Electrical and Computer Engineering Technology
Bachelor of Science | Code: S9100 | 134 credits
CIP (1101503031**)**
Effective Term: Fall Term 2024 (2247)

Electrical and Computer Engineering Technology (ECET) is part of almost everything society depends on. The ECET program at Miami Dade College is designed to provide students with a well-rounded hands-on education in electrical and computer systems. The program emphasizes the application of electrical/electronic and computer hardware and software principles and devices. Students study and learn valuable skills from various areas such as: computer hardware and interfacing, computer-based instrumentation and process control, digital communication and networking, and microcontroller systems and applications. Graduates from the ECET program have technical skills that allows them to work in a broad range of industries including transportation, green energy, networks and communications, aerospace, defense, and biomedical.

GENERAL EDUCATION REQUIREMENTS – 36 Credits Required

Courses require a grade of "C" or higher to satisfy the general education requirement.

			Credits	Requisites
1.	**Communications – 6 Credits Required**			
	ENC 1101	English Composition 1 (Gw)	3	Appropriate college placement
	ENC 1102	English Composition 2 (Gw)	3	Pre-Req ENC 1101
2.	**Oral Communications – 3 Credits Required**			
	Select one course from the following offerings.			
	ENC 2300	Advanced Composition & Communication (Gw)	3	Pre-Req ENC 1101, 1102
	LIT 2480	Issues in Literature & Culture (Gw)	3	Pre-Req ENC 1102
	SPC 1017	Introduction to Communication (Gw)	3	
	SPC 2608	Introduction to Public Speaking (Gw)	3	
3.	**Humanities – 6 Credits Required**			
	Select one course from Group A-State Core AND one course from Group B-MDC Core. Al least one Gordon Rule Writing (Gw) course must be selected from Group A or Group B.			
	Group A: State Core (3 credits)			
	ARH 1000	Art Appreciation	3	
	HUM 1020	Introduction to Humanities	3	
	LIT 2000	Introduction to Literature (Gw)	3	Pre-Req ENC 1101
	MUL 1010	Music Appreciation	3	
	PHI 2010	Introduction to Philosophy (Gw)	3	Pre-Req ENC 1101
	THE 2000	Theatre Appreciation (Gw)	3	
	---AND---			
	Group B: MDC Core (3 credits)			
	ARC 2701	History of Architecture 1	3	
	ARC 2702	History of Architecture 2 (Gw)	3	
	ARH 1000	Art Appreciation	3	
	ARH 2050	Art History 1	3	
	ARH 2051	Art History 2 (Gw)	3	Pre-Req ARH 2050
	ARH 2740	Cinema Appreciation (Gw)	3	
	DAN 2100	Dance Appreciation	3	
	DAN 2130	Dance History 1 (Gw)	3	
	HUM 1020	Introduction to Humanities	3	
	IND 1100	History of Interiors 1	3	
	IND 1130	History of Interiors 2 (Gw)	3	
	LIT 2000	Introduction to Literature (Gw)	3	Pre-Req ENC 1101
	LIT 2120	A Survey of World Literature 2 (Gw)	3	Pre-Req ENC 1101, 1102
	MUH 2111	Survey of Music History 1	3	
	MUH 2112	Survey of Music History 2 (Gw)	3	Pre-Req MUH 2111
	MUL 1010	Music Appreciation	3	
	MUL 2380	Jazz & Popular Music in America (Gw)	3	
	PHI 2010	Introduction to Philosophy (Gw)	3	Pre-Req ENC 1101
	PHI 2604	Critical Thinking/Ethics (Gw)	3	Pre-Req ENC 1101
	THE 2000	Theatre Appreciation (Gw)	3	
4.	**Behavioral and Social Science – 6 Credits Required**			

Choose two courses from Option A OR Option B. Within selected option, one course must be State Core and one MDC Core. Selecting AMH2010, AMH2020 or POS2041 is recommended as these courses also fulfill the civic literacy graduation requirement.

Option A (6 credits): *Choose one course from State Core A-Behavioral Sciences and one course from MDC Core A-Social Sciences.*

State Core A: Behavioral Sciences (3 credits)

ANT 2000	Introduction to Anthropology	3
PSY 2012	Introduction to Psychology	3
SYG 2000	Introduction to Sociology	3

AND

MDC Core A: Social Sciences (3 credits)

AMH 2010	History of the US to 1877	3
AMH 2020	History of the US Since 1877 (♦)	3
ECO 2013	Principles of Economics (Macro)	3
ISS 1120	The Social Environment	3
POS 2041	American Federal Government (♦)	3
WOH 2012	History of World Civilization to 1789	3
WOH 2022	History of World Civilization from 1789	3

--- OR ---

Option B (6 credits): *Choose one course from State Core B-Social Sciences and one course from MDC Core B-BehavioralSciences.*

State Core B: Social Sciences (3 credits)

AMH 2010	History of the US to 1877 ♦	
AMH 2020	History of the US Since 1877	3
ECO 2013	Principles of Economics (Macro)	3
POS 2041	American Federal Government ♦	3

AND

State Core B: Behavioral Sciences (3 credits)

ANT 2000	Introduction to Anthropology	3
ANT 2410	Introduction to Cultural Anthropology	3
CLP 1006	Psychology of Personal Effectiveness	3
DEP 2000	Human Growth and Development	3
ISS 1161	The Individual in Society	3
PSY 2012	Introduction to Psychology	3
SYG 2000	Introduction to Sociology	3

5. Natural Science – 6 Credits Required

Laboratory courses do not fulfill this area's requirements.

PHY 2048	Physics with Calculus 1	4	Pre/Co-Req PHY1025 or PHY2053, and MAC 2311, MAC2312, MAC2313, MAD2104, MAS 2103, or MAP 2302/PHY2048L
PHY 2049	Physics with Calculus 2	4	Pre/Co-Req PHY2048 and MAC2312, MAC2313, MAD2104, MAS 2103, or MAP 2302/PHY2049L

6. Mathematics – 6 Credits Required

Courses below may be replaced by a higher-level mathematics with prefix MAC* and MAP*.

MAC 1105	College Algebra	3	Pre-Req MAT 1033
MAC 1140	Pre-Calculus Algebra	3	Pre-Req MAC 1105

7. General Education Elective – 3 Credits Required

PHY 2049L	Physics with Calculus 2 Lab	1	Pre/Co-Req PHY2048 and MAC2312, MAC2313, MAD2104, MAS 2103, or MAP 2302/PHY2049L

Any other general education elective approved course. Please see advisor for assistance.

Computer Competency Requirement

Students must satisfy the requirement by successfully completing a course (CGS1060C or CTS0050, an equivalent college credit course), or passing MDC's Computer Skills Placement examination, or a test exemption.

Foreign Language Competency Requirement

Students must fulfill this requirement via three options:

Option A: Successful completion of two (2) credits (i.e., the equivalent of two years) in one (1) foreign language at the secondary (high school) level.

---**OR---**

Option B: Successful completion of the following courses at the elementary 2 level: ASL1150C, CHI1121, FRE1121, GER1121, ITA1121, JPN1121, POR1121, RUS1121, SPN1121. These credits count towards the Lower Division Requirements area.

---**OR---**

Option C: Students may demonstrate completion of the elementary 2 level through standardized examination that document the required foreign language competency.

PROGRAM COMMON PREREQUISITES – 10 Credits Required

MAC 2311	Calculus and Analytical Geometry 1	5	Pre-Req MAC1106 and MAC1114, or MAC1114 and MAC1140, or MAC1147
MAC 2312	Calculus and Analytical Geometry 2	4	Pre-Req MAC2311
PHY 2048	Physics with Calculus 1 (GER)	4	Pre/Co-Req PHY1025 or PHY2053, and MAC 2311, MAC2312, MAC2313, MAD2104, MAS 2103, or MAP 2302/PHY2048L
PHY 2048L	Physics with Calculus 1 Lab	1	Pre/Co-Req PHY1025 or PHY2053, and MAC 2311 MAC2312, MAC2313, MAD2104, MAS 2103, or MAP 2302/PHY2048

(GER) General Education Requirement

LOWER DIVISION REQUIREMENTS – 53 Credits Required

CET 1110C	Digital Circuits	4	Pre-Req EET1015C and MAC1105. Pre/Co-Req: COP2270
CET 2113C	Advanced Digital Circuits	4	Pre-Req CET1110C and COP2270
CET 2123C	Microprocessors	4	Pre-Req CET1110C and COP2270
COP 2270	C for Engineers	4	Pre/Co-Req MAC1105
EET 1015C	Direct Current Circuits	4	Pre/Co-Req MAC1105
EET 1025C	Alternating Current Circuits	4	Pre-Req EET1015C; Pre/Co-Req MAC1114 or MAC1147
EET 1141C	Electronics 1	4	Pre-Req EET1025C; MAC1114 or MAC1147
EET 2101C	Electronics 2	4	Pre-Req EET1041C
EET 2323C	Analog Communications	4	Pre-Req EET1141C
EET 2351C	Digital and Data Communications	4	Pre-Req CET2123C
ETI 2670	Engineering Economic Analysis	3	Pre-Req MAC1105
ETS 2673C	Programmable Logic Controls	4	Pre-Req CET1110C
MAC1114	Trigonometry	3	Pre-Req MAC1105
MAP 2302	Introduction to Differential Equations	3	Pre-Req MAC2312

UPPER DIVISION REQUIREMENTS – 29 Credits Required

CET 3126C	Computer Architecture	4	
EET 3716C	Advanced System Analysis	4	Pre-Req EET1025C and MAC2312
EET 4158C	Linear Integrated Circuits	4	Pre-Req EET3716C
EET 4165C	Senior Design 1	3	Department Approval Required
EET 4166C	Senior Design 2	2	Pre-Req EET4165C; Dept. Approval Req.
EET 4730C	Feedback Control Systems	4	Pre-Req EET3716C
EET 4732C	Signals and Systems	4	Pre-Req EET3716C
ETI 4480C	Applied Robotics	4	Pre-Req EET3126C

PROGRAM ELECTIVES – 6 Credits Required

Group A: Select one course from the following offerings.

ETP 3240	Power Systems	3	Pre-Req EET1025C
ETP 3320	Introduction to Renewable Energy Technology	3	Pre-Req EET2101C

Group B: Select one course from the following offerings.

CET 4190C	Applied Digital Signal Processing	4	Pre-Req COP2270, EET4732C, and EET2323C or EET2351C
CET 4663C	Electronic Security	3	Pre-Req CET2123C and COP2270

TOTAL CREDITS

General Education Requirements	36 credits
Program Common Prerequisites	10 credits
Lower Division Requirements	53 credits
Upper Division Requirements	29 credits
Upper Division Electives	6 credits
Total	**134 credits**

IMPORTANT INFORMATION

Civic Literacy Competency: First time in college students for the 2018-2019 school year and thereafter must demonstrate competency in civic literacy to earn a baccalaureate. This requirement may be satisfied by passing AMH 2010, AMH2020 or POS2041 (listed under the Social Sciences area), or an equivalent AP or CLEP exam.

Foreign Language: Students admitted to the baccalaureate degree program without meeting the foreign language admission requirement of at least 2 courses (8-10 credit hours) of sequential foreign language at the secondary level or the equivalent of such instruction at the postsecondary level must earn such credits prior to graduation.

Computer Competency: By the**16th earned** college level credit (excluding EAP and college preparatory courses), a student **must take** the Computer Competency Test and pass

Or

By the**31st earned** college level credit (excluding EAP and college preparatory courses), a student **must pass** CGS 1060C, an equivalent continuing education or vocational credit course or retest with a **passing score on the Computer Competency Test**.

Required Credit Hours and GPA: The baccalaureate requires student to earn a minimum of 120 unduplicated credit hours with a minimum cumulative grade point average of 2.0. All general education and all upper division requirements must be passed with the grade of "C" or better.

Pursuing or Have Earned an Associate's Degree: Students entering with an AS or AAS degree may have more than 24 elective credits and may need additional General Education credits to meet the 36 General Education credits required for the baccalaureate degree. Students entering with an AA degree may need additional electives to provide appropriate background for the baccalaureate program.

Graduation Requirements: Students should review their individualized Degree Audit Report to determine the specific graduation policies in effect for their program of study for the year and term they entered Miami Dade College. Students are highly encouraged to meet with their academic advisor on a regular basis and review the College Catalog to learn about all graduation requirements. The final responsibility for meeting graduation requirements rests with the student.