

PHYSICS, B.S.

BIOMEDICAL PHYSICS (BIMD)

(Fall 2017-Summer 2018)

PHYSICS BS COURSES & SUPPORTING COURSES (89 credits)

*Note: 2.0 GPA required in PHYS courses/B.S. degree

- _____ 5 PHYS 15200 Mechanics (C- or above)
- _____ 5 PHYS 25100 Heat, Electricity and Optics
- _____ 3 PHYS 30500 Intermediate Math Physics
- _____ 4 PHYS 31000 Intermediate Mechanics
- _____ 3 PHYS 31200 Intermediate Electricity & Magnetism
- _____ 3 PHYS 32200 Intermediate Optics
- _____ 3 PHYS 34200 Modern Physics
- _____ 1 PHYS 34300 Modern Physics Laboratory
- _____ 1 PHYS 34500 Optics Laboratory I
- _____ 3 PHYS 37000 Biomedical Physics Seminar
- _____ 3 PHYS 41800 Thermal Physics
- _____ 3 PHYS 44200 Quantum Mechanics
- _____ 3 PHYS 48001 Senior Thesis I
- _____ 0 1 Class in PHYS 48002 Senior Thesis II

BIMD PHYSICS TRACK (Select 1 of the following—consult PHYS advisor re: selection/planning track):

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| PRE-MED (14 Credits):
_____ 1 CHM 25400
_____ 3 CHM 25600 or 26200
_____ 1 CHM 25800
_____ 3 CHM 53300
_____ 3 PSY 12000
_____ 3 SOC S161 | MEDICAL PHYSICS (17 Credits):
_____ 3 PHYS 41310
_____ 8 BIOL 20300 and 20400 or
8 BIOL 21500 and 21600
_____ 3 MA 35100 (C- or above)
_____ 3 MA 36300 | BIOPHYSICS (20 Credits):
_____ 3 PHYS 41310
_____ 8 BIOL 20300 and 20400 or
8 BIOL 21500 or 21600
_____ BIOL 38100
_____ 3 MA 35100
_____ 3 MA 36300 |
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SUPPORTING MATH & CHEMISTRY

- _____ 4 MA 16500 Analytic Geometry & Calculus I (C- or above)
- _____ 4 MA 16600 Analytic Geometry & Calculus II (C- or above)
- _____ 4 MA 26100 Multivariate Calculus (C- or above)
- _____ 3 BIOL 11700 Principles of Ecology & Evolution
- _____ 3 BIOL 11900 Principles of Structure & Function
- _____ 3 BIOL 21800 Genetics & Molecular Biology
- _____ 4 CHM 11500 General Chemistry
- _____ 4 CHM 11600 General Chemistry
- _____ 3 CHM 25500 or 26100 Organic Chemistry

A&S BS LIBERAL ARTS REQUIREMENTS (14 credits — credits may vary with double counting/language placement – see advisor)

- _____ 3 Second Semester Writing (C- or higher) (ENG W140 or ENG W233)
 - _____ 3 Speaking Requirement (C- or higher) (COM 11400 or HIST H125)
 - _____ 8 Credits Language Sequence (credit/placement required for 2 semesters of foreign language)
 _____ 7th semester _____ 8th semester (one course at second semester level required)
- Options: (Arabic, French, German, Japanese, Latin, Spanish)

GENERAL EDUCATION REQUIREMENTS (33 Credits)

*Note: grades of C- or higher required in Gen Ed/2.0 GPA

****Up to 6 credits in Gen Ed GA1 to GB7 and 3 credits GCAP (C8) may originate in major discipline—see advisor for more information.**

- _____ 3 GA1 Category A1 -- Written Communication (See Bulletin or myBLUEprint for **General Education** courses)
- _____ 3 GA2 Category A2 -- Speaking and Listening
- _____ 3 GA3 Category A3 -- Quantitative Reasoning
- _____ 3 GB4 Category B4 -- Scientific Ways of Knowing
- _____ 3 GB5 Category B5 -- Social & Behavioral Ways of Knowing
- _____ 3 GB6 Category B6 -- Humanistic and Artistic Ways of Knowing
- _____ 3 GB7/71 Category B7 or B71 -- Interdisciplinary or Creative Ways of Knowing
- _____ 9 Additional Credits -- Category A or B General Education courses
- _____ 3 GCAP Category C8--Capstone Experience (IPFW course only)

MINOR/ELECTIVES (to reach 120 credits): _____

IPFW Residency Requirements: _____ 32 credits at 200 level or above at IPFW _____ with 15 of 32 credits at 300-400 in major
 B.S. Requirements: _____ 120 credits _____ 30 credits 300-400 level _____ 2.0 GPA Degree/Gen Ed _____ C- or above in Gen Ed Courses

PHYSICS, B.S.
PLAN—BIOMEDICAL PHYSICS (BIMD)
(Fall 2017-Summer 2018)

Term: Year: 20				Term: Year: 20			
Course No.	Course Title	Pre-Reqs	Crs.	Course No.	Course Title	Pre-Reqs	Crs.
MA 165000 (GA3)	Analytic Geometry & Calculus 1	MA 159 or 154 (C- or above); placement	4	MA 16600	Analytic Geometry & Calculus II	MA 165 (C- or above)	4
CHM 11500 (GB4)	General Chemistry	H.S. CHM or CHM 111 (C- or above); MA 154, 227, 229 level	4	PHYS 15200 (Gen Ed A/B)	Mechanics	C: MA 166	5
PHYS 17000	Physics Seminar		1	CHM 11600	General Chemistry	CHM 115 (C- or above); MA 163, 165, 227, or 229 level	4
COM 11400 or HIST H125 (GA2/A&S)	Fundament of Speech or Great Debates		3	BIOL 11900	Principles of Structure & Function	Placement at or above MA 153	4
BIOL 11700	Princ Ecology & Evol	Placement at or above MA 153	4				
Total Semester Credit Hours				Total Semester Credit Hours			
16				17			

Term: Year: 20				Term: Year: 20			
Course No.	Course Title	Pre-Reqs	Crs.	Course No.	Course Title	Pre-Reqs	Crs.
MA 26100	Multivariate Calculus	MA 166 (C- or above)	4	PHYS 34200	Modern Physics	PHYS 241 or 251 or 261	3
PHYS 25100	Heat, Electricity, and Optics	PHYS 152 (C- or above); P or C: MA 261	5	PHYS 34300	Modern Physics Lab	C: PHYS 342	1
CHM 255 or 261	Organic Chemistry (Lab needed-Pre-Med Track)	CHM 116	3-4	PHYS 31200	Interm Electricity & Magnetism	PHYS 251 and MA 363	3
ENG W131 (GA1)	Read, Writ, & Inquiry I	Self-Place or ENG W129 (C- or above)	3	GB5	Gen Ed Social/Behavior		3
				BIMD Track Elect	Biomedical PHYS Track	√	3-4
Total Semester Credit Hours				Total Semester Credit Hours			
15-16				13-14			

Term: Year: 20				Term: Year: 20			
Course No.	Course Title	Pre-Reqs	Crs.	Course No.	Course Title	Pre-Reqs	Crs.
PHYS 30500	Intermed Math Physics	PHYS 251	3	PHYS 32200	Intermediate Optics	PHYS 251/equiv	3
ENG W233 (Gen Ed A/B)	Intermed Expos Writing	ENG W131 (C- or above)	3	PHYS 34500	Optics Lab I	C: PHYS 322	1
GB6	Gen Ed Hum/Artistic		3	PHYS 41800	Thermal Physics	PHYS 342	3
BIMD Track Elect	Biomedical PHYS Track	√	3	BIOL 21800	Genetics & Molecular	√	4
BIMD Track Elect	Biomedical PHYS Track	√	3-4	BIMD Track Elect	Biomedical PHYS Track	√	3-4
Total Semester Credit Hours				Total Semester Credit Hours			
15-16				14-15			

Term: Year: 20				Term: Year: 20			
Course No.	Course Title	Pre-Reqs	Crs.	Course No.	Course Title	Pre-Reqs	Crs.
PHYS 44200	Quantum Mechanics	PHYS 342 and MA 363 (C- or above grades)	3	PHYS 31000	Intermed Mechanics	PHYS 152 and 251; MA 261 or 263	4
PHYS 48001 (C8)	Senior Thesis I	√	3	PHYS 37000	Biomed PHYS Seminar	√	3
FL 11 (GB7/71)	Foreign Language 1 (language may fulfill GB7)		4	PHYS 48002	Senior Thesis II	√	0
Gen Ed A or B	Gen Ed A or B course (if needed or elective)		3	FL 12 (GB7/71)	Foreign Language 2 (language may fulfill GB7)	FL 1/ placement	4
BIMD Track Elect	Biomedical PHYS Track	√	3	BIMD Track Elect	Biomedical PHYS Track	√	3
Total Semester Credit Hours				Total Semester Credit Hours			
16				14			

√ = See IPFW Bulletin or myBLUEprint for additional course prerequisites

Summer Courses:

120 credits required for Bachelor of Science degree
2.0 GPA required for Bachelor of Science degree/major