rev. Sep. 2022

Physics Major - Applied Track (BS) Checklist

Student name: _____SPIRE #: _____Advisor name & date: _____

	Course number	Course title or description	# credits	Semester /Grade	Career/Professional Development
F1	PHYS 181 (F)	Physics I (Mechanics)	4		• Handshake • Write resume • Get to know at least one faculty member
	PHYS 185 (F)	Freshman Colloquium (recommended)	1		
	MATH 131 (F /S)	Calculus I (or take higher class)	4		
	Other	• First-year freshman seminar • GenEd DU or DG	1 4		
S1	PHYS 182 (S)	Physics II (E&M)	4		• Apply for summer job/internship: start in Dec., due in Feb. • Consider on-campus research, teaching, or outreach activities. • Meet with CNS career center.
	MATH 132 (F/S)	Calculus II (or take higher class)	4		
	PHYS 192M (S)	Intro/Measurement *w*/Arduino (recommended)	1		
	Other (optional)	• Independent study (research) • PHYS 281 (S1/F2 – talk to advisor) • GenEd DU or DG if not taken	1-3 3 4		
F2	PHYS 287 (F)	Physics III (thermo, waves…)	3		• Consider on-campus research, teaching, or outreach activities. • Meet with CNS career center
	PHYS 289 (F)	Physics III Lab	1		
	PHYS 281 (F or S)	Computational Physics	3		
	MATH 233 (F or S)	Calculus III, multivariable (or other class)	3		
	Other (optional)	• MATH 235 (Linear Alg, recommended) • TA, PHYS 390T, or indep study	3		
S2	PHYS 284 (S)	Modern Physics (relativity, intro QM)	3		• Apply for summer job/internship: start in Dec., due in Feb.
	PHYS 286 (S)	Modern Physics Lab	2		
	PHYS 282 (S)	Techniques of Theoretical Physics (strongly recommended if taking P422/P424)	3		
	Other (optional)	• MATH 235 (Linear Alg. recommended for P424) • PHYS 397 Professional Development • Concentration course	3 1		

Concentration in a Scientific/Technical Field: Minimum 18 credits. Courses must be specified on page 2 of this form and approved by your physics advisor. We recommend seeking advice on course selection from advisors in other departments.

Advanced course requirement. (*a*) At least two of: P421(F) Mechanics, 422(S)** E&M, 423(S) Statistical Phys, or 424(F)** Quantum Mech; **AND (*b*)** at least one of: PHYS 531 Electronics, 551 Biological Physics, 553 Optics, 556 Nuclei and Elementary Particles, 558 Solid State, 562 Advanced E&M, 564 Advanced Quantum Mechanics, 568 General Relativity, ASTRON 337 Optical and IR Astronomy, A338 Radio Astronomy, A451 Astrophysics I, A452 Astrophysics II, or other 500-level physics only if approved in advance by UPD. ***Should not take P422 or 424 without previously taking P282.*

	Course number	Course title or description	# credits	Semester /grade	Career/Professional Development
F3	PHYS 381 (F or S)	Writing in Physics	3		TA, PHYS 390T, or indep. study research
		Advanced or Concentration courses			
S3		Advanced/Concentration courses	3		• Apply for summer job/internship: start in Dec., due in Feb.
	Other (optional)	• PHYS 381 if not yet taken • PHYS 397 Professional Development	3 1 -		
F4/ S4	PHYS 440 (F or S)	Intermed. Lab (ILab) –email instructors.	4		• Apply for jobs or graduate programs
		Advanced/Concentration			

GenEd info: https://www.umass.edu/gened/sites/default/files/cpg_admitted_students_f2018_rev.pdf

Plan for your concentration in a scientific/technical field:
In the space below, write the focus or rationale for your 18-credit concentration:

In the table below, list the courses that you plan to take or have already taken. You need a minimum of 18 credits and the plan must be approved by your physics advisor.

Course number	**Course title or description and fit with your concentration**	**# credits**	**Semester taken**	**Grade**