New York City College of Technology
Department of Computer Engineering Technology
Curriculum Requirements

OVERVIEW

This document describes the curriculum requirements for students enrolled in the Computer Engineering Technology (CET) department at New York City College of Technology (City Tech). The CET Department offers two degrees or programs:

- Associate in Applied Science (AAS) in Computer Engineering Technology
- Bachelor of Technology (BTech) in Computer Engineering Technology

Here, we outline the courses required to complete each degree, categorizing them into program-specific courses and general education (GenEd) requirements. The courses are presented in the ideal sequence order in which a student should complete them, semester by semester. Ideally, students should complete the required courses for the EMT program during the first four semesters. After completing the EMT courses, students can move into the CET courses, which are usually completed within the fifth and eighth semesters. Note the following is the ideal suggested order while maximizing the number of credits a student can take as a full-time student: a minimum of 12 credits and a maximum of 18 credits.

DEGREE REQUIREMENTS FOR COMPUTER ENGINEERING TECHNOLOGY – AAS

- 28 to 30 credits on general education required and flexible common core courses
- 36 credits on program-specific degree required courses
- 64 to 66 total credits, with a minimum of 20 credits in liberal arts and science.
- At least 1 course designated WI is required from the College Option or Gen Ed Flexible Common Core.

GENERAL EDUCATION REQUIRED AND FLEXIBLE COMMON CORE COURSES (28 TO 30 CREDITS)

COURSE CODE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
ENG 1101	English Composition I (EC)	CUNY proficiency in English	3 Credits
ENG 1121	English Composition II (EC)	ENG 1101 or ENG 1101CO or ENG 1101ML	3 Credits
MAT 1375	Precalculus [1] or higher (MQR)	MAT 1275 or MAT 1275CO or math placement for MAT 1375	4 Credits
MAT 1475	Calculus I [1] or higher (SW)	MAT 1375 or math placement for MAT 1475	4 Credits
PHYS 1433	General Physics I: Algebra Based [1] (LPS, WI)	MAT 1275 or MAT 1275CO or higher MAT 1275	4 Credits
	OR		
PHYS 1441	General Physics I: Calculus Based [1] (LPS, WI)	MAT 1475 or higher	5 Credits

PHYS 1434	General Physics II: Algebra Based [1] (SW, WI)	PHYS 1433	4 Credits
	OR		
PHYS 1442	General Physics II: Calculus Based [1] (SW, WI)	PHYS 1441	5 Credits
Flex Core	Flexible Common Core Course		3 Credits
Flex Core	Flexible Common Core Course		3 Credits

PROGRAM-SPECIFIC DEGREE REQUIREMENTS (36 CREDITS)

COURSE CODE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
EMT 1111	Logic and Problem-Solving	None	1 Credits
EMT 1120	Technical Graphics	None	1 Credits
EMT 1130	Electromechanical Manufacturing Lab	None	1 Credits
EMT 1150	Electrical Circuits	EMT 1120, EMT 1130, (MAT 1275CO or MAT 1275 or higher)	5 Credits
EMT 1220	Mechanisms	EMT 1120, EMT 1130; (MAT 1275 or MAT 1275CO or higher), (PHYS 1433 or PHYS 1441)	4 Credits
EMT 1250	Fundamentals of Digital Systems	EMT 1111, EMT 1130, EMT 1150	4 Credits
EMT 1255	Electronics (WI)	EMT 1250, MAT 1375 or higher	4 Credits
EMT 2320	Advanced Mechanisms	EMT 1255	5 Credits
EMT 2370	Computer Hardware Systems	EMT 1250	2 Credits
EMT 2390L	Operating Systems Laboratory	EMT 2370	1 Credits
EMT 2455	Data Communications	EMT 1250, EMT 2370	2 Credits
EMT 2461	Electromechanical Systems: Software Interface	EMT 1111, EMT 2370; Pre- or corequisites: EMT 2455, EMT 2480L, MAT 1475 or higher	2 Credits
EMT 2480L	Electromechanical Systems Design Laboratory	EMT 2320, PHYS 1433 or PHYS 1441, ENG 1101	1 Credits
EMT 2410	C/C++ Programming for Embedded Systems	EMT 2370 or EET 2262 or TCET 2242 or ENT 2280 or MTEC 2280 or MECH 1240	3 Credits
	OR		
CST 2403	Introductory C++ Programming Language Part I	(CST 1101 and (MAT 1275 or MAT 1275CO or higher)) or MAT 1476 or (EMT 1111 and (MAT 1275 or MAT 1275CO or higher))	3 Credits

DEGREE REQUIREMENTS FOR COMPUTER ENGINEERING TECHNOLOGY – BTECH

- All degree requirements of the AAS in Electromechanical Engineering Technology (28 to 30 credits)
- 18 credits on general education required and flexible common core courses
- 45 to 46 credits on program-specific degree-required courses
- 128 to 130 total credits, with a minimum of 42 credits in liberal arts and science.
- Students must take at least one advanced liberal arts course or choose two sequential courses in a foreign language.
- At least 1 course designated WI is required from the College Option or Gen Ed Flexible Common Core.

GENERAL EDUCATION FLEXIBLE COMMON CORE AND COLLEGE OPTION REQUIREMENTS 18 CREDITS

COURSE CODE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
Flex Core	Flexible Common Core Course		3 Credits
Flex Core	Flexible Common Core Course		3 Credits
COM 1330	Public Speaking or higher	Eligibility for ENG 1101 or corequisite of ENG 1101CO or ENG 1101ML	3 Credits
ID	Interdisciplinary Course		3 Credits
LibArt	Liberal Arts Elective		3 Credits
	OR		
WL	World Language Sequence		3 Credits
MAT 2580	Introduction to Linear Algebra 2	MAT 1575	3 Credits
	OR		
WL	World Language Sequence 1		3 Credits

PROGRAM-SPECIFIC DEGREE REQUIREMENTS 45 TO 46 CREDITS

COURSE CODE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
CET 3525	Electrical Networks 3 (Required only AAS in EMT or MECH)	MAT 1575 or higher	4 Credits
	OR		
CET 3550	Analog and Digital Electronics 3 (Required AAS in MECH)	MAT 1575 or higher, CET 3525 Potential substitute: any CET 3900 series course	4 Credits
	OR		
CET 4762	Electromechanical Devices 3 (Required only AAS in EET or TCET)	CET 3625 with a grade of C or higher, CET 3615	4 Credits

CET 3510	Microcomputer Systems Technology	previous course in digital electronics; Pre- or corequisites: CST 2403, MAT 1575 or higher	4 Credits
CET 3615	Instrumentation and Data Acquisition	MAT 1575 or higher, CET 3525, PHYS 1434 or PHYS 1442, previous course(s) in analog and digital electronics	4 Credits
CET 3625	Applied Analysis Lab	MAT 2680	1 Credits
CET 3640	Software for Computer Control	CST 2403, CET 3510	3 Credits
CET 4705	Component and Subsystem Design I	CET 3625 with a grade of C or higher, previous course(s) in analog and digital electronics	2 Credits
CET 4711	Computer-Controlled Systems Design	CET 4705	2 Credits
CET 4773	Inter-networking Technology (WI)	CET 3510	4 Credits
CET 4805	Component and Subsystem Design II	CET 4705	2 Credits
CET 4811	Capstone Design Project	CET 3640, CET 4711; Preor corequisites: CET 4773, CET 4805, CET 4864	2 Credits
CET 4864	Principles of Feedback Control Systems	CET 3625, MAT 2580	4 Credits
MAT 1575	Calculus II 2 4	MAT 1475	4 Credits
MAT 2680	Differential Equations	MAT 1575	3 Credits
XXX xxxx	Technical Elective I (TECH Elect only for students with an AAS in EMT, EET or TCET)		
XXX xxxx	Technical Elective II (TECH Elect)		
	OR		
XXX xxxx	Internship		3 Credits

PROGRAM-SPECIFIC ELECTIVE COURSES (TECH ELECT)

Select one course from each category.

- TECHNICAL ELECTIVE I (REQUIRED ONLY FOR STUDENTS WITH AN AAS IN EMT, EET/TCET): CET 4900 series, CST 3500 or higher, or TCET 3100 or higher, with department permission.
- TECHNICAL ELECTIVE II: Choose from CET 3910, CET 3572, CET 3672, CET 4772, CET 4872, CET4900 series, CST 3500 or higher, or TCET 3100 or higher, with department permission.

Required TECH ELECT II only for students with an AAS in MECH: EMT 2410 or CST 2403 or an approved equivalent.

SUGGESTED OR IDEAL COURSE OF STUDY

SEMESTER 1 (15 Credits)

Course Code	Course Title	Credits
EMT 1111	Logic and Problem-Solving	1
EMT 1120	Technical Graphics	1
EMT 1130	Electromechanical Manufacturing Lab	1
EMT 1150	Electrical Circuits	5
MAT 1375	Precalculus or higher (MQR)	4
ENG 1101	English Composition I	3

SEMESTER 2 (TOTAL 16 CREDITS)

Course Code	Course Title	Credits
EMT 1220	Mechanisms	4
EMT 1250	Fundamentals of Digital Systems	4
EMT 1255	Electronics	4
PHYS 1433	General Physics I: Algebra Based	4

SEMESTER 3 (TOTAL 18 CREDITS)

Course Code	Course Title	Credits
EMT 2320	Advanced Mechanisms	5
EMT 2370	Computer Hardware Systems	2
EMT 2390L	Operating Systems Laboratory	1
MAT 1475	Calculus I or higher	4
ENG 1121	English Composition II	3
Flex Core	Flexible Common Core Course	3

SEMESTER 4 (TOTAL 15 CREDITS)

Course Code	Course Title	Credits
EMT 2455	Data Communications	2
EMT 2461	Electromechanical Systems: Software Interface	2
EMT 2480L	Electromechanical Systems Design Laboratory	1
PHYS 1434	General Physics II: Algebra Based	4
EMT 2410	C/C++ Programming for Embedded Systems	3
	OR	
CST 2403	Introductory C++ Programming Language Part I	3
Flex Core	Flexible Common Core Course (WI)	

SEMESTER 5 (TOTAL 15 CREDITS)

Course Code	Course Title	Credits
CET 3510	Microcomputer Systems Technology	4
CET 3525	Electrical Networks	4
MAT 1575	Calculus II	4
COM 1330	Public Speaking or higher	3

SEMESTER 6 (TOTAL 17 CREDITS)

Course Code	Course Title	Credits
CET 3615	Instrumentation and Data Acquisition	4
CET 3625	Applied Analysis Lab	1
CET 3640	Software for Computer Control	3
MAT 2680	Differential Equations	3
Flex Core	Flexible Common Core Course (WI)	3
XXX xxxx	Technical Elective II	3

SEMESTER 7 (TOTAL 17 CREDITS)

Course Code	Course Title	Credits
CET 4705	Component and Subsystem Design I	2
CET 4711	Computer-Controlled Systems Design	2
MAT 2580	Introduction to Linear Algebra	3
CET 4773	Inter-networking Technology	4
ID	Interdisciplinary Course	3
Flex Core	Flexible Common Core Course	3

SEMESTER 8 (TOTAL 14 TO 15 CREDITS)

Course Code	Course Title	Credits
CET 4805	Component and Subsystem Design II	2
CET 4811	Capstone Design Project	2
CET 4864	Principles of Feedback Control Systems	4
XXX xxxx	Technical Elective I	4
LibArt	Liberal Arts Elective	3

FINAL NOTES

Double Duty[1] Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements in that category. Specific courses listed indicate double-duty courses, i.e., program degree requirements that also meet general education requirements. Choosing to take advantage of double duty can speed up progress toward graduation and increase elective credits. Consult with an advisor about your options.

1. Examples of advanced liberal arts courses include SOC 3301 (prerequisite: ECON 1101); SOC 2403 (prerequisite: PSY 1101). In meeting their general education requirements overall, students must take at least one advanced liberal arts course **or** choose two sequential courses in one of the world language (WL) course offerings, such as Arabic (ARB), Spanish (SPA), Chinese (CHN), or French (FREN).

2. Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements. Choosing to take advantage of double duty can speed up progress toward graduation and increase elective credits. Consult with an advisor about your options.

3. A student with an AAS in EMT must take CET 3525; MECH must take CET 3525 and 3550; EET/TCET must take CET 4762.

4. Students who have already completed MAT 1575 may select another mathematics or flexible core course instead.

EC-English Composition

MQR-Mathematical and Quantitative Reasoning

LPS-Life and Physical Sciences

SW-Scientific World

WI-Writing Intensive

ALA-Advance Liberal Arts

LA-Liberal Arts

WCGI-World Cultures and Global Issues

USED-US Experience in Its Diversity

IS-Individual and Society

CE-Creative Expression

ID-Interdisciplinary course