

# BACHELOR OF SCIENCE PHYSICS *Pre-Medicine*

The Physics departmental philosophy is that each student should be able to reason, to collect facts and opinions, to think critically and to make informed decisions concerning their social, economic, and political environment. The objective of the Bachelor of Science in Physics program is to prepare students for careers in physics research, engineering, medicine, and other professional fields including physics teaching in high schools. Physics courses prepare students with good mathematical and analytical skills. In every skilled profession, such as engineering, medicine, management, teaching, etc. Analytical expertise gained through mathematics and physics courses will provide an added opportunity/tool to choose and succeed in that profession. A thorough study of mechanics, statistical physics, modern physics, electromagnetic theory, and quantum mechanics along with introductory physics courses and introductory math courses enhances students' ability and updates modern technological innovations needed to succeed in alternate career choices.

Alternative careers include teaching, medicine, law (especially intellectual property or patent law), science writing, history of science, philosophy of science, science policy, energy policy, government, or management in technical fields.

*College of  
Science,  
Engineering  
and  
Technology*



## COURSE TYPE DESCRIPTIONS

General Education Core	GEC	<b>General Education Core (GEC)</b> courses are courses that every student must take in order to obtain a degree from Jackson State University. GEC courses are essential to every undergraduate degree at Jackson State University. Collectively, there are 30 credit hours of GEC course requirements.
General Education Pathway	PATH	<b>General Education Pathway (PATH)</b> courses are courses that are connected through interdisciplinary themes and are selected at the student's discretion to fulfill the general education curriculum. Through experiential learning and reflective writing, students will have the opportunity to integrate knowledge across courses, develop their skills and an enhanced sense of civic responsibility. Students select nine (9) hours from the pathway of choice. Each pathway concludes with a related one (1) credit hour a University Required (UR) course.
University Required	UR	<b>University Required (UR)</b> courses are courses that are specific to Jackson State University and are designed to integrate students within the Jackson State University community by promoting student success resources, strategies and high impact practices.
Degree Program Requirement	DPR	<b>Degree Program Required (DPR)</b> courses are courses that are required for completion of a degree program within the specified major.
Electives	DPE or GEL	<b>Electives</b> are courses selected at a student's discretion and provide opportunities for students to pursue their academic interests. There are two types of electives. <b>Degree Program Elective (DPE)</b> courses are elective courses that are partially restricted such that students select courses from a specified group of identified courses (e.g., departmental elective courses) to fulfill a particular requirement. <b>General Elective (GEL)</b> courses are courses that may be selected from any program for which the student has fulfilled the proper prerequisites.
Professional Concentrations	PC	<b>Professional Concentration (PC)</b> courses complement Degree Program Required courses and allow students to have a concentrated area of study within the major.



## COLLEGE OF SCIENCE, ENGINEERING AND TECHNOLOGY

### Physics

#### CONCENTRATION: PRE-MED

Students must choose six(6) hours of physics electives from the course option list below:

	Course Title	Course Name	Credit Hours
Physics Electives	PHY 241	Introduction to Astronomy	3
	PHY 312	Theoretical Mechanic II	3
	PHY 362	Mathematical Methods of Physics and Chemistry II	3
	PHY 412	Electromagnetic Theory II	3
	PHY 430W	Methods of Exp. Physics II	3
	PHY 449	Special Topics in Physics	3
	PHY 461	Computational Physics	3

Student Name: \_\_\_\_\_

J-Number: \_\_\_\_\_

Advisor: \_\_\_\_\_



**COLLEGE OF SCIENCE, ENGINEERING AND  
TECHNOLOGY**  
**PHYSICS**  
**CONCENTRATION: PRE-MEDICINE**

Entering Term: \_\_\_\_\_

Expected Graduation Date: \_\_\_\_\_

Pathway: \_\_\_\_\_

**FRESHMAN YEAR FALL 1ST SEMESTER**

COURSE	COURSE TITLE	CREDIT HOURS	COURSE TYPE	GRADE	SUCCESS MARKER/NOTE
UNIV 100	University Success	2	UR		
ENG 104	Composition I	3	GEC		
MATH 241	Calculus I & Lab	3	GEC		
CHEM 141 & CHML 141	General Chemistry I & Lab	4	GEC		
PHY 198	Physics Seminar	0.5	DPR		
	Humanities & Fine Arts Option	3	GEC		
TOTAL CREDIT HOURS		15.5	TERM GPA:		

**Comments:****FRESHMAN YEAR SPRING 2ND SEMESTER**

COURSE	COURSE TITLE	CREDIT HOURS	COURSE TYPE	GRADE	SUCCESS MARKER/NOTE
MATH 242	Calculus II & Lab	3	DPR		
ENG 105	Composition II	3	GEC		
CHEM 142 & CHML 142	General Chemistry II & Lab	4	DPR		
PHY 211 & PHYL 211	General Physics I & Lab	4	GEC		
PHY 199	Physics Seminar	0.5	DPR		
	Pathway Option	3	PATH		
TOTAL CREDIT HOURS		17.5	TERM GPA:		

**Comments:****SOPHOMORE YEAR FALL 1ST SEMESTER**

COURSE	COURSE TITLE	CREDIT HOURS	COURSE TYPE	GRADE	SUCCESS MARKER/NOTE
PHY 212 & PHYL 212	General Physics II & Lab	4	DPR		
BIO 111 & BIOL 111	General Biology I & Lab	4	DPR		
CHEM 241 & CHML 241	Organic Chemistry I & Lab	4	DPR		
PHY 298	Physics Seminar	0.5	DPR		
	Pathway Option	3	PATH		
TOTAL CREDIT HOURS		15.5	TERM GPA:		

**Comments:****SOPHOMORE YEAR SPRING 2ND SEMESTER**

COURSE	COURSE TITLE	CREDIT HOURS	COURSE TYPE	GRADE	SUCCESS MARKER/NOTE
BIO 112 & BIOL 112	General Biology II & Lab	4	DPR		
CHEM 242 & CHML 242	Organic Chemistry II & Lab	4	DPR		
PHY 299	Physics Seminar	0.5	DPR		
UNIV 200	Civic Engagement	1	UR		
	Physics Elective	3	DPE		
	Pathway Option	3	PATH		
TOTAL CREDIT HOURS		15.5	TERM GPA:		

**Comments:**

JUNIOR YEAR FALL 1ST SEMESTER					
COURSE	COURSE TITLE	CREDIT HOURS	COURSE TYPE	GRADE	SUCCESS MARKER/NOTE
BIO 318 & BIOL 318	Introduction to Genetics & Lab	4	DPR		
CHEM 431 & CHML 431	Biochemistry I & Lab	4	DPR		
PHY 311	Theoretical Mechanics I	3	DPR		
PHY 351	Thermal & Statistical Physics	3	DPR		
PHY 361	Math Methods of Physics I	3	DPR		
PHY 398	Physics Seminar	0.5	DPR		
TOTAL CREDIT HOURS		17.5	TERM GPA:		

Comments:

JUNIOR YEAR SPRING 2ND SEMESTER					
COURSE	COURSE TITLE	CREDIT HOURS	COURSE TYPE	GRADE	SUCCESS MARKER/NOTE
BIO 470	Human Physiology	3	DPR		
BIO 440	Cell Biology	3	DPR		
PHY 330 (W)	Methods of Experimental Physics	3	DPR		
PHY 342	Optics	3	DPR		
PHY 399	Physics Seminar	.5	DPR		
	Humanities & Fine Arts Option	3	GEC		
TOTAL CREDIT HOURS		15.5	TERM GPA:		

Comments:

SENIOR YEAR FALL 1ST SEMESTER					
COURSE	COURSE TITLE	CREDIT HOURS	COURSE TYPE	GRADE	SUCCESS MARKER/NOTE
PHY 411	Electromagnetic Theory I	3	DPR		
PHY 422	Quantum Mechanics	3	DPR		
PHY 498	Physics Seminar	0.5	DPR		
	General Psychology or Social & Behavioral Science Option	3	GEC		
	Physics Elective	3	DPE		
TOTAL CREDIT HOURS		12.5	TERM GPA:		

Comments:

SENIOR YEAR SPRING 2ND SEMESTER					
COURSE	COURSE TITLE	CREDIT HOURS	COURSE TYPE	GRADE	SUCCESS MARKER/NOTE
PHY 431	Atomic & Molecular Physics	3	DPR		
PHY 499	Physic Seminar	0.5	DPR		
	Statistics Option	3	DPE		
	Social & Behavioral Science Option	3	GEC		
	Humanities & Fine Arts Option	3	GEC		
TOTAL CREDIT HOURS		12.5	TERM GPA:		

Comments:

TOTAL HOURS: 122 (REQUIRED)

\*Candidates that transfer 12 or more hours of college credit are exempt from UNIV 100: University Success: however, the student must take 2 hours of general electives to replace the UNIV course.

Student Signature: \_\_\_\_\_

Advisor Signature: \_\_\_\_\_