School of Engineering + Technology
Information Packet
PROFESSIONAL TRAINING PIPELINE

ELECTRICAL POWER TECHNOLOGY
Program Code 26054

Specialization Program Code
Instrumentation and Control 26055
Electrical 26056
Mechanical 26057
Coming soon: Nuclear Operations

Classes begin every
August
In the Fall semester

A Unique Partnership with
Florida Power & Light

Power up your education!

Miami Dade College
School of Engineering + Technology
300 NE 2nd Ave
Miami, Florida 33132
(305) 237-5129
entec.mdc.edu
About Miami Dade College

The Mission of Miami Dade College is to change lives through the opportunity of education. As democracy's college, MDC provides high-quality teaching and learning experiences that are accessible and affordable to meet the needs of our diverse students and prepare them to be responsible global citizens and successful lifelong learners. The College embraces its responsibility to serve as an economic, cultural and civic beacon in our community.

Located in Miami Dade County, Miami Dade College is a public college offering Baccalaureate, Associate in Arts, Associate in Science, College Credit Certificates, Vocational Credit Certificates, Advanced Technical Certificates, Applied Technology Diplomas, Credit and Vocational, as well as, Community Education Non-Credit programs. Today, more than 174,000 students attend Miami Dade College, a state-supported college with eight campuses and numerous outreach centers. We are the largest institution of higher education in the United States and one of the most highly regarded colleges in the nation.

Accreditation

Miami Dade College is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools.

The School of Engineering + Technology

The School of Engineering + Technology (EnTec) provides the dynamic knowledge, skill, hands-on training and industry connections to turn your dreams and imagination into solutions for success. Technology touches every area of our lives and is one of the most in-demand industries for the 21st century. The Miami Dade College curriculum has been strategically designed to enhance your potential for success. With more than 30 degrees, our students have access to a wide variety of career paths and opportunities from nuclear engineering to information technology management.
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Introduction

The Electrical Power Technology Program is offered through the Miami Dade College School of Engineering + Technology (EnTec). Applicants should carefully review the application procedures outlined in this booklet. It is the student’s responsibility to ensure that the application process is complete and all requirements are met.

Program Description

The Electrical Power Technology (EPT) program Associate in Science degree is offered by Miami Dade College’s School of Engineering + Technology at the Homestead Campus’ Clean Energy Institute, in partnership with Florida Power & Light (FPL). This skilled worker pipeline program was created to address the nationwide nuclear workforce shortage. The energy industry offers tremendous growth opportunities with high pay.

This program stresses an understanding of power plant operations and technologies, equipment and systems maintenance, and health, safety, and environmental issues. The Instrumentation and Control option prepares students to service power plant control devices. The Electrical Maintenance option prepares students to service, repair, and maintain power plant electrical equipment and the Mechanical Maintenance option prepares students to service, repair, and maintain power plant mechanical equipment.

Through this program, you will gain hands-on experience at our state-of-the-art training center. The program also offers a paid summer internship at FPL’s Turkey Point Nuclear Power Plant for those who qualify. Graduation from the program does not guarantee employment with Florida Power and Light or any other nuclear facility in the nation.

NUCP Certificate

Participants in the Nuclear Uniform Curriculum Program (NUCP) have aligned their Associate Degree educational programs with utility initial training programs accredited by the National Nuclear Accrediting Board. Curricula that meet the requirements of ACAD 08-006 Uniform Curriculum Guide for Nuclear Power Plant Technician, Maintenance, and Nonlicensed Operations Personnel Associate Degree programs achieve significant consistencies and efficiencies in producing well qualified graduates to fill the current and emerging workforce needs of the industry.

NUCP goals include ensuring transferability of associate degree graduates from utility to utility. Students receiving NUCP certificates are eligible for advanced placement in the respective utility accredited training programs. In order to receive a certificate, graduates must have received 80% or higher in all MDC NUCP coursework.
Program Coursework

The Electrical Power Plant Technology program prepares students for work as technicians or maintenance personnel in the nuclear or power generation energy field. No previous experience is required. To enter the program, students must be ready to take college-level English and Mathematics in the Fall Term and pass the Mechanical Aptitude Test.

I. GENERAL EDUCATION REQUIREMENTS
15 credits required

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>1. COMMUNICATIONS</td>
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<td></td>
</tr>
<tr>
<td>ENC 1101</td>
<td>English Composition 1</td>
<td>3</td>
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<tr>
<td>2. ORAL COMMUNICATIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPC 1017</td>
<td>Fundamentals of Speech Communications</td>
<td>3</td>
</tr>
<tr>
<td>3. HUMANITIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHI 2604</td>
<td>Critical Thinking/Ethics</td>
<td>3</td>
</tr>
<tr>
<td>4. BEHAVIORAL/SOCIAL SCIENCE</td>
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<tr>
<td>CLP 1008</td>
<td>Psychology of Personal Effectiveness</td>
<td>3</td>
</tr>
<tr>
<td>5. MATH/SCIENCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAC 1105</td>
<td>College Algebra</td>
<td>3</td>
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</tbody>
</table>

II. COMPUTER COMPETENCY
4 credits required

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>6. COMPUTER COMPETENCY</td>
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<tr>
<td>CGS 1060</td>
<td>Introduction of Microcomputers</td>
<td>4</td>
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</table>

III. MAJOR REQUIREMENTS
26 credits required

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>7. MAJOR COURSE CORE REQUIRED</td>
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<td>Power Plant Fundamentals</td>
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<td>ETP 1230</td>
<td>Power Plant Systems</td>
<td>2</td>
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<tr>
<td>ETP 1200</td>
<td>Power Plant Science</td>
<td>2</td>
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<tr>
<td>ETI 1701</td>
<td>Industrial Safety</td>
<td>3</td>
</tr>
<tr>
<td>ETI 1000</td>
<td>Industrial Plant Tools and Equipment</td>
<td>2</td>
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<tr>
<td>EET 1015C</td>
<td>Direct Current Circuits</td>
<td>4</td>
</tr>
<tr>
<td>EET 1025C</td>
<td>Alternating Current Circuits</td>
<td>4</td>
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<tr>
<td>MTB 1322</td>
<td>Technical Mathematics 2</td>
<td>3</td>
</tr>
<tr>
<td>PHY 1025</td>
<td>Basic Physics</td>
<td>3</td>
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IV. PROGRAM OPTIONS
23 credits required

Specialization Courses
Students should be advised by the chairperson or engineering program leader. Classes begin once a year in the fall term.

Instrumentation and Control Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>EST 2542C</td>
<td>Programmable Logic Controllers 1</td>
<td>3</td>
</tr>
<tr>
<td>EET 1141C</td>
<td>Electronics 1</td>
<td>4</td>
</tr>
<tr>
<td>EST 2520C</td>
<td>Process Measurement Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>EST 2544C</td>
<td>Programmable Logic Controllers 2</td>
<td>3</td>
</tr>
<tr>
<td>EET 2101C</td>
<td>Electronics 2</td>
<td>4</td>
</tr>
<tr>
<td>EST 2530C</td>
<td>Process Control Technology</td>
<td>3</td>
</tr>
<tr>
<td>ETI 2315C</td>
<td>Fluid / Pneumatic Instrumentation</td>
<td>3</td>
</tr>
</tbody>
</table>
Electrical Option
EST 2542C  Programmable Logic Controllers 1    3
EET 1141C  Electronics 1       4
EET 2515C  Motors and Generators      3
EST 2544C  Programmable Logic Controllers 2    3
EET 2101C  Electronics 2       4
EET 2527C  Motor Starters, Controllers, & Breakers   3
EET 2547C  Transformers and Power Distribution 3

Mechanical Option
ETI 2451C  Mechanical Maintenance for Power Plants   3
ETI 2408C  Welding Processes      3
ETI 1805C  Introduction to Rigging and Lifting 3
ETP 2232C  Power Plant Machines & Components 2     4
ETI 2425C  Metallurgical Properties and Dynamics   3
ETM 1315C  Applied Pneumatics and Hydraulics      3
ETP 2231C  Power Plant Machines & Components 1    4

V. TERM SEQUENCING
Classes are held Monday through Friday and generally begin at 8:00 am and end by 12:00 Noon.

FIRST TERM
ETP 1220  Power Plant Fundamentals     3
ETI 1701  Industrial Safety       3
ENC 1101  English Composition 1      3
CGS 1060  Intro to Microcomputers     4
MAC 1105  College Algebra          3

SECOND TERM
EET 1015C  Direct Current Circuits  (8 wks)     4
EET 1025C  Alternating Current Circuits (8 wks)     4
ETI 1000  Industrial Plant Tools and Equipment 1
MTB 1322  Technical Mathematics 2 3 PHY1025 Basic Physics 3
PHY 1025  Basic Physics            3

THIRD TERM (Courses offered ONLY as part of the internship)
ETP 1200  Power Plant Science (6 wks)     3
ETP 1230  Power Plant Systems (6 wks)    2
Internship (paid) 0

FOURTH TERM (Students MUST have completed the internship to continue in the program)
SPC 1017  Speech Communications     3
PHI 2604  Critical Thinking/Ethics 3

Instrumentation and Control Option
EST 2542C  Programmable Logic Controllers 1    3
EET 1141C  Electronics 1       4
EST 2520C  Process Measurement Fundamentals 3

Mechanical Option
ETI 2425C  Metallurgical Properties and Dynamics   3
ETM 1315C  Applied Pneumatics and Hydraulics      3
ETP 2231C  Power Plant Machines & Components 1    4

Electrical Option
EST 2542C  Programmable Logic Controllers 1    3
EET 1141C  Electronics 1       4
EET 2515C  Motors and Generators      3

FIFTH TERM
CLP 1006  Psychology of Personal Effectiveness   3

Instrumentation and Control
EST 2544C  Programmable Logic Controllers 2    3
EET 2101C  Electronics 2       4
EST 2530C  Process Control Technology        3
ETI 2315C  Fluid/ Pneumatic Instrumentation 3

Choose one specialization

Instrumentation and Control Option
EST 2542C  Programmable Logic Controllers 1    3
EET 1141C  Electronics 1       4
EST 2520C  Process Measurement Fundamentals 3

Mechanical Option
ETI 2425C  Metallurgical Properties and Dynamics   3
ETM 1315C  Applied Pneumatics and Hydraulics      3
ETP 2231C  Power Plant Machines & Components 1    4

Instrumentation and Control
EST 2544C  Programmable Logic Controllers 2    3
EET 2101C  Electronics 2       4
EST 2530C  Process Control Technology        3
ETI 2315C  Fluid/ Pneumatic Instrumentation 3
Program Entrance and Graduation Requirements

In order to enter the Electrical Power Technology Program, students must meet the following criteria:

1. Be prepared to begin taking college-level classes in the Fall Term (all college-prep must be completed.)
2. Take and pass the MASS Test
   a. Books available to prep for the test include:
   b. Online practice tests are available at http://www2.eei.org/practicetests/ Use “house” as the name and “plant” as the password (Do not include the quotation marks).
3. Be available to take classes generally from 8:00am-12:00pm Monday through Friday (an occasional Saturday may be required for FPL testing, etc.)
4. Be able to meet the additional requirements below.

In order to graduate from the Electrical Power Technology program, students must meet the following criteria*:

1. Complete at least 15 of the last 30 credits applied toward the degree at Miami Dade College.
2. Complete a minimum of 24 credits in discipline-related courses at Miami Dade College for Associate in Science degree programs.
3. Complete an application for graduation before the published deadline date. (See Academic Calendar).
4. Fulfill all financial obligations to the College.
5. Complete all courses with a minimum of a “C” grade.
6. Successfully complete the required internship.

*Note: This program is a full-time program. Once admitted into the program, all classes must be taken at the college in the full-time sequence provided. If the course sequence is interrupted, by either low grade or withdrawal, re-entry into the program will not be available. The student should work with an EnTec advisor in order to find the most appropriate program to transfer into.

The Application Process

On-line

You can complete and submit an admission application to Miami Dade College from the web at https://sisvsr.mdc.edu/admission/default.aspx?newwin=Y. In order to complete this on-line process, your web browser must have JavaScript.

Before you can submit an application, you must obtain an Miami Dade College student ID and password. This is necessary to log in to the system. You may apply for a Miami Dade College student ID from the web at https://sisvsr.mdc.edu/admission/newid.aspx.
Once you enter the on-line application, there are tabs to guide you through the process. There is a tab for every page of the application that you need to complete. In addition, there is a separate tab for the page where you electronically submit your application. If you attempt to submit the application before it is complete, you will receive a message indicating which pages need to be finished. Once all pages are complete, the “submit” tab will display a page detailing how your application will be processed.

The applications may be processed electronically by our mainframe or manually. If the application is processed electronically you will receive your student number and further instructions for completing the admission process. If your application is processed manually, you will also receive further instructions for completing the admission process and you should receive a student number within the week.

By Mail
To apply by mail: Download a copy of the application form from:
http://www.mdc.edu/Forms/AdmApp.pdf

Complete the application Send the completed application to: Admissions Office, Miami Dade College, 300 N.E. 2nd Avenue, Miami, FL 33132-2204

College Testing Requirements
The Postsecondary Education Readiness Test (previously known as the College Placement Test) is required for appropriate placement in English, Math, and Reading courses. The tests identify:
1. Critical reading ability
2. Success in basic mathematics for academics and technical practice
3. Competencies in basic grammar

Testing information is located at: http://www.mdc.edu/testing_information/testmain.asp

*Applicants who already have an associate’s degree, or higher degree, documented in the Registrar’s office, may be exempt from this test. See an EnTec advisor for more information.

Application Checklist

_____ 1. Complete Miami Dade College Admission Application and declare your degree major in Electrical Power Technology (program code 26054) either on-line or by mail.

_____ 2. Request high school, former schools, and/or college(s) to forward official transcript(s) to Admissions Office at MDC.

_____ 3. Register for the Postsecondary Education Readiness Test (PERT) at the Testing Center at any MDC Campus. Applicants with a degree may be exempt from this testing requirement.

_____ 4. Complete any pre-requisite courses as identified through the results of the PERT.
Additional Requirements

Students will only be considered for internship and employment with FPL upon satisfactorily meeting the following mandatory requirements:

- Passing Power Plant Maintenance Positions Selection System (MASS) Test
- Passing Color Blindness Test
- Passing Depth Perception Test
- Passing MMPI Psychological Test
- Passing a Background screening
- Passing a Drug and Alcohol screening
- Passing a Credit Check
- Passing a Physical Exam, including a respirator component
- Passing the PAT/RCAT
- Completing the FPL Internship (Prior to hire)
- Physical requisites for the program require the ability to wear a respirator and the ability to lift 50 pounds

Program Expenses

The following is a list of approximate costs and is subject to change. Please note that non-Florida Resident tuition is a higher rate per credit hour, which will increase total fees accordingly.

Total Program Tuition (68 credits) (2011-2012 Florida resident rate) $ 7,172.00 Other Expenses (Books, supplies, etc) $ 1,800.00

Approximate Total $ 8,972.00

Note: Students enrolled in a full time program should also take into consideration the cost of living expenses.

Financial Aid/Scholarships

FINANCIAL AID (grants, loans, work-study) is available to those who qualify. The first step in obtaining financial is to complete the FAFSA and MDC Supplemental Financial Aid Application to determine eligibility.

For more information, contact the MDC Financial Aid Office on-line at http://www.mdc.edu/financial_aid/ or at the campus nearest you:

North Campus Financial Aid Office
11380 NW 27 Avenue, Room 1119
Miami, FL 33167-3495
(305) 237-1058

Kendall Campus Financial Aid Office
11011 SW 104 Street, Room 3116
Miami, FL 33176-3393
(305) 237-2325

Wolfson Campus Financial Aid Office
300 NE Second Avenue, Room 3315
Miami, FL 33132-2297
(305) 237-3244

Medical Center Campus Financial Aid Office
950 NW 20 Street, Room 1201
Miami, FL 33127-4693
(305) 237-4160

Kendall Campus Financial Aid Office
11011 SW 104 Street, Room 3116
Miami, FL 33176-3393
(305) 237-2325

Wolfson Campus Financial Aid Office
300 NE Second Avenue, Room 3315
Miami, FL 33132-2297
(305) 237-3244

Medical Center Campus Financial Aid Office
950 NW 20 Street, Room 1201
Miami, FL 33127-4693
(305) 237-4160

Homestead Campus Financial Aid Office
500 College Terrace, Room A106
Homestead, FL 33030-6009
(305) 237-5024

InterAmerican Campus Financial Aid Office
627 SW 27 Avenue, Room 1117-2
Miami, FL 33135
(305) 237-6045
Miami Dade College Admissions

Quick Guide

Apply online at: https://sisvsr.mdc.edu/admission/

Download an application from: http://www.mdc.edu/Forms/ or visit any of the eight Miami Dade College Campuses

Postsecondary Education Readiness Test (PERT)

Prior to sitting for the Postsecondary Education Readiness Test, review the information at: http://www.mdc.edu/testing_information/testmain.asp