

MILLERSVILLE UNIVERSITY

Student Name: _____ Student I.D.# _____

DEGREE: BA	MAJOR REQUIREMENTS FOR A BA DEGREE IN
MAJOR: PHYS	PHYSICS: NANOTECHNOLOGY
OPTION: NANO	Total credit hours required: 120.0 minimum

REQUIREMENTS AND POLICIES FOR THE BA PHYSICS MAJOR

A. Policies for Admission to the Major

1. New students (freshmen and transfers) must be admitted to the Physics major by the Office of Admissions upon admission to the University.
2. Admission into the Physics major from other departments is upon approval of the chairperson of the Department.
3. Non-degree and continuing education students must be admitted to the Physics major by the Office of Admissions.

B. Policies for Retention in the Major

1. University requirements for retention.

C. Policies for Completion of the Major

1. Completion of all University curricular requirements.
2. Students majoring in Physics are required to attain a C- or better in MATH 161 - 211 and PHYS 231 - 232 before taking courses which have these courses as prerequisites.
3. Students must satisfactorily complete 18 s.h. (C- or better) at the Penn State

Nanofabrication Facility.

Note to the student: *This form is provided as a guide. It is your responsibility to consult regularly with your adviser to be aware of changes and curriculum details which are not incorporated on this form.*

MAJOR SEQUENCE AND DEGREE REQUIREMENTS

Major: **BA PHYSICS**

Option: **NANOTECHNOLOGY**

Major Field Requirements: **35.0 credits**

Other Requirements: **41.0 - 47.0 credits**

When applicable, up to six of the **REQUIRED RELATED** courses may be credited toward the Liberal Arts Core subject to normal distribution rules.

Course No.	Short Title	C.H.	Grade	Course No.	Short Title	C.H.	Grade
REQUIRED PHYSICS COURSES (32.0 credits)				REQUIRED RELATED (23.0-29.0 credits)			
PHYS 231	Physics I with Calculus	5.0	_____	Mathematics (15.0 credits)			
PHYS 232	Physics II with Calculus	5.0	_____	MATH 161	Calculus I	4.0	_____
PHYS 233	Modern Theory Wave/Particles	3.0	_____	MATH 211	Calculus II	4.0	_____
PHYS 266	Electronics	3.0	_____	MATH 311	Calculus III	4.0	_____
PHYS 311	Mechanics I	3.0	_____	MATH 365	Ord Diff Equations	3.0	_____
PHYS 321	Electromagnetic Fields I	3.0	_____	Chemistry (8.0 credits)			
PHYS 334	Macro/Thermodynamics	3.0	_____	CHEM 111	Intro Chemistry I	4.0	_____
PHYS 335	Quantum Sys/Stat	3.0	_____	CHEM 112	Intro Chemistry II	4.0	_____
PHYS 351	Intermediate Lab I	1.0	_____	Foreign Language (0 - 6.0 credits)			
PHYS 492	Research & Seminar	2.0	_____	Competency required through the elementary level (FORL101 and 102). To satisfy this requirement with two years of successful H.S. study in one language, please have your adviser contact the Degree Audit Office at dars@millersville.edu confirming the competency has been met.			
PHYS 498	Independent Study/Research	1.0	_____	_____ 101	Elementary I	3.0	_____
PHYSICS ELECTIVES (3.0 credits)				_____ 102	Elementary II	3.0	_____
Choose one of the following:							
PHYS 431	Soild State Physics	3.0	_____				
PHYS 471	Quantum Mechanics	3.0	_____				
Semester at Penn State (18.0 credits)							
Nanofabrication Facility							
Nanofabrication Manufacturing Technology [NFMT]							
Capstone Semester at Penn State University in the Nanofabrication Facility.							
NFMT 311	Matls, Safety & Equip	3.0	_____				
NFMT 312	Basic Nanofab Processes	3.0	_____				
NFMT 313	Thin Film Utilization	3.0	_____				
NFMT 314	Advanced Litho for Nano	3.0	_____				
NFMT 315	Matls, Mod in Nano	3.0	_____				
NFMT 316	Charac, Pack & Test	3.0	_____				