll in English during their first semester at Tarleton and every regular semester thereafter until the freshman English core curriculum requirement [i.e., ENGL 111 & 112] has been satisfied.
- Mathematics:** Students will be placed into mathematics courses in accordance with the University's Placement and Continuing Enrollment Rules. Students must enroll in mathematics during their first semester at Tarleton unless they are eligible for placement into college-level mathematics [MATH 107 or higher]. Students eligible for placement into college-level mathematics may choose to postpone initial mathematics enrollment until their second regular semester at Tarleton. Following initial mathematics enrollment, students must enroll in mathematics every regular semester thereafter until the freshman mathematics core curriculum requirement [MATH 107 or higher] has been satisfied.
- Physics:** Students whose math placement is below Math 120 (Calculus) or who don't have a strong high school algebra/trig. based physics background may want to take PHYS104 to improve their background. PHYS104 can be used as an elective course in the degree.
- Nuclear Support:** The student will select support and advanced physics courses from Nuclear Engineering and Nuclear Reactor Certificate courses provided by Texas A&M University Nuclear Engineering Department through TECP/NPI consortium, TSU Nuclear and Medical Physics Courses, and TSU Engineering Courses in consultation with their physics advisor and approved by the Department Head. The 26 hour Support field (at least 12 hours Advanced) and other elective courses must be chosen so that the final degree plan has at least 120 semester hours, at least 45 of which are advanced hours.

Nuclear Track

Junior/Senior Year			
Fall Semester (even)	Hours		Spring Semester (odd)
			Hours
PHYS 331* (PHYS122, co MATH333, co MATH 306)	3		PHYS 430* (MATH 306, MATH 333)
PHYS 332* (PHYS242, co MATH 333, co MATH 306)	3		Social & Behavioral
Nuclear Support ^d	6		Elective
Communications	3		Nuclear Support ^d
Total	15		Total
			16

Junior/Senior Year			
Fall Semester (odd)	Hours		Spring Semester (even)
			Hours
PHYS 435* (MATH 334, MATH 306)	3		Physics Elective*
PHYS 333* (PHYS242, co MATH 333)	3		Nuclear Support ^d
Nuclear Support ^d	4		Literature Core
Adv. Physics*	3		Adv. Physics*
PHYS 488	2		
Total	15		Total
			15

* Courses with Prerequisites

A&M Nuclear Engineering Courses:

1. NUEN101 – Principles of Nuclear Engineering (Spring Semester) – 1 hr
2. NUEN201 – Introduction to Nuclear Engineering (Spring Even Years) – 3 hrs
3. NUEN301 – Nuclear Reactor Theory (Fall Odd Years) – 3 hrs
4. NUEN304 – Nuclear Reactor Analysis (Spring Even Years) – 3 hrs
5. NUEN309 – Radiological Safety (Fall Odd Years) – 3 hrs
6. NUEN475 – Environmental Nuclear Engineering (Fall Even Years) – 3 hrs

Nuclear Power Operator Certificate Courses: (New Program to reduce training time for nuclear reactor operator certification)

1. PHYS486 – Human Performance For Nuclear Power Plant Engineers – 2 hrs
2. PHYS486 - Nuclear Power Plant Fundamentals – 3 hrs
3. PHYS486 - Nuclear Power Plant Operation – 3 hrs
4. PHYS486 –Nuclear Power Plant Systems - 3hrs

TSU Physics & Engineering Courses:

1. PHYS437 – Nuclear Physics – 3 hrs
2. PHYS350 – Medical Physics I – 3 hrs
3. PHYS450 – Medical Physics II – 3 hrs
4. ENGR221 – Principles of Engineering I (Statics & Dynamics) – 3 hrs
5. ENGR222 – Principles of Engineering II (Thermodynamics) – 3 hrs
6. ENGR223 – Principles of Engineering III (Material Science) – 3 hrs
7. ENPH225 – Circuit Theory – 4 hrs
8. ENPH248 – Digital Design – 4 hrs
9. ENVE300 – Fluid Mechanics – 4hrs
10. ENPH460 – Engineering Integration (Capstone Design) – 3 hrs
11. PHYS488 - Nuclear Physics Research

Other TSU engineering and physics courses are available.