

Montclair State University Department of Physics and Astronomy BS Physics/MBA 5-year Combined Program

I. Genefid Requirement 32 sh A. New Student Steminar 1 C. Communication 9 C1. Writing 9 C2. Literature 9 C3. Communication 9 D. Fine and Performing Arts 3 F. Humanties 6 F. Oreat Works and Their Influences 6 F. Philosophical and Religious Perspectives 7 G. Computer Science CYT 104 (0) I. Natural Science Laboratory PHYS 191 (0) J. Physical Education 1 K. Social Science 9 K.1. American and European History 8 K.2. Global Cultural Perspectives (Select one course from attached its to also satify ILB. World Cultures.) 3 K. Nordl Languages and Cultures Requirement 3-6-6 B. World Cultures courses may fulfill Gen Ed requirements.) 1 PHYS 192 University Physics I 4 PHYS 200 Intermediate Physics and Ph
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PHYS 464 Quantum Mechanics 3
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B. Physics Electives (9-12 sh)
PHYS 180 Astronomy for Everyone 4
PHYS 245 Fundamentals of Electronics 4
PHYS 280 Astronomy for Physicists 4 Revised May 1, 2020
PHYS 310 Advanced Mechanics 3
PHYS 325 Computational Physics 3
PHYS 341 Electronics and Digital Circuits 4
PHYS 350 Modern Optics 4
PHYS 368 Fluid Mechanics 3
PHYS 368 Fluid Mechanics3PHYS 377 Mathematical Physics3PHYS 380 Observational Astronomy4

First Year				
Fall Total: 15cr	Spring	Total: 15cr		
I. PHYS 191 University Physics I (4)	PHYS 192 University	PHYS 192 University Physics II (4)		
H. MATH122 Cale I or AMAT120 App Cale A(4)	PHYS 198 Introductor	PHYS 198 Introductory Physics Seminar (1)		
G. CSIT 104 Computational Concepts (3)		MATH 221 Calc II or AMAT 220 AppCalcB (4)		
C1. Writing (3)	C2. Literature (3)			
A. New Student Seminar (1)	C3. Communication (3	C3. Communication (3)		

Second Year				
Fall	Total: 17cr	Spring	Total: 13cr	
PHYS 210 Intermediate Mechanics (3	5)**	PHYS 340 Electricity	and Magnetism (3)**	
MATH 222 Calculus III (4)		PHYS 320 Statistical	and Thermal Physics (3)**	
CHEM 120 General Chemistry I (4)		AMAT 350 or PHYS	377 (3) [or MATH 325 (4)]	
K3. Social Science Perspectives (3)		CHEM 121 General C	Chemistry II (4)	
L. Interdisciplinary Studies (3)				

Third Year				
FallTotal: 14cr	Spring Total: 15-16cr			
PHYS 220 Oscillations, Waves, & Optics (3)**	PHYS 360 Modern Physics (3)**			
PHYS 230 Intermediate Physics Lab (4)	Physics Elective (3-4)			
PHYS 300 Junior/Senior Physics Seminar (1)	F1. Great Works and Their Influences (3)			
World Language I (3)	F2. Philosophical & Religious Perspectives (3)			
D. Fine & Performing Arts (3)	World Language II/Free Elective (3)			

Fourt	h Year	
FallTotal: 16-17cr	Spring	Total: 11-16cr
PHYS 464 Quantum Mechanics (3)	Physics Elective (3-4)	
PHYS 330 Advanced Physics Lab (4)	MBA Swing Courses (6) †	
Physics Elective (3-4)	J. Physical Education (1)	
K1. American & European History (3)	Free Electives (2-5) ‡	
K2.Global Cultural Perspec./World Cultures*** (3)		

Note: After Year 1, General Education, World Languages/Cultures, and free electives can be taken in any sequence. *Students who do not have a strong (4 year) background in high school mathematics, including exponential, logarithmic, and trigonometric functions are advised to take MATH 111 Applied Precalculus before Calculus I. ** The PHYS 210, 320, 340 and PHYS 220, 360 sequences are offered in alternate years and can be taken in Year 2 or Year 3. Most 200-level and higher physics courses are offered on an alternate-year schedule.

*** <u>GenEd Category K2 & World Cultures double-dip:</u> ANTH 100, 115, 120, 130, 140, 150, ARAB 193, ARHT 101, DNCE 145, FREN/FRIN 283, 289, GSWS 200, HUMN 217, 289, HIST 108, 114, 132, 138, LALS 201, 205, PHIL 237, POLS 206, RELG 240, 250, 252, 254

[†] Upon admission to the BS/MBA program, students are provided with a cohort sequence and a student code which allows them to enroll in a **specific list** of 6 credits from the fixed core of MBA.

‡ ACCT 204 and ECON 202 are recommended free electives that can be applied to MBA prerequisite requirements (in place of online Foundation Modules in Accounting and Finance).