

# BA/BS in Physics with 3/2 engineering sample 3 year plan

revised 8/23/19

## Fall

## Spring

yr.1

Course	CR
PH135/L - Physics I + Lab	5
MT135 - Calc & Analytic Geometry I	4
CORE	6
<b>TOTAL</b>	<b>15</b>

Course	CR
PH136/L - Physics II + Lab	5
MT136 - Calc & Analytic Geometry II	4
CORE	6
<b>TOTAL</b>	<b>15</b>

yr.2

PH246 - Modern Physics	3
CH141/3 - Gen. Chemistry I + Lab	5
MT233 - Calc & Analytic Geometry III	4
PH348 - Physis Seminar I	0
CORE (at least QA)	3+
<b>TOTAL</b>	<b>15+</b>

EP260/L - Electronics Circuits + Lab	4
EP217 - Math Methods for PH & EP	3
PH247 - Modern Physics Laboratory	1
CH142/144 - Gen. Chemistry II + Lab	5
CORE (includes CAPA)	4+
<b>TOTAL</b>	<b>17+</b>

yr.3

*EP451/L OR **PH 365/L	4
PH347 - Advanced laboratory	2
PH349 - Physics Seminar II	0
^ <b>optional</b> major elective (for BS)	(3+)
CORE (at least linked pair courses)	6+
<b>TOTAL</b>	<b>15+</b>

*PH315/L OR **PH 445/L	4
CS128/L - Intro Soft. App. Dev.+ Lab	4
^ <b>optional</b> major elective (for BS)	(3+)
CORE	6
<b>TOTAL</b>	<b>17+</b>

\* offered odd years only

\*\* offered even years only

^ 3XX or 4XX level, approved by the department

PH 315/L - Classical Mechanics

PH 365/L - Electricity & Magnetism

PH 445/L - Quantum Mechanics

EP 451/L - Numerical Physics

**PH407/8 + X CR of upper division electives will transfer back from CWRU to complete JCU major**

major requirement  
major support course  
JCU CORE: 40 - 49 credits total

CWRU 3/2 additional requirement

Notes: It is important to complete written and oral expression by the end of the third semester (so you can start taking Engaging the Global Community, etc. Quantitative Analysis must be completed by the end of the sophomore year. Second semester sophomore year is the best time to take the 1 credit CAPA course although 2nd semester Junior year also works.