BACHELOR OF SCIENCE ELECTRICAL ENGINEERING

Electrical Engineering students develop the ability to design, develop and test electrical systems. Electrical Engineering provides engaging learning experiences designed to help students pursue careers that examine ways to use electrical power that meets the needs of the public health, safety and welfare of citizens well global, cultural. social. as as environmental and economic factors. Graduates of the program are prepared for a variety of careers such as research and development, engineering services, manufacturing, telecommunications and the federal government.

College of Science, Engineering and Technology



| COURSE TYPE DESCRIPTIONS | | | | | | |
|-----------------------------|------------|---|--|--|--|--|
| General Education Core | GEC | General Education Core (GEC) 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 | РАТН | General Education Pathway (PATH) 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 | University Required (UR) 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 | Degree Program Required (DPR) courses are courses that are required for completion of a degree program within the specified major. | | | | |
| Electives | DPE or GEL | Electives are courses selected at a student's discretion and provide oppor- tunities for students to pursue their academic interests. There are two types of electives. Degree Program Elective (DPE) 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. General Elective (GEL) courses are courses that may be selected from any program for which the student has fulfilled the proper prerequisites. | | | | |
| Professional Concentrations | РС | Professional Concentration (PC) 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

ELECTRICAL ENGINEERING

| COURSE | COURSE TITLE | CREDIT HOURS |
|---------|----------------------------------|--------------|
| ECE 430 | Digital VLSI Design | 3 |
| ECE 431 | Digital Systems Testing | 3 |
| ECE 447 | Telecom Switching & Transmission | 3 |
| ECE 435 | Power Electronics | 3 |
| ECE 441 | Computer Networks | 3 |
| ECE 442 | Digital Communications | 3 |
| ECE 445 | Applied Electromagnetics | 3 |
| ECE 446 | Wireless Communication | 3 |
| ECE 451 | Digital Signal Processing | 3 |
| ECE 480 | Power Systems | 3 |
| ECE 481 | Electric Drives | 3 |
| ECE 492 | Special Studies in ECE | 3 |
| ECE 493 | Special Topics in ECE | 3 |

Degree Map: Catalog 2022-2023
Student Name: _____



Entering Term: _____

COLLEGE OF

Expected Graduation Date: _____

J-Number:_____ Advisor: ______

SCIENCE, ENGINEERING, AND TECHNOLOGY ELECTRICAL ENGINEERING

Pathway:____

| FRESHMAN YEAR FALL 1ST SEMESTER | | | | | | |
|---------------------------------|--|--------------|-------------|-------|---------------------|--|
| COURSE | COURSE TITLE | CREDIT HOURS | COURSE TYPE | GRADE | SUCCESS MARKER/NOTE | |
| UNIV 100 | University Success | 2 | UR | | | |
| MATH 241 | Calculus I | 3 | GEC | | | |
| ENG 104 | Composition | 3 | GEC | | | |
| CSC 118 | Computer Science I | 3 | DPR | | | |
| ECE 101 | Introduction to Electrical & Computer Engineering | 2 | DPR | | | |
| | Pathway Option | 3 | РАТН | | | |
| | TOTAL CREDIT HOURS | 16 | TERM GPA: | | | |

Comments:

| FRESHMAN YEAR SPRING 2nd SEMESTER | | | | | | | |
|-----------------------------------|-----------------------------------|--------------|-------------|-------|---------------------|--|--|
| COURSE | COURSE TITLE | CREDIT HOURS | COURSE TYPE | GRADE | SUCCESS MARKER/NOTE | | |
| MATH 242 | Calculus II | 3 | DPR | | | | |
| ENG 105 | Composition | 3 | GEC | | | | |
| ECE 212 & ECEL 212 | Digital Logic & Digital Logic Lab | 4 | DPR | | | | |
| PHY 211 & PHYL 211 | General Physics &Lab | 4 | GEC | | | | |
| | Pathway Option | 3 | PATH | | | | |
| | TOTAL CREDIT HOURS | 17 | TERM GPA: | | | | |

Comments:

| SOPHOMORE YEAR FALL 1ST SEMESTER | | | | | | | |
|----------------------------------|----------------------------|--------------|-------------|-------|---------------------|--|--|
| COURSE | COURSE TITLE | CREDIT HOURS | COURSE TYPE | GRADE | SUCCESS MARKER/NOTE | | |
| MATH 243 | Calculus III | 3 | DPR | | | | |
| PHY 212 & PHYL 212 | General Physics II and Lab | 4 | DPR | | | | |
| CSC 119 | Computer Science II | 3 | DPR | | | | |
| CHEM 141 & CHML 141 | General Chemistry & Lab | 4 | GEC | | | | |
| ECE 220 & ECEL 220 | Circuit Theory and Lab | 4 | DPR | | | | |
| | TOTAL CREDIT HOURS | 18 | TERM GPA: | | | | |

Comments:

| SOPHOMORE YEAR SPRING 2ND SEMESTER | | | | | | |
|------------------------------------|---------------------------------|--------------|-------------|-------|---------------------|--|
| COURSE | COURSE TITLE | CREDIT HOURS | COURSE TYPE | GRADE | SUCCESS MARKER/NOTE | |
| MATH 244 | Calculus IV | 3 | DPR | | | |
| ECE 312 | Computer Organization | 3 | DPR | | | |
| ECE 252 | Engineering Analysis | 3 | DPR | | | |
| ECE 330 & ECEL 330 | Electronics I & Electronics Lab | 4 | DPR | | | |
| UNIV 200 | Civic Engagement | 1 | UR | | | |
| | Pathway Option | 3 | PATH | | | |
| | TOTAL CREDIT HOURS | 17 | TERM GPA: | | | |
| Comments: | | | | | | |



| JUNIOR YEAR FALL 1ST SEMESTER | | | | | | | |
|-------------------------------|-------------------------------|--------------|-------------|-------|---------------------|--|--|
| COURSE | COURSE TITLE | CREDIT HOURS | COURSE TYPE | GRADE | SUCCESS MARKER/NOTE | | |
| MATH 368 | Ordinary Diff Equation I | 3 | DPR | | | | |
| ECE 320 | Circuit Theory | 3 | DPR | | | | |
| ECE 351 | Signals and Systems | 3 | DPR | | | | |
| ECE 335 | Semiconductor Devices | 3 | DPR | | | | |
| ECE 360 & ECEL 360 | Embedded Microprocessor & Lab | 4 | DPR | | | | |
| | TOTAL CREDIT HOURS | 16 | TERM GPA: | | | | |

Comments:

JUNIOR YEAR SPRING 2ND SEMESTER

| COURSE | COURSE TITLE | CREDIT HOURS | COURSE TYPE | GRADE | SUCCESS MARKER/NOTE |
|-----------------------|-------------------------------|--------------|-------------|-------|---------------------|
| MATH 307 | Probability & Stats | 3 | DPR | | |
| ECE 355 | Control Systems | 3 | DPR | | |
| ECE 331 & ECEL 331 | Electronics II & Lab | 4 | DPR | | |
| CIV 355 | Engineering Economy | 3 | DPR | | |
| | Humanities & Fine Arts Option | 3 | GEC | | |
| | TOTAL CREDIT HOURS | 16 | TERM GPA: | | |

Comments:

| SENIOR YEAR FALL 1ST SEMESTER | | | | | | | |
|-------------------------------|------------------------------------|--------------|-------------|-------|---------------------|--|--|
| COURSE | COURSE TITLE | CREDIT HOURS | COURSE TYPE | GRADE | SUCCESS MARKER/NOTE | | |
| ECE 490 | Senior Project Design I | 3 | DPR | | | | |
| ECE 440 | Communication Systems | 3 | DPR | | | | |
| | Technical Elective I | 3 | DPE | | | | |
| | Social & Behavioral Science Option | 3 | GEC | | | | |
| | TOTAL CREDIT HOURS | 12 | TERM GPA: | | | | |

Comments:

| SENIOR YEAR FALL 2ND SEMESTER | | | | | | | |
|-------------------------------|--------------------------|--------------|-------------|-------|---------------------|--|--|
| COURSE | COURSE TITLE | CREDIT HOURS | COURSE TYPE | GRADE | SUCCESS MARKER/NOTE | | |
| ECE 491 | Senior Project Design II | 3 | DPR | | | | |
| ECE 345 | Electromagnetics | 3 | DPR | | | | |
| | Technical Elective II | 3 | DPE | | | | |
| | Technical Elective III | 3 | DPE | | | | |
| | TOTAL CREDIT HOURS | 12 | TERM GPA: | | | | |
| Comments: | Comments: | | | | | | |

On-line Graduation Clearance (TO BE COMPELTED DURING THE GRADUATING SEMESTER ONLY) TOTAL HOURS: 124 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 UNIV 100.