



Electronics Technology - Associate in Applied Science (2020-21 Catalog)

SEMESTER-BY-SEMESTER PROGRAM MAP FOR FULL-TIME STUDENTS

Courses are listed in preferred order of completion

Plans can be modified to fit student needs by adding more semesters

Choose your courses with your Advisor.

Developmental Education Courses (if required)			<input type="checkbox"/>	MATH020	Pre-Algebra
<input type="checkbox"/>	ACLS050	Introduction to Academic Literacy	<input type="checkbox"/>	MATH022	Elementary Algebra
<input type="checkbox"/>	ENGL027	Writing Skills Workshop	<input type="checkbox"/>	MATH026	Intermediate Algebra

Location: B= BETH, M= MROE, S=SBTH, E= ESTN, D= DIST *subject to change

complete	Course #	Course Title	Credits	Gen Ed	Fall	Winter	Spring	Summer	Pre-requisites / Co-requisites	
Semester 1	<input type="checkbox"/>	COLS101	College Success	1		B, M, D	----	B, M, D	D	
	<input type="checkbox"/>	ELEC101	DC/AC Circuit Analysis I	4	CL	B, M	----	----	----	PRE: MATH026 or placement
	<input type="checkbox"/>	ELEC121	Technical Computer Applications	2		B	----	----	----	
	<input type="checkbox"/>	ELEC177	Electronics Manufacturing I	2		B	----	----	----	
	<input type="checkbox"/>	ENGL101	English I	3	Comm.	B, M, D	----	B, M, D	B, M, D	PRE: ENGL placement policy
	<input type="checkbox"/>	MATH140	College Algebra	3	QL	B, M, D	----	B, M, D	B, M, D	PRE: MATH 026 or placement policy
	<input type="checkbox"/>		AH,SIT,or SSHB Elective	3	AH,SIT,or SSHB	B, M, D	D	B, M, D	B, M, D	Depends on course selected
		Total Semester Credits:	18							
Semester 2	<input type="checkbox"/>	CMTH102	Introduction to Communication	3	Comm.	B, M, D	----	B, M, D	B, M, D	
	<input type="checkbox"/>	ELEC126	Digital Electronics I	3		----	----	B	----	PRE: ELEC101
	<input type="checkbox"/>	ELEC151	DC/AC Circuit Analysis II	4		----	----	B	----	PRE: ELEC101 PRE or CO: MATH140
	<input type="checkbox"/>	ELEC155	Introduction to Solid State Devices	2		----	----	B	----	PRE: ELEC101 PRE or CO: EMEC115
	<input type="checkbox"/>	EMEC115	Mechanical Skills for Technicians	1		----	----	B	----	
	<input type="checkbox"/>	ENGL151T	English II (Technical Writing)	3	Comm.	B	----	B	----	PRE: ENGL101
		Total Semester Credits:	16							
Semester 3	<input type="checkbox"/>	ELEC207	Solid State Circuits	4		B	----	----	----	PRE: ELEC155
	<input type="checkbox"/>	ELEC208	Digital Electronics II	3		B	----	----	----	PRE: ELEC126
	<input type="checkbox"/>	ENGG100	Engineering Graphics	3		B, M	----	----	B	
	<input type="checkbox"/>	PHYS101 or CHEM120	Physics I or General Chemistry I or	4	Science	B, M, D B, M	----	B,D B, M	M, D M	PRE: MATH140 with C or better / PRE: MATH022 or placement; 1 yr HS Chem (or CHEM011), English I eligibility
		Total Semester Credits:	14							
Semester 4	<input type="checkbox"/>	ELEC226	Microprocessors I	3		----	----	B	----	PRE: ELEC208
	<input type="checkbox"/>	ELEC230	Team Project	2		----	----	B	----	PRE or CO: ELEC177, 232, & 226; ENGL151
	<input type="checkbox"/>	ELEC232	Linear Integrated Circuits	4		----	----	B	----	PRE: ELEC207
	<input type="checkbox"/>		AH, SIT, or SSHB Elective	3	AH,SIT,or SSHB	B, M, D	D	B, M, D	B, M, D	Depends on course selected
	<input type="checkbox"/>		Elective	3		B, M, D	D	B, M, D	B, M, D	Depends on course selected
		Total Semester Credits:	15							
		Total Degree Credits	63		ENGL151T Technical Writing is recommended but any ENGL151 option is acceptable.					

General Education Requirements		
<input type="checkbox"/>		Diversity
<input type="checkbox"/>		Writing Intensive (AH, SIT, or SSHB)

Notes: -Physics is recommended for general Electronics Technology preparation (including transfer).
 -Chemistry is required of students intending to participate in the PSU Nanofabrication capstone semester.
 -Biology is recommended for students who are interested in pursuing a career in the biomedical field.
 Students who plan to transfer should work closely with their transfer institution and program advisor to optimize

***It is the student's responsibility to be knowledgeable of NCC graduation requirements and to verify transfer requirements with the 4-year institution. Courses listed on the program map are based upon the assumption that prerequisites and courses taken in previous semesters will be successfully completed**

Arts & Humanities (AH)
ARTA 100 Art and Visual Thinking
ARTA 101 Art History Survey
CMTH 110 Introduction to the Theatre
CMTH 111 Acting I
CMTH 115 Technical Theatre
CMTH 117 Stagecraft
CMTH 126 The Communication Arts
CMTH 189 Stage Voice and Movement
CMTH 190 Stage Production
CMTH 206 Directing
CMTH 211 Plays: Classical to Contemp. (G-WI)
CMTH 212 Acting II
CMTH 218 Theatre Portfolio
CMTH 220 Introduction to Film
DANC 101 Dance History
DANC 110 Ballet I
DANC 120 Modern Dance I
DANC 130 Jazz I
DANC 210 Ballet II
DANC 220 Modern Dance II
DANC 230 Jazz II
ENGL 201 British Literature I (G-WI)
ENGL 203 Shakespeare (G-WI)
ENGL 205 American Literature I (G-WI)
ENGL 211 Plays: Classical to Contemp. (G-WI)
ENGL 215 Multicultural Adolescent Lit (G-WI)
ENGL 250 Latin American Literature (G-WI)
ENGL 251 British Literature II (G-WI)
ENGL 253 Creative Writing
ENGL 255 American Literature II (G-WI)
ENGL 256 Modern Poetry (G-WI)
ENGL 257 20th Century Lit by Women (G-WI)
ENGL258 Fiction Writing
ENGL 260 Contemporary Literature (G-WI)
ENGL 264 Irish Literature (G-WI)
ENGL 265 African-American Literature (G-WI)
ENGL 267 Poetry Writing
HUMA 121 The American Work Experience (G-WI)
HUMA 140 Intro to Women & Gender Studies (G-WI)
HUMA 150 Nature of the Environment
HUMA210 Creativity and the Origin of Ideas
JOUR 101 Journalism and Society
Modern Language - All MDLA Courses
MUSC 101 Introduction to Music
PHIL 111 On Death and Dying (G-WI)
PHIL 121 World Religions
PHIL 201 Introduction to Philosophy
PHIL 202 Ethics and Moral Problems (G-WI)
PHIL 204 Asian Philosophies
PHIL 211 Ancient Philosophy
PHIL 215 Modern Philosophy
PHIL 225 What is Freedom?

Societies & Institutions Over Time (SIT)
CMTH 221 History of Broadcasting
GEOG 101 World Geography
GEOG 151 Geography of the U.S. and Canada (G-WI)
GLBL 130 Intro to Global Studies
GLBL 160 Field Experience & Acad Research in GS
GLBL 230 Global Studies Capstone
HIST 103 Ancient and Medieval History
HIST 113 American History I (G-WI)
HIST 121 The Black Experience (G-WI)
HIST 123 African Civilization
HIST 140 Modern Chinese History
HIST 153 Found of Mod Euro History, 1300-1815 (G-WI)
HIST 163 American History II
HIST 165 The American Experience of Warfare (G-WI)
HIST 166 Civil War and Reconstruction (G-WI)
HIST 168 History of the Middle East (G-WI)
HIST 173 Mod European History, 1815 to Present (G-WI)
HIST 210 History of Mod Science, 1859 to Present
HIST 211 History of Pennsylvania
INTS 201 Implementing Sustainable Energy System...
INTS 202 The Architecture of the City: Classic to Contemp.
POLS 101 Introduction to Political Science
POLS 105 American Constitutional Law (G-WI)
POLS 110 American National Government (G-WI)
POLS 150 Peace Studies & Conflict Resolution (Study Abroad)
POLS 170 Politics of Modern Turkey (Study Abroad)
POLS 202 International Relations
POLS 205 Women and Politics (G-WI)
POLS 251 State and Local Government (G-WI)
SOCA 102 Cultural Anthropology (G-WI)
SOCA 105 American Ethnicity
SOCA 160 Issues in Contemp.Genocide & Mass Violence

Scientific Study of Human Behavior (SSHB)
ECON 201 Macroeconomics
GEOG 121 Environmental Sustainability (G-WI)
GEOG 140 Investigating Climate Change)
GEOG 271 Intro to Geographic Info Systems
HUMA 250 Research Methods in Social Sciences (G-WI)
INTS 250 Study Abroad
PSYC 103 Introduction to Psychology (G-WI)
PSYC 205 Research Methods
PSYC 230 Introduction to Health Psychology
PSYC 235 Dev Child Psychopathology
PSYC 245 Cognitive Psychology
PSYC 255 Abnormal Psychology
PSYC 258 Developmental Psychology (G-WI)
PSYC 265 Psychology of Sex and Gender
SOCA 103 Principles of Sociology (G-WI)
SOCA 125 Sociology of Families (G-WI)
SOCA 210 Sociology of Gender

Diversity (D) Electives
BIOS 126 Environmental Science
BIOS 210 Environmental Biology
BUSA 115 Intro to International Business
CJST 250 Contemporary Issues in Criminal Justice
CMTH 126 The Communication Arts
CMTH 211 Plays: Classical to Contemporary
CMTH 215 Intercultural Communication
DANC 101 Dance History
ENGL 151L English II (Literature)
ENGL 205 American Literature I
ENGL 211 Plays: Classical to Contemporary
ENGL 215 Multicultural Adolescent Literature
ENGL 250 Latin American Literature
ENGL 251 British Literature II
ENGL 253 Creative Writing
ENGL 255 American Literature II
ENGL 256 Modern Poetry
ENGL 257 20th Century Lit by Women
ENGL 260 Contemporary Literature
ENGL 264 Irish Literature
ENGL 265 African-American Literature
ENGL 267 Poetry Writing
GEOG 101 World Geography
GEOG 121 Environmental Sustainability
GEOG 151 Geography of the U.S. and Canada
GEOG 210 Weather and Climate
GLBL 130 Intro to Global Studies
GLBL 160 Field Experience & Acad Research in GS
GLBL 230 Global Studies Capstone
HIST 113 American History I
HIST 121 The Black Experience
HIST 140 Modern Chinese History
HIST 165 The American Experience of Warfare
HIST 166 Civil War & Reconstruction
HIST 168 History of the Middle East
HIST 173 Mod Euro History: 1815-Present
HUMA 121 American Work Experience
HUMA 140 Intro to Women and Gender Studies
HUMA 150 Nature of the Environment
HUMA210 Creativity and The Origin of Ideas
INTS 201 Implement Sustain Energy Sys in Dev Com
Modern Language - All MDLA Courses
PHIL111 On Death and Dying
PHIL 121 World Religions
PHIL 204 Asian Philosophies
POLS 101 Introduction to Political Science
POLS 105G American Constitutional Law
POLS 150 Peace Studies & Conflict Resolution
POLS 202 International Relations
POLS205 Women & Politics
POLS 251 State & Local Government
PSYC 258 Developmental Psychology
SOCA 102 Cultural Anthropology
SOCA103 Principles of Sociology
SOCA 105 American Ethnicity
SOCA 150 Deviance
SOCA160 Issues in Cont Genocide & Mass Violence
SOCA204 Social Problems

Electives for A.A. & A.S. Degrees
All courses except: 0XX-level courses; EARL221, 222

One general education elective (AH, SIT, SSHB) must be taken in a Writing Intensive (WI) section. Writing Intensive courses end in "G" (e.g. PSYC103G).

One course should be designated as Diversity and Global Awareness (D).

For the General Education Electives, students must select one course from the list of approved courses in two of the following categories: Arts & Humanities (AH), Social Science: Societies & Institutions over Time (SIT); Social Science: Scientific Study of Human Behavior (SSHB). These can be taken during the summer or winter terms to lighten fall and/or spring workload.

Program Narrative:

Today's high technology companies want to hire well-rounded electronics technicians who can help their businesses grow profitably. Northampton's Electronics Technology program integrates comprehensive electronic circuit theory with practical hands-on lab work. Students develop solid troubleshooting skills using modern industry-quality instruments.

Northampton graduates are employed in areas such as manufacturing, installation, repair, operation, and product design. Other graduates choose power generation, industrial control, or sales. Employers value Northampton graduates because they are well-trained and can step right in to resolve many design and application problems.

Our program is based on continuous industry input and evaluation of electronics programs nationwide. The result is a practical curriculum that emphasizes a strong foundation in electronics fundamentals while developing skills critical to success in the field. Your studies will include:

Core Coursework: Two semesters of DC/AC circuit analysis, digital electronics, and solid state devices; one semester of linear integrated circuits and microprocessors.

Mechanical Skills: Courses include Electronics Manufacturing, Mechanical Skills, and Team Projects.

Computer Skills: We emphasize applications such as Multisim, MS Word, Excel, PowerPoint, and SolidWorks.

Communication Skills: Your reading, writing, and presentation skills, as applied to technical topics, will be developed over the course of the program.

Project Work: Integrated into all semesters.

Upon graduation, you will be well prepared to enter and advance in the workforce, or you may choose to continue your education toward a four-year Bachelor of Science Degree in Electronics Engineering Technology (BSEET). We have relationships that can create smooth transitions at institutions such as Bloomsburg University (BS in Electrical and Electronic Technology), Pennsylvania State University (Harrisburg Campus), Pennsylvania College of Technology (Williamsport), New Jersey Institute of Technology (Newark, NJ), Rochester Institute of Technology (Rochester, NY), or at many other colleges and universities.

Students completing this program may also complete their Bachelor of Science degree in Applied Management through Franklin University by completing approximately 24 additional course credits at NCC and an additional 40 course credits through Franklin University's online courses. Check with your advisor for more information and options in course selection.

We carefully schedule the program's courses so that you can earn the A.A.S. degree in two years of full-time study. Students generally begin the program in August. You can also complete your degree in four years through evening part-time study. An attractive option for many students is to complete the A.A.S. degree through part-time evening study, with employers supporting the continuing education through tuition reimbursement.

Program Learning Outcomes:

Prototype, evaluate, and assist in the design of electronic circuits using fundamental analog and digital concepts.

Fabricate electronic circuit layouts and electromechanical prototypes.

Use computer technology to conduct research, analyze data, simulate circuit performance, design circuits, program microprocessors, and document findings.

Select and operate electronic test equipment such as digital multimeters, oscilloscopes, power supplies, and function generators to test and troubleshoot analog and digital circuits.

Apply mathematics and reasoning to predict electronic circuit performance and to analyze data.

Effectively speak, write, and graphically illustrate the discourse of electronics technology.

Work both independently and as a contributing member of an effective team.

Use applied research, critical thinking, and problem solving skills to support lifelong professional development.

Transfer Information:

Students in sending school districts who attend vocational institutes (BAVTS, MCTI, or CIT) should ask about articulation agreements.

The program is designed to transfer to BSEET programs where the first two years of the transfer program align closely with the AAS.

Pennsylvania State University (Wilkes-Barre, Harrisburg, & Penn College of Technology campuses)

Drexel University

Temple

California University of PA

See <https://www.universities.com/find/pennsylvania/best/engineering-technology-degrees>

Graduates of this program can transfer their coursework towards one of these online Bachelor's degrees:

Bachelor of Science in Applied Management through Franklin University.

Bachelor of Applied Science in Technical Leadership through Bloomsburg University. (All Bloomsburg courses are taught at Northampton Community College.)

Students planning to transfer should consult with the program advisor and the 4-year institution for guidance in course selection.

Career Information:

Fields that employ electronic technicians include

Manufacturing

Telecommunications

Broadcast and Audio Engineering

Biomedical Technology

See <https://northampton.emsicc.com/programs/electronics-technology-aas/214379> for information on career options for electronics technicians.