

# DEPARTMENT OF ELECTRICAL AND TELECOMMUNICATIONS ENGINEERING TECHNOLOGY

## DEGREE CHECKLIST FOR ASSOCIATE IN APPLIED SCIENCE IN ELECTRICAL ENGINEERING TECHNOLOGY AND BACHELOR OF TECHNOLOGY IN ELECTRICAL TECHNOLOGY

For students entering the program Spring 2018 to Spring 2019.

### ASSOCIATE DEGREE

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

At least 1 course designated WI is required from Gen Ed Flexible Common Core.

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
ENG 1101	English Composition I (EC)	Prereq: CUNY Read, Write Proficiency	3 credits.
ENG 1121	English Composition II (EC)	Prereq: ENG 1101	3 credits.
MAT 1375 <sup>2</sup>	Precalculus or higher (MQR)	Prereq: MAT 1275 or CUNY Placement	4 credits.
MAT 1475 <sup>2</sup>	Calculus or higher (sw)	Prereq: MAT 1375 or CUNY Placement	4 credits.
PHYS 1433 <sup>2</sup> or PHYS 1441 <sup>2</sup>	General Physics I: Algebra Based or (LPS, WI) General Physics I: Calculus Based (LPS, WI)	Prereq or Coreq: MAT 1275 or higher MAT 1475 or higher Prereq or Coreq: MAT 1475 or higher	4 to 5 credits.
PHYS 1434 <sup>2</sup> or PHYS 1442 <sup>2</sup>	General Physics II: Algebra Based or (sw, WI) General Physics II: Calculus Based (sw, WI)	Prereq: PHYS 1433 Prereq: PHYS 1442	4 to 5 credits.
	*World Cultures and Global Issues		3 credits.
	*Creative Expression		3 credits.

#### PROGRAM-SPECIFIC DEGREE REQUIREMENTS (39 CREDITS)

Double Duty<sup>2</sup> Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements in that category.

EET 1102	Techniques of Electrical Technology	Prereq or Coreq: MAT 1175 or higher	2 credits.
EET 1122	Circuit Analysis I	Prereq or Coreq: EET 1102, MAT 1275 or higher, PHYS 1433 or 1441	4 credits.
EET 1202	Electrical Drafting	Prereq or Coreq: EET 1102	1 credit.
EET 1222	Circuit Analysis II	Prereq: EET 1122 Prereq or Coreq: MAT 1375 or higher, ENG 1101, PHYS 1434 or 1442	5 credits.
EET 1240	Electronics	Prereq or Coreq: EET 1222	4 credits.
EET 1241	Electronics Laboratory (wi)	Prereq or Coreq: EET 1240, 1222	1 credit.
EET 2122	Advanced Circuit Analysis	Prereq: EET 1222 Coreq: MAT 1475 or higher	3 credits.
EET 2140	Communications Electronics	Prereq: EET 1240	3 credits.
EET 2141	Communications Electronics Laboratory (wi)	Prereq: EET 1241 Prereq or Coreq: EET 2140	1 credit.
EET 2150	Electric Machines Theory	Prereq: EET 1222, PHYS 1433 or 1441	3 credits.
EET 2162	Digital Electronics I	Prereq: EET 1240, EET 1241	3 credits.
EET 2171	Projects Laboratory	Prereq: EET 1202, EET 1241	1 credit.
EET 2220	Electronic Controls	Prereq: EET 2122, MAT 1475 or higher	3 credits.
EET 2251	Electric Machines Lab	Prereq: EET 2150	1 credit.
EET 2262	Digital Electronics II	Prereq: EET 2162 Prereq or Coreq: EET 2271	3 credits.
EET 2271	Circuits Analysis Lab	Prereq: EET 2171 Prereq or Coreq: EET 2162	1 credit.

### ASSOCIATE IN APPLIED SCIENCE IN ELECTRICAL ENGINEERING TECHNOLOGY: 67 TO 69 CREDITS. MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 20 CREDITS.

### BACHELOR'S DEGREE

#### GENERAL EDUCATION FLEXIBLE COMMON CORE AND COLLEGE OPTION REQUIREMENTS (19 TO 20 CREDITS)

<sup>1</sup> 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.

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
MAT 1372 <sup>2</sup> or MAT 2572 <sup>2</sup>	Statistics with Probability or (sw) Probability and Mathematical Statistics I (sw)	Prereq: MAT 1375 Prereq: MAT 1575	3 to 4 credits.
MAT 1575 <sup>2,4</sup>	*Calculus II (LibArt <sup>1</sup> ) or higher	Prereq: MAT 1475	4 credits.
ECON 1101 <sup>2</sup>	*Macroeconomics (USED)	Prereq: CUNY Read, Write Proficiency	3 credits.
PHIL 2106 <sup>2</sup>	*Philosophy of Technology (IS)	Prereq: ENG 1101	3 credits.
COM 1330	Public Speaking or higher	Prereq: CUNY Read, Write Proficiency	3 credits.
	*Interdisciplinary course		3 credits.

#### PROGRAM-SPECIFIC DEGREE REQUIREMENTS (44 TO 45 CREDITS)

EET 3102	Signals and Systems	Prereq: AAS in EET or Dept. Approval Prereq or Coreq: MAT 1575	4 credits.
EET 3112	Advanced Microcontroller and Embedded System Design	Prereq: AAS in EET or Dept. Approval Coreq: EET 3102	3 credits.
EET 3122	Sensors and Instrumentation (wi)	Prereq: AAS in EET or Dept. Approval Prereq or Coreq: EET 3102	3 credits.
EET 3202	Principles of Communications Systems	Prereq: EET 3102 Prereq or Coreq: MAT 1372/2572	4 credits.
EET 3212	Control Systems	Prereq: EET 3102, MAT 1575 or higher	4 credits.
EET 3222	Power Electronics	Prereq: EET 3102	3 credits.
EET 4102	Electrical Power Systems	Prereq: EET 3222	3 credits.
EET 4112	Applied Mechatronics	Prereq: EET 3212	3 credits.
EET 4202	Digital Signal Processing	Prereq: EET 4112	3 credits.
EET 4212	Capstone Project	Prereq: EET 4112 or Dept Approval Prereq or Coreq: EET 4202	3 credits.
ENG 2570	Writing in the Workplace	Prereq: ENG 1121 or 1133	3 credits.
ENG 2575	Technical Writing	Prereq: ENG 1121	3 credits.
	Technical Elective I		2 to 3 credits.
	Technical Elective II		2 to 3 credits.

### BACHELOR OF TECHNOLOGY IN ELECTRICAL TECHNOLOGY: 130 TO 134 CREDITS. MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 42 CREDITS.

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# DEPARTMENT OF ELECTRICAL AND TELECOMMUNICATIONS ENGINEERING TECHNOLOGY

## PROGRAM-SPECIFIC ELECTIVE COURSES

### PROGRAM ELECTIVES

Select 2 Technical Electives from the following list of courses in consultation with a faculty advisor.

Courses are 3 credits except where noted ( )

### Technical Electives

TCET 3222 Satellite Transmission  
 TCET 4102 Fiber-Optic Communications  
 TCET 4132 Wireless Communications  
 TCET 4140 Telecommunications Network Management  
 EET 3132 Remote Sensing  
 EET 4120 Engineering Technology Management (2)

## SAMPLE COURSE OF STUDY

For Associate in Applied Science in Electrical Engineering Technology and Bachelor of Technology in Electrical Technology, starting with MAT 1375.

### SEMESTER 1

(Total Credits 18)

EET 1102	Techniques of Electrical Technology	2 credits.
EET 1122	Circuit Analysis I	4 credits.
MAT 1375	Precalculus or higher	4 credits.
PHYS 1433	General Physics I: Algebra Based	4 credits.
ENG 1101	English Composition I	3 credits.
EET 1202	Electrical Drafting	1 credit.

### SEMESTER 2

(Total Credits 18)

EET 1222	Circuit Analysis II	5 credits.
EET 1240	Electronics	4 credits.
EET 1241	Electronics Laboratory	1 credit.
MAT 1475	Calculus or higher	4 credits.
PHYS 1434	General Physics II: Algebra Based	4 credits.

### SEMESTER 3

(Total Credits 17)

EET 2122	Advanced Circuit Analysis	3 credits.
EET 2140	Communications Electronics	3 credits.
EET 2141	Communications Electronics Laboratory	1 credit.
EET 2150	Electric Machines Theory	3 credits.
EET 2162	Digital Electronics I	3 credits.
EET 2171	Projects Laboratory	1 credit.
ENG 1121	English Composition II	3 credits.

### SEMESTER 4

(Total Credits 14)

EET 2220	Electronic Controls	3 credits.
EET 2251	Electric Machines Lab	1 credit.
EET 2262	Digital Electronics II	3 credits.
EET 2271	Circuits Analysis Lab	1 credit.
Add. Flex Core		3 credits.
Add. Flex Core		3 credits.

### SEMESTER 5

(Total Credits 17)

EET 3102	Signals and Systems	4 credits.
EET 3112	Advanced Microcontroller and Embedded System Design	3 credits.
EET 3122	Sensors and Instrumentation	3 credits.
MAT 1575	Calculus II	4 credits.
ENG 2575	Technical Writing	3 credits.

### SEMESTER 6

(Total Credits 17)

EET 3202	Principles of Communications Systems	4 credits.
EET 3212	Control Systems	4 credits.
EET 3222	Power Electronics	3 credits.
MAT 1372	Statistics with Probability	3 credits.
COM 1330	Public Speaking or higher	3 credits.

### SEMESTER 7

(Total Credits 14 to15)

EET 4102	Electrical Power Systems	3 credits.
EET 4112	Applied Mechatronics	3 credits.
Tech Elective		2 to 3 credits.
ECON 1101	Macroeconomics	3 credits.
ID	Interdisciplinary course	3 credits.

### SEMESTER 8

(Total Credits 15)

EET 4202	Digital Signal Processing	3 credits.
EET 4212	Capstone Project	3 credits.
Tech Elective		3 credits.
ENG 2570	Writing in the Workplace	3 credits.
PHIL 2106	Philosophy of Technology	3 credits.

### Footnotes

<sup>1</sup> 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 foreign language (FL) course offerings, such as Arabic (ARB), Spanish (SPA), Chinese (CHN), or French (FREN).

<sup>2</sup> 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.

<sup>3</sup> AAS GRADUATES - EMT Graduates take CET 3525, MECH Graduates take CET 3525/3350, EET or TCET Graduates take CET 4762.

<sup>4</sup> If a student has already taken MAT 1575, then they may take MAT 2580 in its place.

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

# DEPARTMENT OF ELECTRICAL AND TELECOMMUNICATIONS ENGINEERING TECHNOLOGY

## DEGREE CHECKLIST FOR ASSOCIATE IN APPLIED SCIENCE AND BACHELOR OF TECHNOLOGY IN TELECOMMUNICATIONS ENGINEERING TECHNOLOGY

For students entering the program Spring 2018 to Spring 2019.

### ASSOCIATE DEGREE

#### GENERAL EDUCATION FLEXIBLE COMMON CORE REQUIREMENTS (28 TO 30 CREDITS)

At least 1 course designated WI is required from the GenEd Flexible Common Core.

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
ENG 1101	English Composition I (EC)	Prereq: CUNY Read, Write Proficiency	3 credits.
ENG 1121	English Composition II (EC)	Prereq: ENG 1101	3 credits.
MAT 1375 <sup>2</sup>	Precalculus or higher (MQR)	Prereq: MAT 1275 or CUNY Placement	4 credits.
MAT 1475 <sup>2</sup>	Calculus or higher (SW)	Prereq: MAT 1375	4 credits.
PHYS 1433 <sup>2</sup> or PHYS 1441 <sup>2</sup>	General Physics I: Algebra Based (LPS, WI) or General Physics I: Calculus Based (LPS, WI)	Prereq or Coreq: MAT 1275 Prereq or Coreq: MAT 1475 or higher	4 to 5 credits.
PHYS 1434 <sup>2</sup> or PHYS 1442 <sup>2</sup>	General Physics II: Algebra Based (SW, WI) or General Physics II: Calculus Based (SW, WI)	Prereq: PHYS 1433 Prereq: PHYS 1441	4 to 5 credits.
	*World Cultures and Global Issues (WCGI)		3 credits.
	*Creative Expression (CE)		3 credits.

#### PROGRAM-SPECIFIC DEGREE REQUIREMENTS (39 CREDITS)

**Double Duty**<sup>2</sup> Specific courses listed indicate double duty courses, i.e., program degree requirements that also meet general education requirements in that category.

EET 1102	Techniques of Electrical Technology	Prereq or Coreq: MAT 1175 or higher	2 credits.
EET 1122	Circuit Analysis	Prereq or Coreq: EET 1102, MAT 1275 or higher, PHYS 1433 or 1441	4 credits.
EET 1222	Circuit Analysis II	Prereq: EET 1122 Prereq or Coreq: MAT 1375 or higher, ENG 1101, PHYS 1434 or 1442	5 credits.
EET 1240	Electronics	Prereq or Coreq: EET 1222	4 credits.
EET 1241	Electronics Laboratory	Prereq or Coreq: EET 1240, 1222	1 credit.
EET 2140	Communications Electronics	Prereq: EET 1240	3 credits.
EET 2141	Communications Electronics Laboratory	Prereq: EET 1241 Prereq or Coreq: EET 2140	1 credit.
EET 2162	Digital Electronics I	Prereq: EET 1240, 1241	3 credits.
TCET 1100	Introduction to Telecommunications	Prereq: CUNY Read Proficiency	2 credits.
TCET 2102	Analog and Digital Telephony	Prereq: TCET 1100 Prereq or Coreq: EET 2140, 2162, PHYS 1433 or 1441	4 credits.
TCET 2202	Data Communications and Systems (WI)	Prereq: TCET 2102 Prereq or Coreq: TCET 2242 or EET 2262	4 credits.
TCET 2220	Transmission Systems	Prereq: EET 2140 Prereq or Coreq: MAT 1475 or higher	3 credits.
TCET 2242	Microcomputer Interfacing	Prereq: EET 2162	3 credits.

### ASSOCIATE IN APPLIED SCIENCE IN TELECOMMUNICATIONS ENGINEERING TECHNOLOGY: 67 TO 69 CREDITS. MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 20 CREDITS.

### BACHELOR'S DEGREE

#### GENERAL EDUCATION FLEXIBLE COMMON CORE AND COLLEGE OPTION REQUIREMENTS (19 CREDITS)

<sup>1</sup>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 GenEd Flexible Common Core.

COURSE	COURSE TITLE	PRE/CO REQUISITES	CREDITS
ECON 1101 <sup>2</sup>	*Macroeconomics (USED)	Prereq: CUNY Read, Write Proficiency	3 credits.
PHIL 2106 <sup>2</sup>	*Philosophy of Technology (IS)	Prereq: ENG 1101	3 credits.
	*Interdisciplinary Course (ID)		3 credits.
MAT 1575 <sup>2,3</sup>	*Calculus II (LibArt) or higher	Prereq: MAT 1475	4 credits.
PHIL 3212 <sup>2</sup>	*Engineering Ethics (LibArt <sup>1</sup> )	Prereq: PHIL Course	3 credits.
COM 1330	Public Speaking or higher	Prereq: CUNY Read, Write Proficiency	3 credits.

#### PROGRAM-SPECIFIC DEGREE REQUIREMENTS (45 CREDITS)

TCET 3102	Analog and Digital Communications I	Prereq: AAS in TCET or Department Approval	4 credits.
TCET 3122	Switching and Automata Theory	Prereq: AAS in TCET or Department Approval	3 credits.
TCET 3142	Computer Systems	Prereq: AAS in TCET or Department Approval	3 credits.
TCET 3202	Analog and Digital Communications II	Prereq: TCET 3102, 3122	4 credits.
TCET 3222	Satellite Transmission	Prereq: TCET 2220, 3102	3 credits.
TCET 4102	Fiber-Optic Communications (WI)	Prereq: TCET 3202	3 credits.
TCET 4182	Telecommunications Capstone Project I	Prereq: TCET 3202 Coreq: 2403	2 credits.
TCET 4140	Telecommunications Network Management	Prereq: TCET 3142 Prereq or Coreq: ECON 1101	3 credits.
TCET 4202	Advanced Telecommunications	Prereq: TCET 3222, 4102	3 credits.
TCET 4282	Telecommunications Capstone Project II	Prereq: TCET 4182 Coreq: TCET 4202	2 credits.
TCET 4132	Wireless Communications	Prereq: MAT 1372 or MAT 1572, 1575, TCET 3102	3 credits.
CST 2403	Introductory C++ Programming Language I	Prereq: CST 1101, MAT 1275 (or higher) or MAT 1476 or EMT 1111, MAT 1275 or higher	3 credits.
ENG 2570	Writing in the Workplace	Prereq: ENG 1121 or 1133	3 credits.
ENG 2575	Technical Writing	Prereq: ENG 1121	3 credits.
MAT 1372	Statistics with Probability	Prereq: MAT 1375	3 credits.

### BACHELOR OF TECHNOLOGY IN TELECOMMUNICATIONS ENGINEERING TECHNOLOGY: 131 TO 133 CREDITS. MINIMUM REQUIRED LIBERAL ARTS AND SCIENCES CREDITS: 42 CREDITS.

**SAMPLE COURSE OF STUDY**

For Associate in Applied Science and Bachelor of Technology in Telecommunications Engineering Technology, starting with MAT 1375.

**SEMESTER 1** (Total Credits 17)

EET 1102	Techniques of Electrical Technology	2 credits.
EET 1122	Circuit Analysis 1	4 credits.
PHYS 1433	General Physics 1: Algebra Based	4 credits.
MAT 1375	Precalculus	4 credits.
ENG 1101	English Composition 1	3 credits.

**SEMESTER 2** (Total Credits 16)

EET 1222	Circuit Analysis II	5 credits.
EET 1240	Electronics	4 credits.
EET 1241	Electronics Laboratory	1 credit.
TCET 1100	Introduction to Telecommunications	2 credits.
PHYS 1434	General Physics II: Algebra Based	4 credits.

**SEMESTER 3** (Total Credits 18)

EET 2140	Communications Electronics	3 credits.
EET 2141	Communications Electronics Laboratory	1 credit.
EET 2162	Digital Electronics 1	3 credits.
TCET 2102	Analog and Digital Telephony	4 credits.
MAT 1475	Calculus	4 credits.
ENG 1121	English Composition II	3 credits.

**SEMESTER 4** (Total Credits 16)

TCET 2202	Data Communications and Systems	4 credits.
TCET 2220	Transmission Systems	3 credits.
TCET 2242	Microcomputer Interfacing	3 credits.
WCGI	World Cultures and Global Issues	3 credits.
CE	Creative Expression	3 credits.

**SEMESTER 5** (Total Credits 17)

TCET 3102	Analog and Digital Communications 1	4 credits.
TCET 3122	Switching and Automata Theory	3 credits.
TCET 3142	Computer Systems	3 credits.
MAT 1575	Calculus II	4 credits.
ECON 1101	Macroeconomics	3 credits.

**SEMESTER 6** (Total Credits 16)

TCET 3202	Analog and Digital Communications II	4 credits.
TCET 3222	Satellite Transmission	3 credits.
PHIL 2106	Philosophy of Technology	3 credits.
MAT 1372	Statistics with Probability	3 credits.
ENG 2570	Writing in the Workplace	3 credits.

**SEMESTER 7** (Total Credits 17)

TCET 4102	Fiber-Optic Communications	3 credits.
TCET 4182	Telecommunications Capstone Project 1	2 credits.
TCET 4132	Wireless Communications	3 credits.
TCET 4140	Telecommunications Network Management	3 credits.
CST 2403	Introductory C++ Programming Language 1	3 credits.
ID	Interdisciplinary Course	3 credits.

**SEMESTER 8** (Total Credits 14)

TCET 4202	Advanced Telecommunications	3 credits.
TCET 4282	Telecommunications Capstone Project II	2 credits.
COM 1330	Public Speaking or higher	3 credits.
PHIL 3212	Engineering Ethics	3 credits.
ENG 2575	Technical Writing	3 credits.

**Footnotes**

<sup>1</sup> 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 foreign language (FL) course offerings, such as Arabic (ARB), Spanish (SPA), Chinese (CHN), or French (FREN).

<sup>2</sup> 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.

<sup>3</sup> Students who have already completed MAT 1575 may select another mathematics or flexible core course instead.