EnTec | MIAMI DADE COLLEGE SCHOOL OF ENGINEERING + TECHNOLOGY

# Associate in Arts Pathway to a major in Electrical Engineering (10910) 2015—2016

## About the Program

Electrical engineering is concerned with research, design, development, manufacture, installation, operation, maintenance and management of equipment, plant and systems within the electrical, electronic, communication and computer systems areas. These activities can apply to electricity generation, transmission, distribution, electrical installations in buildings and on industrial sites, electrical equipment manufacture, instrumentation and control systems applications, communications networks, electronic plant and equipment, and also the integration and control of computer systems.

## Areas of Specialization

- Communications
- Controls
- Electrophysics
- Power Systems
- Computer Systems
- Semi Conductors
- Electromagnetics

## What can I do with this degree

A degree in electrical engineering will prepare you for an exciting and creative profession. As an electrical engineering major, you'll study electricity: how it works, how it's generated, and how it's used to power everything from lightbulbs and radios to cell phones and robots. You'll also learn how to design your own electric-powered projects. Many students also get the opportunity to do a dual electrical and computer engineering degree, which gives the student much more flexibility and a broader curriculum to choose from.

## Earn This Degree and Work as...

| Position | Median Salary |
|---|---|
| Electrical Engineer | **$89,630** |
| Telecommunications Engineer | **$89,000** |
| Electronics Engineer | **$95,250** |
| Computer Hardware Engineer | **$100,920** |

Source for position and salary information is from the Department of Labor Statistics 2012

# Electrical Engineering — Suggested Program Schedule

## A.A. Pathway to a major in Electrical Engineering Program Code 10910

Total credits required for the degree is 60.

The Electrical engineering curriculum provides a balance of engineering science and design. It requires a full program of physics, math and laboratory science classes, plus specialized courses which allows students to specialize in both the traditional topics and the latest subjects in electrical engineering.

### GENERAL EDUCATION REQUIREMENTS—36 credits required

(Select the following courses)

| Course | Course Title | Credits |
|---|---|---|
| ENC1101 | English Composition 1 | 3 |
| ENC1102 | English Composition 2 | 3 |
| SPC1017 | Fundamental of Speech Communication | 3 |
| PHI2604 | Critical Thinking/Ethics | 3 |
| PHI2010 | Introduction to Philosophy | 3 |
| PSY2012 | Introduction to Psychology | 3 |
| ECO2013 | Principles of Macro-Economics | 3 |
| MAC2311 | Calculus 1 | 5 |
| MAC2312 | Calculus 2 | 1 |
| CHM1045 | General Chemistry 1 | 3 |
| BSC2010 | Principles of Biology 1 | 3 |
| PHY2048 | (General Education Elective) | 3 |

### MAJOR COURSE ELECTIVES– 24 credits required

Choose 24 credits of these Electives under your advisor's guidance.

| | | |
|---|---|---|
| MAC2312 | Calculus 2 | 3 |
| MAC2313 | Calculus 3 | 4 |
| COP2270 | "C" for Engineers | 4 |
| EGN1008C | Intro to Engineering | 3 |
| ETD1340 | AutoCAD | 3 |
| CHM1045L | General Chemistry 1 Lab | 2 |
| PHY2048 | Physics with Calculus 1 | 4 |
| PHY2048L | Physics with Calculus 1 Lab | 1 |

### COMPUTER COMPETENCY

| | | |
|---|---|---|
| CGS1060 | Intro to Microcomputer Usage | 0 |

### *Required Engineering pre-requisite courses

Classes which are required to transfer to a Engineering degree granting institution include the following:

| | | |
|---|---|---|
| BSC2010L | Principles of Biology 1 Lab | 2 |
| PHY2049 | Physics with Calculus 2 | 4 |
| PHY2049L | Physics with Calculus 2 Lab | 1 |
| STA2023 | Statistical Methods | 3 |

The following schedule is based on students beginning in one of the major semesters (Fall or Spring) and following the suggested schedule on a continuing Fall/Spring basis as prescribed by the Faculty of the Department. This however is only one of many possible methods to complete your degree. Please note that some classes may not be offered every semester as well as some may not be offered in the Summer. It is highly recommended that you seek the advice of an Engineering department advisor and/or faculty member prior to starting.

### First Term — 15 Credits

| | | |
|---|---|---|
| ENC1101 | English Composition 1 | 3 |
| MAC2311 | Calculus 1 | 5 |
| SPC1017 | Fundamentals of Speech Communication | 3 |
| CGS1060 | Introduction to Microcomputers | 4 |

### Second Term — 15 Credits

| | | |
|---|---|---|
| ENC1102 | English Composition 2 | 3 |
| MAC2312 | Calculus 2 | 4 |
| CHM1045 | General Chemistry 1 | 3 |
| CHM1045L | General Chemistry 1 Lab | 2 |
| EGN1008C | Intro to Engineering | 3 |

### Third Term — 15 Credits

| | | |
|---|---|---|
| PHI2604 | Critical Thinking/Ethics | 3 |
| MAC2313 | Calculus 3 | 4 |
| PHY2048 | Physics with Calculus 1 | 4 |
| PHY2048L | Physics with Calculus 1 Lab | 1 |
| ETD1340 | AutoCAD | 3 |

### Fourth Term — 15 Credits

| | | |
|---|---|---|
| PHI2010 | Introduction to Philosophy | 3 |
| MAP2302 | Differential Equations | 3 |
| PHY2049 | Physics with Calculus 2 | 4 |
| PHY2049L | Physics with Calculus 2 Lab | 1 |
| COP2270 | "C" for Engineers | 4 |

### Fifth Term* — 14 Credits

| | | |
|---|---|---|
| PSY2012 | Introduction to Psychology | 3 |
| ECO2013 | Principles of Macro-Economics | 3 |
| STA2023 | Statistical Methods | 3 |
| BSC2010 | Principles of Biology 1 | 3 |
| BSC2010L | Principles of Biology 1 Lab | 2 |

**NOTE: Some classes have pre-requisite or co-requisite requirements which may or may not be listed on the program sheet. It is the students responsibility to find out which classes do have these said requirements and consult with the engineering advisor prior to starting the program.**

## FOR FURTHER INFORMATION



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