

# PHYSICS (B.S.) STEMBA

## Requirements for the Major

To receive the BS or BS Ed degree, a student must maintain an overall GPA of at least 2.0 and at least 2.5 in all core science, technology, engineering, and math courses. The total number of hours of coursework for the BS or BS Ed is at least 124 semester hours. In addition, to receive the BS Ed degree a student must be admitted to the Teacher Education Program, which is sought through the College of Education and Human Development. Students interested in entering teacher education should see the Requirements for Admission to Teacher Education in this issue of the Jackson State University Undergraduate Catalog under the College of Education and Human Development.

## Major Requirements (Physics STEMBA) Business Management

Code	Title	Hours
PHY 216	MODERN PHYSICS	3
PHY 411	ELECTROMAGNETIC THEORY I	3
PHY 422	QUANTUM MECHANICS	3
PHY 431	ATOMIC & NUCLEAR PHYSICS	3
ECO 211	PRINCIPLES OF MACROECONOMICS	3
ECO 212	PRINCIPLES OF MICROECONOMICS	3
MKT 351	MARKETING MANAGEMENT	3
MNGT 330	MANAGEMENT TO ORGANIZATIONS	3
ACC 211	PRINCIPLES OF FINANCIAL ACCTNG	3
ACC 212	PRINCIPLES OF MANGERIAL ACCTNG	3
FIN 320	BUSINESS FINANCE	3
MNGT 502	HUMAN RELATIONS & ORGAN BEHAVI	3
MNGT 516	STATISTICS BUSINESS DECS	3
PHY 198	PHYSICS STUDENT SEMINAR	0.5
PHY 199	PHYSICS STUDENT SEMINAR	0.5
CHML 142	GENERAL CHEMISTRY II LAB	1
CHEM 142	GENERAL CHEMISTRY II	3
BIO 111	GENERAL BIOLOGY	3
BIOL 111	GENERAL BIOLOGY LAB	1
MATH 242	CALCULUS II WITH LABORATORY	3
PHY 212	General Physics II	3
PHYL 212	GENERAL PHYSICS LAB II	1
PHY 298	PHYSICS STUDENT SEMINAR	0.5
PHY 299	PHYSICS STUDENT SEMINAR	0.5
PHY 311	THEORETICAL MECHANICS I	3
PHY 398	PHYSICS STUDENT SEMINAR	0.5
PHY 399	PHYSICS STUDENT SEMINAR	0.5
PHY 330	METHODS OF EXPERIMENTAL PHYICS	3
PHY 498	PHYSICS STUDENT SEMINAR	0.5
PHY 499	PHYSICS STUDENT SEMINAR	0.5

**Total Hours 64**

Course	Title	Hours
<b>Freshman</b>		
<b>Fall</b>		
CHEM 141 & CHML 141	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB	4

ENG 104 or ENG 103	COMPOSITION I or English Composition I with Co-requisite Support	3
MATH 241	CALCULUS I WITH LABORATORY	3
PHY 198	PHYSICS STUDENT SEMINAR	0.5
UNIV 100	UNIVERSITY SUCCESS	2
Humanities & Fine Arts Option		3

**Hours 15.5**

<b>Spring</b>		
CHEM 142 & CHML 142	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LAB	4
ECO 211	PRINCIPLES OF MACROECONOMICS	3
ENG 105	COMPOSITION II	3
PHY 199	PHYSICS STUDENT SEMINAR	0.5
PHY 211 & PHYL 211	General Physics I and GENERAL PHYSICS LAB I	4
Pathway Option		3

**Hours 17.5**

<b>Sophomore</b>		
<b>Fall</b>		
BIO 111 & BIOL 111	GENERAL BIOLOGY and GENERAL BIOLOGY LAB	4
ECO 212	PRINCIPLES OF MICROECONOMICS	3
MATH 242	CALCULUS II WITH LABORATORY	3
PHY 212 & PHYL 212	General Physics II and GENERAL PHYSICS LAB II	4
PHY 298	PHYSICS STUDENT SEMINAR	0.5
Pathway Options		3

**Hours 17.5**

<b>Spring</b>		
MKT 351	MARKETING MANAGEMENT	3
PHY 216	MODERN PHYSICS	3
PHY 299	PHYSICS STUDENT SEMINAR	0.5
UNIV 200	CIVIC ENGAGEMENT	1
Humanities & Fine Arts Option		3
Social & Behavioral Science Option		3
Pathway Option		3

**Hours 16.5**

<b>Junior</b>		
<b>Fall</b>		
PHY 311	THEORETICAL MECHANICS I	3
PHY 351	THERMAL PHYSICS	3
PHY 361	MATH MET OF PHYSICS & CHEMISTRY	3
PHY 398	PHYSICS STUDENT SEMINAR	0.5
Physics Elective		3
Humanities & Fine Arts Option		3

**Hours 15.5**

<b>Spring</b>		
ACC 211	PRINCIPLES OF FINANCIAL ACCTNG	3
MNGT 330	MANAGEMENT TO ORGANIZATIONS	3
PHY 330	METHODS OF EXPERIMENTAL PHYICS	3
PHY 399	PHYSICS STUDENT SEMINAR	0.5
Physics Elective		3

**Hours 12.5**

<b>Senior</b>		
<b>Fall</b>		
ACC 212	PRINCIPLES OF MANGERIAL ACCTNG	3
FIN 320	BUSINESS FINANCE	3
PHY 411	ELECTROMAGNETIC THEORY I	3
PHY 422	QUANTUM MECHANICS	3
PHY 498	PHYSICS STUDENT SEMINAR	0.5
Social & Behavioral Science Option		3

**Hours 15.5**

Spring		
Code	Title	Hours
MNGT 502	HUMAN RELATIONS & ORGAN BEHAVI	3
MNGT 516	STATISTICS BUSINESS DECS	3
PHY 431	ATOMIC & NUCLEAR PHYSICS	3
PHY 499	PHYSICS STUDENT SEMINAR	0.5
Physics Elective		3
<b>Hours</b>		<b>12.5</b>
<b>Total Hours</b>		<b>123</b>

**Notes:**

- 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.
- Online Graduation Clearance (**to be completed during the graduating semester only**).

Code	Title	Hours
<b>Physics Electives</b>		
Students must choose nine (9) hours of Physics Elective		
PHY 241	INTRODUCTN TO ASTRONOMY	4
PHY 312	THEORETICAL MECHANICS II	3
PHY 362	MATH MET OF PHYSICS&CHEMISTRY	3
PHY 412	ELECTROMAGNETIC THEORY II	3
PHY 449	SPECIL TOPICS IN PHYSICS	3

**Concentration SteMBA**

Course	Title	Hours
<b>First Year</b>		
MKT 530	MANAGERIAL MARKETING	3
ACC 540	ADV MANAGERIAL ACCOUNTNG	3
MNGT 520	ADVANCED PRODUCTION MANAGEMENT	3
Restricted Elective		3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
ECO 530	MANAGERIAL ECONOMICS	3
FIN 515	MANAGERIAL FINANCE	3
MNGT 330	MANAGEMENT TO ORGANIZATIONS	3
MNGT 560	BUSINESS POLICY	3
<b>Hours</b>		<b>12</b>
<b>Total Hours</b>		<b>24</b>

Code	Title	Hours
<b>MBA Electives</b>		
Restricted Electives for MBA (6 credit hours); Choose any two from the following:		
ECO 511	MACROECONOMICS THEORY	3
ACC 540	ADV MANAGERIAL ACCOUNTNG	3
FIN 561	SEM N BUS ADMN & RESEARCH PROJ	3
Any Accounting Elective		3
Any Economics Elective		3
Any Entrepreneurship Elective		3
Any Management Elective		3
Any Marketing Elective		3

**Student Learning Outcomes****Student Learning Outcome 1**

Students completing a BS degree in Physics will apply mathematics and science knowledge to solve problems that require critical and analytical thinking.

**Student Learning Outcome 2**

Students completing a BS degree in CPAS will have a broad knowledge of global perspectives as they relate to their field of study and obtain experimental learning within the international scientific community.

**Student Learning Outcome 3**

Students completing a BS degree in CPAS will be prepared to enter the workforce in their field and/or engage in advanced studies and research in their fields.