EnTec | MIAMI DADE COLLEGE SCHOOL OF ENGINEERING + TECHNOLOGY

Associate in Arts Pathway to a major in Computer Engineering (10705) 2015—2016

About the Major

Computer engineering, the fastest growing engineering field for the past few years, is a very broad discipline which addresses the relationship and interactions between software and hardware in solving real engineering problems. This includes such diverse areas as: biomedical devices, environmental controls, automobile control systems and intelligent vehicle highway systems, voice/speech recognition, computer intelligence, and cellular communications. It emphasize three broad technical areas: computer architectures, software design, and applications of microprocessors; communications and digital signal processing; and microelectronic design, layout and fabrication of digital integrated circuits

Areas of Specialization

- Architecture and design
- Embedded systems
- Multimedia and networking
- Software
- Communications
- Digital signal processing
- Robotics

What can I do with this degree

Computer engineering careers are admired as being on the forefront of technology, influencing such developments as the processing power of tablets, the entertainment capabilities of cell phones, and the speed of financial transactions. As with other engineering jobs, the job is considered prestigious, providing intellectual development and challenging work in a professional environment. Hardware engineers require creative thinking to come up with technological and scientific discoveries that affect everyday consumers. What they do benefits society and the country's ability to remain competitive on the global stage.

Earn This Degree and Work as...

Position	Median Salary
Software Engineer	**$87,900**
Computer Network Architects	**$94,000**
Computer Hardware Engineer	**$100,920**

Source for position and salary information is from Bureau of Labor Statistics 2012.

Computer Engineering — Suggested Program Schedule

A.A. Pathway to a major in Computer Engineering Program Code 10705

Total credits required for the degree is 60.

The curriculum takes the student through the engineering and computing sciences, introduces design methodology, problem definition and solution using engineering analysis, experimentation, and creativity based on sound mathematical and scientific principles

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
MAP2302	Differential Equations (Gen. Educ. Req.)	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:

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* — 12 Credits

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

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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