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National Education Centers

A Nationwide Network Dedicated To Quality Training For Today's Job Market.

1991-92

National Education Center®
National Institute of Technology Campus

2620 Remico Southwest
Wyoming, Michigan 49509
(616) 538-3170

Accredited by the Accrediting Commission for Trade and Technical Schools of the Career College Association and Licensed by the Michigan Department of Education.

Publishing Date December, 1991

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Table of Contents

About National Education Centers, Inc.

The school is part of National Education Centers, Inc., a subsidiary of National Education Corporation. From its beginnings in 1964, National Education Corporation has expanded to become the world's leading provider of education and training. National Education Centers, Inc., one of the largest private postsecondary school operators in the United States, is continually seeking to provide the kind of training programs that will best serve the changing needs of students, business and industry. It utilizes new training techniques developed by other National Education Corporation subsidiaries in the publishing, industrial training and independent study fields.

With headquarters in Irvine, California and a network of over 50 schools across the United States, National Education Centers, Inc. provides job-oriented training in high-growth, high-technology areas of business and industry. Programs are offered in such diverse fields as advertising design, aeronautics, automotive and diesel repair, broadcasting, business administration, business technology, drafting, electronics, fashion merchandising, interior design, medical and dental assisting, ophthalmic technology and secretarial science.

Students use modern equipment and facilities, similar to the kind they can expect to find on the job. By emphasizing hands-on training, National Education Centers, Inc. provides people entering or re-entering today's competitive market with practical, skill-specific training vital to their success.

National Education Centers, Inc. has emerged as a leader in vocational and technical training by meeting the current needs of business and industry. The company has maintained a longstanding reputation for innovation and high-quality private vocational education.

■ School History and Description

National Education Center® — National Institute of Technology Campus

National Education Center® — National Institute of Technology Campus in Wyoming, Michigan, was originally a member of RETS Electronic School which was established in 1935. The school was acquired by National Education Corporation in 1978 and in 1979 was made a part of the Technical Schools group. In 1983 the name was changed to National Education Center® — National Institute of Technology Campus. In October 1988, a branch campus was opened in San Jose, California.

The two-building campus occupies approximately 24,000 square feet and contains eleven large classrooms designed for theory and laboratory instruction, eight administrative offices, a library containing reference and reading materials related to the academic programs, student lounge and restrooms.

This institution, the facilities it occupies and the equipment it uses comply with all federal, state and local ordinances and regulations, including those related to fire safety, building safety and health.

The campus is located between Byron Center and Ivanrest in the cul-de-sac on Remico, south of 28th Street. Ample parking is available in the three parking lots adjacent to the school buildings.

■ Educational Philosophy

The National Education Centers, Inc. philosophy is to provide quality programs that are sound in concept, implemented by a competent and dedicated faculty, and geared to serve those seeking a solid foundation in knowledge and skills required to obtain employment in their chosen fields. The programs emphasize hands-on training, are relevant to employers' needs and focus on areas that offer strong long-term employment opportunities. To offer students the training and skills that will lead to successful employment, the schools must:

- Continually evaluate and update educational programs.
- Provide modern facilities and training equipment.
- Select teachers with professional experience in the vocations they teach and the ability to motivate and develop students to their greatest potential.
- Promote self-discipline and motivation so that students may enjoy success on the job and in society.

■ Accreditations, Approvals and Memberships

This school voluntarily undergoes periodic accrediting evaluations by teams of qualified examiners including subject experts and specialists in occupational education and private school administration.

- Accredited by the Accrediting Commission for Trade and Technical Schools of the Career College Association.
- Licensed to operate by the State of Michigan, Department of Education.
- Eligible institution under the Stafford Loan Program (GSL).
- Eligible institution for Perkins Loan, Supplemental Education Opportunity Grant and Pell Grant programs.
- Provides training services for the State Department of Vocational Rehabilitation.
- Member of the Michigan Organization of Private Vocational Schools.
- Member of the National Vocational-Technical Honor Society.
- Authorized under federal law to enroll nonimmigrant alien students.
- Approved for the training of Veterans and eligible persons under the provisions of Title 38, United States Code.

■ Statement of Non-Discrimination

National Education Centers, Inc. does not discriminate on the basis of sex, age, physical handicap, race, creed or religion in its admissions, advising, training, placement, employment or other programs or activities. The School Directors are the coordinators of Title IX — the Educational Amendments Act of 1972, and will receive any inquiries under the sex discrimination provisions of this document.

Administration

Philip Heine	Executive Director
William Robertson	Director of Education
Donnie Broughton	Director of Admissions
Diane Jackiewicz	Director of Placement
~~Gail Lee~~ DAN GRIMM	Business Manager

Faculty

Electronics

Ronald Coxon	Lead Instructor
Dennis Peterson	Lead Instructor
Lee Hudson	Senior Instructor
Carl Pacic	Instructor
~~Scott Rutzen~~	~~Instructor~~
Michael Stebbins	Instructor
Earl Swingle	Instructor
JILL SHAVER	CHAIRPERSON, ALLIED HEALTH PROGRAM

General Education

~~Shari Krauss~~ HARRY THEODORE	Instructor

Hours of Operation

Office:

8:00 AM to 7:00 PM	Monday through Thursday
8:00 AM to 5:00 PM	Friday

School:

8:00 AM to 12:00 PM	Morning	Monday through Friday
12:30 PM to 5:30 PM	Afternoon	Monday through Thursday
6:00 PM to 11:00 PM	Evening	Monday through Thursday

Academic Calendars

1992 Class Schedules for Modular Programs

Day Schedule – Five Day Week (Monday through Friday)		Evening Schedule – Four Day Week (Monday through Thursday)	
Start Dates	End Dates	Start Dates	End Dates
Jan 13 (Mon)	Mar 6 (Fri)	Jan 13 (Mon)	Mar 5 (Thurs)
Mar 9 (Mon)	Apr 30 (Thurs)	Mar 9 (Mon)	Apr 29 (Wed)
May 4 (Mon)	Jun 25 (Thurs)	May 4 (Mon)	Jun 24 (Wed)
Jul 13 (Mon)	Sep 2 (Wed)	Jul 13 (Mon)	Sep 1 (Tues)
Sep 3 (Thur)	Oct 27 (Tues)	Sep 3 (Thur)	Oct 28 (Wed)
Oct 29 (Thur)	Dec 23 (Wed)	Oct 29 (Thur)	Dec 22 (Tues)

Student Holidays

	1992
New Year's Day	Jan 1
Martin Luther King, Jr.'s Birthday (observed)	Jan 20
President's Day (observed)	Feb 17
Spring Holiday	Apr 17
Memorial Day (observed)	May 25
Summer Break	June 26 - July 10
Independence Day	Jul 3
Labor Day	Sep 7
Thanksgiving	Nov 26 & 27
Winter Recess	Dec 24 - 31

Class Schedules for Quarter Programs

Winter Quarter	1991	1992
Classes Begin	Jan 14	Jan 13
Martin Luther King, Jr.'s Birthday (observed)	Jan 21	Jan 20
President's Day (observed)	Feb 18	Feb 17
Spring Holiday (1991)	Mar 29	
Classes End	Apr 5	Apr 3
Quarter Break/Intersession	Apr 8 - 12	Apr 6 - 10

Spring Quarter	1991	1992
Classes Begin	Apr 15	Apr 13
Spring Holiday (1992)		Apr 17
Memorial Day (observed)	May 27	May 25
Independence Day	Jul 4	Jul 3
Classes End	Jul 5	Jul 2
Quarter Break/Intersession	Jul 8 - 12	Jul 6 - 10

Summer Quarter	1991	1992
Classes Begin	Jul 15	Jul 13
Labor Day	Sep 2	Sep 7
Classes End	Oct 4	Oct 2
Quarter Break/Intersession	Oct 7 - 11	Oct 5 - 9

Fall Quarter	1991	1992
Classes Begin	Oct 14	Oct 12
Thanksgiving	Nov 28 & 29	Nov 26 & 27
Winter Recess	Dec 24 - 31	Dec 24 - 31
New Year's Day	Jan 1, 1992	Jan 1, 1993
Classes End	Jan 10, 1992	Jan 8, 1993
Quarter Break/Intersession	None	None

Modular Programs

A Modular Program is a complete body of prescribed subjects or studies that is divided into periods of instruction approximately four to eight weeks in length.

■ Consumer Electronics Technology Program

Diploma Program — 17 Months
1350 Clock Hours/108 Credit Units

The Consumer Electronics Technology Program at National Education Center® is designed to satisfy the student's desire to learn a technical skill in a field that has experienced rapid growth. This curriculum explores both the fundamentals and advanced theory in electronics, integrated circuits and digital technology as applied to consumer electronics. Laboratory experience is an integral part of the electronics program. Students receive instruction and hands-on experience in the repair and maintenance of consumer electronics products such as video camcorders, video cassette recorders, CD players and facsimile machines. They also learn to use test equipment.

Graduates of the Consumer Electronics Technology Program are qualified for entry-level positions such as consumer electronics service technician, field service technician, and as electronic technicians in office machine repair. They are also qualified for positions as sales representatives in the consumer electronics and electronic office equipment fields.

Upon successful completion of all areas of the 17-month program, a diploma in Consumer Electronics Technology will be awarded.

Major Equipment
Computers
Printers
Digital Multimeters
Power Supplies
Function Generators
Oscilloscopes
Logic Analyzers
Analog/Digital Trainers
Frequency Counters

Program Outline

Course Number	Course Title	Clock Hours	Credit Units
Module A			
EA101	Introduction to Electronics	30	3.0
EA102	Reading for Electronics	50	4.0
EA103	Mathematics for Electronics	70	5.0
	Total	150	12.0
Module B			
EB101	Introduction to Electronics	30	3.0
EB102	Reading for Electronics	50	4.0
EB103	Mathematics for Electronics	70	5.0
	Total	150	12.0
Module C			
EC101	Basic Electricity and Electronics	60	6.0
EC103	Mathematics for Electronic Circuits	30	3.0
EC104	Basic Electronics/DC Circuits Lab	60	3.0
	Total	150	12.0
Module D			
ED101	AC Theory	60	6.0
ED103	Mathematics for AC Electronics Circuits	30	3.0
ED104	AC Circuits Lab	60	3.0
	Total	150	12.0
Module E			
EE201	Semiconductors	90	9.0
EE204	Semiconductors Lab	60	3.0
	Total	150	12.0

Course Number	Course Title	Clock Hours	Credit Units
Module F			
EF201	Transistors and Special-Purpose Semiconductors	90	9.0
EF204	Transistor Circuits and Amplifiers Lab	60	3.0
	Total	150	12.0
Module G			
EG201	Microelectronics and RF Communications	90	9.0
EG204	Microelectronics and RF Communications Lab	60	3.0
	Total	150	12.0
Module H			
EH201	Radio Communications and Digital Circuits	90	9.0
EH204	Radio Communications and Digital Lab	60	3.0
	Total	150	12.0
Module S			
ES301	Consumer Electronics Equipment Operation and Circuits	90	9.0
ES304	Consumer Electronics Lab	60	3.0
	Total	150	12.0
	Program Total	**1350**	**108.0**

■ Electronics and Computer Engineering Technology Program

Diploma Program — 23 Months
1800 Clock Hours/144.0 Credit Units

The electronics industry is one of the fastest growing fields today. The scientific and technological revolution is creating numerous career opportunities. The demand for people with technical skills is growing twice as fast as for any other group.

The Electronics and Computer Engineering Technology Program is designed to satisfy students' desire to learn a technical skill in a field that has experienced rapid growth. The curriculum explores both the fundamentals and advanced theory in electronics, integrated circuits, microprocessors and computer technology. Laboratory experience is an integral part of the program. Students also receive a background in the fundamentals of digital computers and hands-on experience with test equipment.

Graduates of the program are qualified for entry-level positions such as computer service technician, electronic laboratory technician, field service engineer, installation technician and electronic technician in communications, instrumentation, digital and computer electronics. Graduates are also qualified for a position as sales representative in the computer, electronics (including electronic office equipment) and microprocessing fields.

Upon successful completion of all areas of the 23-month program, an ~~Associate of Specialized Technology in~~ Electronics and Computer Engineering Technology ~~Degree~~ will be awarded.

Program Outline

Course Number	Course Title	Clock Hours	Credit Units
Module A			
EA101	Introduction to Electronics	30	3.0
EA102	Reading for Electronics	50	4.0
EA103	Mathematics for Electronics	70	5.0
	Total	150	12.0
Module B			
EB101	Introduction to Electronics	30	3.0
EB102	Reading for Electronics	50	4.0
EB103	Mathematics for Electronics	70	5.0
	Total	150	12.0
Module C			
EC101	Basic Electricity and Electronics	60	6.0
EC103	Mathematics for Electronic Circuits	30	3.0
EC104	Basic Electronics/DC Circuits Lab	60	3.0
	Total	150	12.0
Module D			
ED101	AC Theory	60	6.0
ED103	Mathematics for AC Electronics Circuits	30	3.0
ED104	AC Circuits Lab	60	3.0
	Total	150	12.0
Module E			
EE201	Semiconductors	90	9.0
EE204	Semiconductors Lab	60	3.0
	Total	150	12.0
Module F			
EF201	Transistors and Special-Purpose Semiconductors	90	9.0
EF204	Transistor Circuits and Amplifiers Lab	60	3.0
	Total	150	12.0
Module G			
EG201	Microelectronics and RF Communications	90	9.0
EG204	Microelectronics and RF Communications Lab	60	3.0
	Total	150	12.0

Course Number	Course Title	Clock Hours	Credit Units
Module H			
EH201	Radio Communications and Digital Circuits	90	9.0
EH204	Radio Communications and Digital Lab	60	3.0
	Total	150	12.0
Module I			
EI301	Computer Systems and Software	60	6.0
EI303	Binary and Computer Mathematics	30	3.0
EI304	Digital Systems Lab	60	3.0
	Total	150	12.0
Module J			
EJ301	Microprocessors	90	9.0
EJ304	Microprocessors Lab	60	3.0
	Total	150	12.0
Module K			
EK301	Computer Systems and Peripherals	90	9.0
EK304	Systems Project Lab	60	3.0
	Total	150	12.0
Module L			
EL301	Logic Families and Digital Communications	60	6.0
EL302	Professional Strategies	40	4.0
EL304	Logic Families, Digital Communications and Customer Relations Lab	50	2.0
	Total	150	12.0
	Program Total	**1800**	**144.0**

Major Equipment
Computers
Printers
Digital Multimeters
Power Supplies
Function Generators
Oscilloscopes
Logic Analyzers
Analog/Digital Trainers
Frequency Counters

Program Outline

Course Number	Course Title	Clock Hours	Credit Units
Quarter 1 – Introduction to Electronics			
EM103A	Mathematics for Electronics	24	2.0
EM103B	Mathematics for Electronics Lab	72	3.0
ER104A	Reading for Electronics	36	3.0
ER104B	Reading for Electronics Lab	48	2.0
ET101	Introduction to Electronics	60	5.0
	Total	240	15.0
Quarter 2 – Basic Electricity and Electronics			
EL112	Electronics Lab	120	5.0
ET111	Electronics Theory	84	7.0
MA113	Applied Math I	36	3.0
	Total	240	15.0
Quarter 3 – Semiconductors: Circuits and Devices			
EL122	Electronics Lab	120	5.0
ET121	Electronics Theory	96	8.0
MA123	Applied Math II	12	1.0
TE124	Technical Drawing	12	1.0
	Total	240	15.0
Quarter 4 – Microelectronics: Devices and Applications			
EL132	Electronics Lab	120	5.0
ET131	Electronics Theory	96	8.0
TE133	Technical Writing	24	2.0
	Total	240	15.0

Quarter Programs

A Quarter Program is a complete body of prescribed subjects or studies that is divided into periods of instruction approximately 12 weeks in length.

■ Electronics Engineering Technology Program

Diploma Program — 21 Months
1680 Clock Hours/105 Credit Units

The electronics industry is one of the fastest growing fields today. The scientific and technological revolution is creating numerous career opportunities. The demand for people with technical skills is growing twice as fast as for any other group.

The Electronics Engineering Technology Program is designed to satisfy students' desire to learn a technical skill in a field that has experienced rapid growth. The curriculum explores both the fundamentals and advanced theory in electronics, integrated circuits, microprocessors and computer technology. Laboratory experience is an integral part of the program. Students also receive a background in the fundamentals of digital computers and hands on experience with test equipment.

Graduates of the program are qualified for entry-level positions such as computer service technician, electronic laboratory technician, field service engineer, installation technician and electronic technician in communications, instrumentation, digital and computer electronics. Graduates are also qualified for a position as sales representative in the computer, electronics (including electronic office equipment) and microprocessing fields.

Upon successful completion of all areas of the 21-month program, a diploma in Electronics Engineering Technology will be awarded.

EK304 Systems Project Lab

60 Clock Hours/3.0 Credit Units

This course uses computers to introduce students to the fundamentals of electronics troubleshooting. Students apply concepts learned in EK301 to set up and verify the operation of computers and peripherals.

EL301 Logic Families and Digital Communications

60 Clock Hours/6.0 Credit Units

This course explores the basic logic families used in digital systems. Flip-flops, counters, shift registers and memories are discussed in detail. In the digital communications portion of the course, students learn basic data communications concepts, including digital-to-analog and analog-to-digital conversions.

EL302 Professional Strategies

40 Clock Hours/4.0 Credit Units

This course helps prepare students for a job in the electronics marketplace. Topics include elements of writing, professional appearance and demeanor, and resume preparation. Students are expected to develop a business letter and resume during the course.

EL304 Logic Families, Digital Communications and Customer Relations Lab

50 Clock Hours/2.0 Credit Units

This lab course provides hands-on experience that complements technical concepts presented in EL301. Through role-playing exercises and case study analyses, the student also develops important skills in the area of customer relations.

ES301 Consumer Electronics Equipment Operation and Circuits

90 Clock Hours/6.0 Credit Units

This course covers the principles of operation and the functional characteristics of the circuits employed in typical consumer electronics. The student will learn about camcorders, video cassette recorders, CD players and facsimile machines. In all four classes of equipment the student will learn the theory of operation of the electronics and mechanical functions and learn to conduct fault analysis, repair, and preventative maintenance on working equipment.

ES304 Consumer Electronics Lab

60 Clock Hours/3.0 Credit Units

In this course, the major emphasis is placed on the user controls, internal adjustments, and fault isolation procedures and the test equipments used in the maintenance of camcorders, video cassette recorders, CD players and facsimile machines.

EI301 Computer Systems and Software

60 Clock Hours/6.0 Credit Units

This course introduces digital concepts, the historical evolution of the computer and the use of Boolean algebra in analyzing digital circuits. The software portion of the course focuses on operating systems used with IBM and IBM-compatible hardware, including MS-DOS and PC-DOS.

EI303 Binary and Computer Mathematics

30 Clock Hours/3.0 Credit Units

This course introduces the binary and arithmetic functions of a computer. Binary, octal and hexadecimal number systems are presented and used in theoretical computer circuit simulation.

EI304 Digital Systems Lab

60 Clock Hours/3.0 Credit Units

This lab course provides an opportunity for students to use laboratory experimentation to reinforce and apply concepts learned in courses EI301 and EI303. Students complete experiments to demonstrate their skills and ability to integrate key concepts related to digital systems.

EJ301 Microprocessors

90 Clock Hours/9.0 Credit Units

This course presents microprocessor technology. Basic logic concepts are reviewed in preparation for discussion of microprocessor fundamentals. The course explores the function of the 8088 chip in greater detail. Students will learn logic and support symbols related to the 8088, as well as addressing, memory and I/O function. The course also introduces the 68000 family of microprocessors and the concepts related to interfacing and memory of this chip.

EJ304 Microprocessors Lab

60 Clock Hours/3.0 Credit Units

This lab course gives students an opportunity to use laboratory experimentation to reinforce and apply concepts learned from previous courses. Students complete a project to demonstrate their skills and ability to integrate key concepts related to microprocessors.

EK301 Computer Systems and Peripherals

90 Clock Hours/9.0 Credit Units

This course provides an introduction to the field of computer-based equipment. It explores the operation of microcomputer hardware and the functions and applications of peripheral devices such as floppy disks, cathode ray tubes (CRTs) and keyboards. The course also introduces students to electronic troubleshooting concepts as they apply to systems.

EF204 Transistor Circuits and Amplifiers Lab

60 Clock Hours/3.0 Credit Units

This course introduces students to laboratory experiments using transistor circuits and amplifiers that were covered in course EF201. Logical troubleshooting techniques are emphasized. Report writing skills are further developed

EG201 Microelectronics and RF Communications

90 Clock Hours/9.0 Credit Units

This course introduces linear and digital integrated circuits. The operational amplifier is explored in depth, and the applications of the operational amplifier in DC, audio applications, summing amplifiers, difference amplifiers and other integrated circuits are presented. A review of diodes and transistors is included. The course also introduces the concepts of radio frequency (RF) communication, amplitude modulation (AM), frequency modulation (FM), oscillators and mixers as they related to the operation of AM and FM radios.

EG204 Microelectronics and RF Communications Lab

60 Clock Hours/3.0 Credit Units

This lab course enables students to use laboratory experimentation to reinforce and apply concepts learned in course EG201 and other courses. It includes demonstrations and experiments using integrated circuits, operational amplifiers and RF communications.

EH201 Radio Communications and Digital Circuits

90 Clock Hours/9.0 Credit Units

This course covers principles and essential characteristics of communication electronics. Subjects include modulation, transmitters, receivers, transceivers, the principles of antennas, transmission lines and radio-frequency wave propagation. The digital electronics portion of the course provides an understanding of binary logic gates, symbols, truth tables, encoding, decoding, seven-segment displays, flip-flops, counters and shift registers. Students also learn Boolean algebra and Karnaugh mapping — with the emphasis on Karnaugh mapping. The principles of digital ICs and simple interfacing are also presented.

EH204 Radio Communications and Digital Lab

60 Clock Hours/3.0 Credit Units

This lab course enables students to use laboratory experimentation to reinforce and apply concepts learned in course EH201 and other courses. It includes demonstrations and experiments in RF communications and digital electronics using integrated circuits.

ED103 Mathematics for AC Electronics Circuits

30 Clock Hours/3.0 Credit Units

This course introduces the principles and techniques for analysis of alternating current (AC) circuits. Students learn the algebraic and trigonometric functions required to perform analysis of AC electronic circuits using applicable laws of physics and vector analysis.

ED104 AC Circuits Lab

60 Clock Hours/3.0 Credit Units

This course provides students with AC circuit applications. Students construct lab projects involving series, parallel and series-parallel resistive-capacitive, resistive-inductive, and resistive-capacitive-inductive circuits while using various test instruments such as analog volt-ohmmeters, digital multimeters, signal generators, oscilloscopes and power supplies to analyze these circuits.

EE201 Semiconductors

90 Clock Hours/9.0 Credit Units

This course introduces the principles of semiconductors. Diode theory and related concepts are presented. Students learn about the operation of circuits involving diodes. In addition to circuits based on standard diode function, special diode circuits are discussed. Students learn the underlying principles of transistors and transistor circuits. Transistor circuits and their application in common circuits are discussed in depth. The concepts of biasing for bipolar transistors are also presented.

EE204 Semiconductors Lab

60 Clock Hours/3.0 Credit Units

This course provides hands-on lab experience with the subjects presented in course EE201. Students construct and test circuits that show the principles of semiconductors, diode theory and related concepts. Students also test the operation of standard diodes and special-purpose diode circuits. Students test transistor circuits and their applications. The methods of biasing for bipolar transistors are also studied.

EF201 Transistors and Special-Purpose Semiconductors

90 Clock Hours/9.0 Credit Units

This course familiarizes students with special-purpose transistors and semiconductor devices. the course focuses on silicon devices such as silicon-controlled rectifier (SCR), triac and the silicon-controlled switch (SCS), bipolar transistor devices and applications. The students learn the basic principles and applications of electronic semiconductor oscillator and amplifier circuits. Basic diode and transistor theory is reviewed to provide a foundation for the course.

EB103 Mathematics for Electronics

70 Clock Hours/5.0 Credit Units

This course provides an applied approach to mathematics for electronics. Students improve their skills in solving algebra problems using integers, rational numbers, equations and word problems. Students also receive instruction in math used in personal financial dealings.

EC101 Basic Electricity and Electronics

60 Clock Hours/6.0 Credit Units

This course is designed to introduce students to the field of electronics. Sources of electricity, atomic theory, and the principles and practices of fundamental direct current (DC) theory are taught. Concepts related to Ohm's law, resistance, series circuits, parallel circuits and series-parallel circuits for resistors are presented. The concepts of voltage drop and current will be presented using Kirchoff's laws, Norton's theorem and Thevenin's theorem.

EC103 Mathematics for Electronic Circuits

30 Clock Hours/3.0 Credit Units

This course introduces the concepts of electrical circuit network analysis. Students learn the arithmetic and algebraic functions required to use Ohm's law, Kirchoff's laws for current and voltage, the superposition theorem, Thevenin's theorem and Norton's theorem.

EC104 Basic Electronics/DC Circuits Lab

60 Clock Hours/3.0 Credit Units

This course introduces the safe use of hand tools and soldering techniques used in the electronics industry. Students construct lab projects involving series, parallel and series-parallel resistive circuits, and use various test instruments such as analog volt-ohmmeters, digital multimeters, signal generators and power supplies. Students complete a project demonstrating their skills and ability to integrate key concepts related to DC circuits.

ED101 AC Theory

60 Clock Hours/3.0 Credit Units

This course provides an introduction to the principles and applications of alternating current (AC). The theory of alternating current, inductive reactance (L), capacitive reactance (C) and the sine waves for voltage and current are studied. The phase relations among resistive-inductive (R-L) circuits, resistive-capacitive (R-C) circuits and R-L-C circuits in series and parallel circuits are analyzed.

Course Descriptions

EA101 Introduction to Electronics

30 Clock Hours/3.0 Credit Units

This survey course provides an overview of the electronics industry. From the discovery of electricity to today's computers, students study advancements, applications and trends in the electronics industry. Students become familiar with the safe use of tools and equipment used by electronics technicians. Electronic components, schematic symbols and basic soldering are studied. Students practice circuit configuration using a protoboard and gain a general understanding of the principles and applications of Ohm's law. This course also provides students with a general introduction to electronics terminology and spelling.

EA102 Reading for Electronics

50 Clock Hours/4.0 Credit Units

This course provides deductive reading skills for analyzing scientific information and develops the students' ability to think analytically. Basic reading comprehension is improved. Students learn the proper techniques to improve their use of technical material. Terminology, equipment and procedures are studied.

EA103 Mathematics for Electronics

70 Clock Hours/5.0 Credit Units

This course provides an applied approach to mathematics for electronics. Students improve their skills in adding, subtracting, multiplying and dividing whole numbers, fractions and decimals.

EB101 Introduction to Electronics

30 Clock Hours/3.0 Credit Units

This survey course provides an overview of power supplies and batteries. Students gain a general understanding of the operation and use of oscilloscopes and other test equipment commonly used by technicians. Students develop soldering skills on designated projects, and write a summary lab report.

EB102 Reading for Electronics

50 Clock Hours/4.0 Credit Units

This course provides deductive reading skills for analyzing scientific information and develops the students' ability to think analytically. Students improve their basic reading comprehension and learn techniques for improving their use of technical material. Terminology, equipment and procedures are studied.

Course Number	Course Title	Clock Hours	Credit Units
Quarter 5 – Digital/Microprocessor Circuits and Devices			
EL342	Electronics Lab	120	5.0
ET341	Electronics Theory	84	7.0
MA343	Applied Math III	36	3.0
	Total	240	15.0
Quarter 6 – Microprocessor/Computer Technology			
EL352	Electronics Lab	120	5.0
ET351	Microprocessor/Computer Electronics	108	9.0
TE359	Professional Career Development I	12	1.0
	Total	240	15.0
Quarter 7 – Industrial Electronics			
EL362	Industrial Lab	120	5.0
ET361	Industrial Electronics	108	9.0
TE369	Professional Career Development II	12	1.0
	Total	240	15.0
	Program Total	**1680**	**105.0**

Major Equipment
AF and RF Signal Generators
Analog/Digital Trainers
Curve Tracer
Digital Voltmeters
Function Generators
Logic Analyzers
Microprocessor Trainers
Numerical Control Units
Oscilloscopes
Personal Computers
Power Supplies
Volt-Ohmmeters

Course Descriptions

EL112 Electronics Lab

120 Clock Hours/5.0 Credit Units

In this course, students use tools and test equipment to construct and analyze basic electrical and electronic circuits. Personal safety and the proper use of tools and equipment are stressed. The equipment used in this course includes a soldering iron (pencil type), breadboard, multimeter (volt-ohm-milliammeter), oscilloscope, power supply and audio signal generator.

EL122 Electronics Lab

120 Clock Hours/5.0 Credit Units

In this course, students learn circuit analysis and troubleshooting techniques used in the construction and calibration of a radio receiver and digital multimeter. Students learn to read and draw electronic symbols (schematics). The equipment used includes a soldering iron (pencil type), solderless prototype boards (breadboards), scientific calculator, multimeter (VOM-volt-ohm-milliammeter), oscilloscope, power supply, alternating current power source, RF signal generator, transistor radio receiver kit, digital multimeter kit and drawing set.

EL132 Electronics Lab

120 Clock Hours/5.0 Credit Units

In this course, students study the construction and operation of various specialized microelectronic devices. The equipment used includes a soldering iron (pencil type), breadboard, scientific calculator, multimeter (VOM-volt-ohm-milliammeter), oscilloscope, power supply, and RF signal generator.

EL272 Consumer Electronics Lab

120 Clock Hours/5.0 Credit Units

This course emphasizes the user controls, internal adjustments, fault isolation procedures and test equipment used in the maintenance of televisions, camcorders, video cassette recorders, CD players and facsimile machines.

EL342 Electronics Lab

120 Clock Hours/5.0 Credit Units

In this course, students construct, study and analyze digital electronic circuits using a specialized training device. The equipment used includes a direct current power supply, dual trace oscilloscope and analog/digital electronics trainer. Students learn the operation of microprocessors by conducting experiments on a Motorola 6800 Series Trainer.

EL352 Electronics Lab

120 Clock Hours/5.0 Credit Units

Students receive hands-on experience with 8088 microprocessors and computers. Students will perform troubleshooting on computer circuits and write programs that control external peripheral devices.

EL362 Industrial Lab

120 Clock Hours/5.0 Credit Units

In this course, students construct industrial circuits and systems. Logical test procedures and trouble-shooting techniques are emphasized. Students gain practical experience through exposure to programmable logic controllers and a robotics trainer.

EM103A Mathematics for Electronics

24 Clock Hours/2.0 Credit Units

This course takes an applied approach to mathematics for basic electronics. Students develop their skills in addition, subtraction, multiplication and division of whole numbers, fractions and decimals. Mathematical concepts range from integers and the basic properties of numbering systems to algebraic fractions. The course gives students a working knowledge of personal finance.

EM103B Mathematics for Electronics Lab

72 Clock Hours/3.0 Credit Units

This course includes practical application problems and exercises that reinforce the principles of mathematics learned in EM103A. Students will do the work using audio, video and print formats.

ER104A Reading for Electronics

36 Clock Hours/3.0 Credit Units

This course teaches deductive reading skills for analyzing scientific information and develops students' ability to think analytically. Students learn techniques for improving their reading comprehension, study skills, spelling and interpersonal communication skills.

ER104B Reading for Electronics Lab

48 Clock Hours/2.0 Credit Units

Students use reading exercises to reinforce the reading, comprehension and analytical skills learned in ER104A. Exercises are presented in audio, video and print formats.

ET101 Introduction to Electronics

60 Clock Hours/5.0 Credit Units

This survey course provides an overview of the electronics industry. From the discovery of electricity to today's computers, students will study advancements, applications and trends in the electronics industry. Students also become familiar with the tools and equipment used by electronics technicians.

ET111 Basic Electronics Theory

84 Clock Hours/7.0 Credit Units

This course covers the principles of direct and alternating current. Included are the effects resistors, capacitors and inductors have on voltage, current and power when used in various circuits.

ET121 Electronics Theory

96 Clock Hours/8.0 Credit Units

This course is a comprehensive study of solid state principles and circuits. Students are introduced to diodes, transistors and other solid state electronic devices, and learn how resistors, capacitors, rectifiers, amplifiers and oscillators work together to control electrical current. Basic power supply and amplifier circuits are also studied.

ET131 Electronics Theory

96 Clock Hours/8.0 Credit Units

This course is an introduction to miniature electronics made possible by the development of integrated circuits. Students study the difference between discrete components and integrated circuits and how the size of complex electronic circuits has been greatly reduced. This course also serves as a transition between analog and digital electronics.

ET271 Consumer Electronics Equipment

120 Clock Hours/5.0 Credit Units

This course covers the principles of operation and the functional characteristics of the circuits employed in typical consumer electronics devices. Students learn about televisions, camcorders, video cassette recorders, CD players and facsimile machines. Students study the theory and operation of the electronic and mechanical functions, and learn to conduct fault analysis, repair and preventive maintenance on working equipment.

ET341 Digital/Microprocessor Circuits and Devices

84 Clock Hours/7.0 Credit Units

This course is a study of digital electronics, including the construction and operation of digital electronic circuits and devices, binary math, logic gates, multi-vibrators, flip-flop, shift registers and LED displays. Digital-to-analog and analog-to-digital conversion are also covered. Students explore the theory, construction and operation of microprocessors, the key elements in modern computers.

ET351 Microprocessor/Computer Electronics

108 Clock Hours/9.0 Credit Units

Students continue to explore the microprocessor as a programmable logic device, and study its various applications. This course also provides a comprehensive study of computers and computer peripherals. Students will be introduced to MS/DOS and to peripherals such as keyboards, monitors, printers, modems, disk drives and floppy drives.

ET361 Industrial Technology

108 Clock Hours/9.0 Credit Units

This course is an introduction to electronics in the industrial environment. Students study industrial systems and transducers, and apply material they studied earlier to motor controls, conversion devices, proximity controls, sequence timing and temperature controls. Numerical controlled machines and programmable controllers are also taught as needed. Students learn the principles of robotics.

MA113 Applied Math I

36 Clock Hours/3.0 Credit Units

This course reviews the application of basic mathematics to the laws and formulas used in electronics. Students become proficient in using a scientific calculator to complete electronic formulas.

MA123 Applied Math II

12 Clock Hours/1.0 Credit Unit

In this course, students review and use basic algebra to solve electronic equations. Logarithms and vector additions are used to understand and analyze the operation of electronic components and circuits.

MA343 Applied Math III

36 Clock Hours/3.0 Credit Units

This course is a study of the specialized math related to digital electronics, including numbering systems, Boolean algebra and Karnaugh mapping.

TE124 Technical Drawing

12 Clock Hours/1.0 Credit Unit

In this course, students learn to read and draw electronic symbols (schematics), and draw electronic circuit and block diagrams.

TE133 Technical Writing

24 Clock Hours/2.0 Credit Units

In this course, students learn to organize and write comprehensive lab reports using proper sentence structure and grammar.

TE359 Professional Career Development I

12 Clock Hours/1.0 Credit Unit

In this course, students concentrate on preparing a resume. Various resume forms are covered. By the end of this class, the resume will be ready for printing.

TE369 Professional Career Development II

12 Clock Hours/1.0 Credit Unit

Students learn to write letters of application, follow-up and thank-you letters, and study interviewing techniques.

Admissions

■ Requirements and Procedures

Students should apply for admission as soon as possible in order to be officially accepted for a specific program and starting date. To apply, students should complete the Qualification Questionnaire or Application Form and bring it to the school, or call for a priority appointment to visit the school and receive a tour of its facilities.

All applicants are required to complete a personal interview with an admissions representative. Parents and spouses are encouraged to attend. This gives applicants and their families an opportunity to see the school's equipment and facilities and to ask questions relating to National Education Center®, curriculum, and career objectives. Personal interviews also enable school administrators to determine whether an applicant is acceptable for enrollment into the program.

The school follows an open enrollment system. Individuals may apply up to one year in advance of a scheduled class start. The following items must be completed at the time of application:

- Request for College Transcript, High School Transcript or General Equivalency Diploma (GED).
- Administration and evaluation of Ability to Benefit Test, if required.
- Enrollment Agreement (if applicant is under 18 years of age it must be signed by parent or guardian).
- Financial aid forms (if applicant wishes to apply for Financial Aid).
- Payment of registration fee.

Prospective students who have a high school diploma or a recognized equivalency certificate (GED) are required to furnish proof by providing the school with an official copy of a high school transcript or GED certificate.

Applicants who do not have a high school diploma or GED certificate may also qualify under the Ability to Benefit Provision and are required to pass an independently administered, standardized, nationally recognized test designed to measure prospective students' ability to benefit from the course of instruction. Applicants who fail the test can be re-tested using a different form of the same test or a substantially different test. The re-test will be administered within the period specified by the test developer. Test results determine acceptance and placement into the program.

Once applicants have completed and submitted the Enrollment Agreements and Qualification Questionnaires, the school reviews the information and informs applicants of its decision. If applicants are not accepted by the school, all fees paid to the school are refunded.

The school reserves the right to reject students previously accepted if the items listed above are not successfully completed.

Electronics Programs

Students are required to attain National Education Center® established scores on the Reading Skills and Math Skills sections of the CPAt exam. Once admitted, students may be advanced placed based on scores attained on the CPAt and/or other National Education Center® approved placement tests.

Credit for Previous Education or Training

The Education Department will evaluate previous education and training that may be applicable to an educational program. If warranted, the program may be shortened and the tuition reduced accordingly.

Administration Policies

■ Academic Achievement

Grading

The progress and quality of students' work is measured by a system of letter grades and grade percentages and points. The meaning of each grade and its equivalent percentage and point value is as follows:

Grade	Meaning	Percentage	Point Value
A	Excellent	100-90	4.0
B	Very Good	89-80	3.0
C	Good	79-70	2.0
D	Poor	69-60	1.0
F	Failing	59-0	0.0

Graduation Requirements

To be eligible for graduation, students must:

- complete all required classroom training with a cumulative grade point average of 2.0 or higher.
- pass the graduate exam, if applicable.
- pay all monies due to the school.

Students on academic probation may qualify for graduation if, at the end of the probationary module, they meet the Satisfactory Academic Progress requirements.

Student Awards

Awards for outstanding achievement are presented to deserving students based on performance and faculty recommendations. Graduates find these awards can be an asset in preparing for future employment. The Education Department can provide information regarding the specific awards presented.

■ Satisfactory Academic Progress

Requirements

To remain eligible for financial aid, students must show satisfactory academic progress. In order to maintain satisfactory academic progress, students must:

- achieve a cumulative grade point average (GPA) of 2.0 or higher (on a scale of 0 to 4.0).
- progress at a satisfactory rate toward completion of their programs.
- complete the training programs within 1½ times the planned program length.

Students whose cumulative GPA falls below 2.0 are notified that they are being placed on academic probation, which will begin at the start of the next term. Students on academic probation are considered to be making satisfactory academic progress.

Academic Probation

The initial probationary period covers the module or quarter that starts immediately after students have been placed on academic probation. Students remain eligible for financial aid during this period. They are required to repeat the failed module or courses during the probationary period unless the module or courses are not offered at that time. In that case, the failed module or courses must be repeated at the earliest possible date.

If, by the end of the probationary period, students achieve a cumulative GPA of 2.0 or higher, they are notified that the probationary status is removed. If they have not achieved a cumulative GPA of 2.0 but have achieved a GPA of 2.0 or higher for the module or quarter, students may continue their training programs for a second probationary period. Students who do not achieve a module or quarter GPA of 2.0 will be withdrawn from training by the school.

During the second probationary period, students remain eligible for financial aid. If they achieve a cumulative GPA of 2.0 or higher by the end of the second probationary period, they are informed that they have been removed from probation.

Students who do not achieve a cumulative GPA of 2.0 will be withdrawn from training by the school.

Incompletes

An "Incomplete" cannot be given as a final grade. However, at the end of the term students may, with the instructor's approval, be granted a maximum extension of 10 days to complete the required module or course work, assignments and tests. The extension cannot be used to make up accrued absences from class. If students do not complete the required module or course work, assignments and tests within the extension period, they will receive a failing grade of "F" or "zero" for the module or course. The "F" or "zero" will be averaged in with the students' other grades to determine the cumulative GPA.

Withdrawals

Modular Programs

Week One

When students withdraw from a module during the first five school days of the module, their names will cease to appear on any class roster or grade report and grades will not be recorded. Withdrawal from a module during this time frame requires instructor approval, but will not have an impact on students' module or cumulative GPA or maximum program completion time.

Week Two through the End of the Module

To withdraw during this time frame, students must submit written requests to their module instructor. Requests for withdrawal must then be approved by the education director. Extreme academic or personal hardship is considered the only justification for withdrawal.

If a request for withdrawal is approved, the status of "Withdrawal Passing" (WP) or "Withdrawal Failing" (WF) is assigned. "WP" indicates that a student was passing the module (2.0 or higher) as of the last day of attendance. "WF" indicates that a student was not passing the module (less than 2.0) as of the last day of class attendance.

The status is on record until students complete the module from which they withdrew. It will have no effect on the calculation of the cumulative or module GPA.

Students who are contemplating withdrawing from a module should be cautioned that:

- the module of study they are currently enrolled in is counted in their maximum program completion time;
- they may have to wait for the appropriate modules to be offered, which may cause them to exceed their maximum program completion time;
- they must repeat the entire module from which they elected to withdraw prior to receiving a final grade;
- financial aid and/or tuition costs may be affected.

Quarter Programs

Weeks One and Two

When students withdraw from a course during the first two weeks or 10 school days of the quarter, a grade of "W" is recorded. Withdrawal at this time does not require any prior approval and has no impact on students' quarter or cumulative GPA or maximum program completion time. However, students are required to complete all unfinished courses prior to graduation.

Weeks Three through Twelve

Students must submit written requests to the course instructor in order to withdraw. The request must then be approved by the education director. Extreme academic or personal hardship is considered the only justification for withdrawal at this time.

If the request for withdrawal is approved, the status of "Withdrawal Passing" (WP) or "Withdrawal Failing" (WF) is assigned. "WP" indicates that a student was passing the course (grade D or higher) as of the last day of attendance. "WF" indicates that a student was not passing the course (grade F) as of the last day of class attendance.

This status is on record until students complete the course from which they withdrew. It will have no effect on the calculation of the cumulative or quarter GPA.

Students electing to withdraw from certain technical programs, such as Electronics Engineering Technology, are required to repeat the entire quarter.

Students who are contemplating withdrawing from a course or quarter should be cautioned that:

- the quarter of study they are currently enrolled in is counted in their maximum program completion time;
- they may have to wait for the appropriate sequence of courses to be repeated or may have to take a reduced course load, which may cause them to exceed their maximum program completion time;
- they must repeat the entire course or quarter from which they elected to withdraw prior to receiving a final grade;
- financial aid and/or tuition costs may be affected.

Exit Interviews

Students who want to discontinue their training for any reason are required to schedule an exit interview with a school official. This meeting can help the school correct any problems and may assist students with their plans. In many cases, the problem hindering successful completion of the educational objective can be resolved during an exit interview.

Repeat Policy

Students who fail a module or course must retake that module or course in order to continue the program. If repeating the training is required, the length of the program must not exceed 1½ times the number of clock or credit hours normally required to complete the program. Students may repeat a failed module or course only once.

When students repeat a module or course, the last grade received for that module or course replaces the original grade on the transcript (even if the original grade was higher), and this new grade is used to calculate the cumulative GPA. The attendance for the repeated module or course will replace the attendance for the original module or course.

Maximum Program Completion Time

Students must complete the entire training program within 1½ times the planned program length. For example, in a program that consists of six classroom modules, the entire program must be completed within nine modules (6 x 1½ = 9). In a program that consists of six quarters, the entire program must be completed within nine quarters (6 x 1½ = 9).

In order to complete the training within the specified time period, students must maintain satisfactory rates of progress; that is, a certain percentage of the program must be completed at set measurement points during the program.

For example, in a program with a planned length of six terms, 16 percent of the total program (one module or quarter) must be completed successfully by the end of the third module or quarter attempted. After six modules or quarters, 50 percent (three modules or quarters) must be completed. By the ninth module or quarter, 100 percent (six modules or quarters) must be completed.

Measuring rates of progress ensures that students have completed enough of the program at the end of each measurement point to finish the entire program within the maximum allowable time.

If students exceed the maximum allowable program length or do not progress at a sufficient rate, their training program will be interrupted. No probationary status is allowed.

Note: The maximum completion time and rate of progress schedule for each program can be obtained from the Education Department.

Reinstatement Policy

Students who have been terminated for failing to maintain satisfactory academic progress may be reinstated at the start of the next grading period through the appeal process. However, students will not be eligible for financial aid during the reinstatement term. If students achieve a cumulative GPA of 2.0 or higher by the end of that term, they will be considered to be making satisfactory academic progress and will be eligible for financial aid consideration in subsequent terms.

Additional Information on Satisfactory Academic Progress

Additional information on satisfactory academic progress and its application to specific circumstances is available upon request from the education director.

Student Appeal Process

If the student's training program is interrupted by the school for reasons other than attendance, the student will be informed of the right to appeal that decision. Students must initiate the process by submitting a written request for readmittance to the school director.

Required Study Time

In order to complete the required course assignments, students are expected to spend outside time studying. The amount of time will vary according to individual student abilities. Students are responsible for reading all study materials issued by their instructors and must turn in assignments at the designated time.

■ Unit of Credit

A clock hour is a class period of 50 to 60 minutes of instruction. Clock hours are converted into credit units to allow for comparison with other postsecondary schools.

Modular Programs

Students earn one quarter credit unit for each 10 clock hours of lecture or 20 hours of laboratory.

Quarter Programs

Students earn one quarter credit unit for every 12 clock hours of lecture or 24 hours of laboratory.

■ Class Size

To provide meaningful instruction and training, classes are limited in size. Standard lecture classes average 35 students.

Laboratory classes enable students to receive hands-on training using equipment similar to that used by business and industry. To ensure that students receive the necessary time and attention to build experience and confidence, typical laboratory classes average 35 students.

■ Attendance Requirements

Regular attendance and punctuality will help students develop good habits necessary for successful careers. Satisfactory student attendance is established when students are present in the assigned classroom for the required amount of scheduled contact time.

EN Allied Health Programs

Students must be present in the assigned classroom for at least 80 percent of the scheduled contact time of any course, quarter or module to achieve Satisfactory Student Attendance. If this attendance record is not maintained, they will be required to repeat the course, quarter or module. Students who miss more than 20 percent of total classroom contact hours scheduled will be terminated without the right to appeal for reinstatement. Students who have been absent from all of their scheduled classes for more than 10 consecutive school days, not including scheduled school holidays, will be terminated from the training program.

National Education Center® does not permit students to make up absences that accrue on their attendance record.

Students are encouraged to schedule medical or dental appointments after school hours and should notify the school if they plan to be absent.

Tardiness

If students are tardy to class or leave early on four different occasions, they will accrue one absence on their attendance record.

Make-up Work

Students are required to make up all assignments and work missed as a result of absence. The instructor may assign additional make-up work to be completed for each absence (assigned as outside work). Arrangements to take any tests missed because of an absence must be made with the instructor and approved by the school administration.

Veteran Students

The Veterans Administration has established rules and regulations pertaining to attendance policy and procedures. The Education Department can provide this information upon request.

In Allied Health Programs students student must be present ~~75%~~ assigned classroom for at least 75% of the scheduled. Contact Time of any module to achieve Satisfactory Student attendance —

OR use what is in New Catalog

■ Leave of Absence Policy

Students may be granted one leave of absence (LOA) per 12-month period for certain specific and acceptable purposes.

The leave should not exceed one grading period, or 60 calendar-days, whichever is longer.

Written requests for a leave of absence, properly approved, dated and signed by the student and either the school director, education director or appropriate department head, will be maintained in the student's file.

If the length of the granted leave is such that satisfactory student attendance cannot possibly be maintained, the student must repeat the affected term.

A student who fails to return from the leave on the date indicated in the written request will be terminated from the training program.

Effects of Leave of Absence on Satisfactory Academic Progress

Students who are contemplating a leave of absence should be cautioned that one or more of the following factors will affect their eligibility to graduate within the maximum program completion time frame:

- Students returning from a leave of absence are not guaranteed that the courses required to maintain the normal progression in their training program will be available at the time of re-entry.
- Students may have to wait for the appropriate courses to be offered, which may cause them to exceed their maximum program completion time frame.
- Financial aid and/or tuition costs may be affected.

■ Weather Emergencies

The school reserves the right to close during weather emergencies or other "acts of God." Under these conditions, students will not be considered absent. Instructors will cover any missed material to ensure completion of the entire course.

■ Clothing and Personal Property

All personal property is the sole responsibility of the student, and the school does not assume liability for any loss or damage. Clothing and other small items should be marked clearly with the student's name and address. Vehicles should always be locked to avoid theft.

Code of Conduct

Students are required to follow standards of conduct that are typically expected in the working world. Students may be placed on probation or terminated for violation of the school's personal conduct standards. Violations include dishonesty, unprofessional conduct, use of profanity, insubordination, noncompliance with safety rules, use of alcohol or drugs on school property, and vandalism of school property or equipment. Students will be removed from probation if, in the opinion of the school director, they demonstrate adherence to the personal conduct rules. If terminated, students may re-enter the following term with permission of the school director.

Dress Code

A clean, neat appearance will help students develop appropriate dress habits for new careers. Many employers visit the campus to interview students for jobs and to give guest lectures, so it is important that the student body convey a professional image at all times.

Dress and grooming should be appropriate for the students' area of study. Because a variety of business and industrial equipment is used during training, certain items of clothing — such as shorts and open shoes — are not acceptable for obvious safety reasons.

Students may have limited funds, so wardrobes need not be expensive or extensive — simply in good taste. Women may wear skirts, blouses, dresses or slacks. For men, acceptable items include slacks, sports shirts, dress shirts, and coat and tie when required.

Students dressed inappropriately will not be admitted to school. Those who continually disregard the dress code will be warned and, if necessary, disciplinary action will be taken.

Academic Advising and Tutoring

Students' educational objectives, grades, attendance and conduct are reviewed on a regular basis. Students will be notified if their academic standing or conduct is unacceptable. Failure to improve academic standing or behavior may result in further action. Tutorial programs and academic advisement are provided for students who are experiencing difficulties with their classwork. Students are encouraged to seek academic assistance through the Education Department.

Handicapped Students

Handicapped students should make arrangements to meet with the school director prior to the start of class to review facilities and required accommodations.

Health/Medical Care

Students must take proper care of their health so that they can do their best in school. This means regular hours, plenty of sleep, sufficient exercise and nutritious food. Students who become seriously ill or contract a communicable disease should stay home and recover, but remember to notify the school immediately. All medical and dental appointments should be made after school hours.

The school will not be responsible for rendering any medical assistance but will refer students upon request to the proper medical facility.

Termination Procedures

Students may be terminated by the school for cause. Examples include, but are not limited to, the following:

- Violation of the school's attendance policy.
- Failure to maintain satisfactory academic progress.
- Violation of personal conduct standards.
- Inability to meet financial obligations to the school.

Students to be terminated are notified in writing and may appeal to the school director within one week of receiving a Notice of Termination.

Transferability of Credits

The school director's office provides information on schools that may accept National Education Center® course credits toward their programs. However, this school does not guarantee transferability of credits to any other college, university or institution, and it should not be assumed that any courses or programs described in this catalog can be transferred to another institution. Any decision on the comparability, appropriateness and applicability of credits and whether they may be accepted is the decision of the receiving institution.

■ Grievance Procedure

If students have a grievance with any school policy or procedure, they may submit written complaints to the school director. Written responses will be given within seven working days.

■ Policy and Program Changes

The school catalog is current as of the time of printing. National Education Center® reserves the right to make changes in organizational structure and policy and procedures as circumstances dictate. National Education Center® reserves the right to make changes in equipment and materials and modify curriculum as it deems necessary. When size and curriculum permit, classes may be combined to provide meaningful instruction and training and contribute to the level of interaction among students. Students are expected to be familiar with the information presented in this school catalog.

Financial Information

■ Tuition and Fees

The Enrollment Agreement obligates the student and the school for the entire program of instruction. Students' financial obligations will be calculated in accordance with the refund policy in the contract and this school catalog. Each program consists of the number of terms (quarters) listed below. The content and schedule for the programs and academic terms are described in this catalog.

The total program cost is determined by multiplying the number of terms in the program by the term price listed below. Annual tuition increases will be included in the total program cost, based on the student's scheduled progress through the program.

Registration fees will also be included in the final program price entered in the Enrollment Agreement.

Programs	Program Length	Credit Units	Reg Fee	Term Tuition Effective 10/1/91	Term Tuition Effective 10/1/92	Term Tuition Effective 10/1/93
Consumer Electronics Technology	68 Weeks-9 Terms	108	$50	$1125	$1175	$1225
Electronics and Computer Engineering Technology	92 Weeks-12 Terms	144	$50	$1125	$1175	$1225
Electronics Engineering Technology	84 Weeks-7 Terms	105	$50	$1730	$1785	N/A

Voluntary Prepayment Plan

The school provides a voluntary prepayment plan to students and their families to help reduce the balance due upon entry. Details are available upon request from the Financial Aid Office.

■ Cancellation/Refund Policy

Cancellation

When students enroll in a program of study, they reserve places that cannot be made available to other students. The Enrollment Agreement does not constitute a contract until it has been approved by an official of the school. If the agreement is not accepted by the school, all monies will be refunded. Students have the right to cancel the Enrollment Agreement until midnight of the third business day following their first class session. Cancellation shall occur when they give written notice of cancellation at the school address shown on the front page of the Enrollment Agreement. Notice of cancellation may be given by mail, hand delivery or telegram. The notice of cancellation, if sent by mail, is effective when deposited in the mail, properly addressed with postage prepaid. The written notice of cancellation need not take any particular form and, however expressed, is effective if it states that a student no longer wishes to be bound by the Enrollment Agreement. Students who have not visited the school prior to enrollment may withdraw without penalty following either the regularly scheduled orientation procedures or a tour of the school and inspection of equipment.

Refunds

Any monies due applicants or students shall be refunded within 30 days from cancellation, failure to appear on or before the first day of class, withdrawal or termination. Refunds shall be paid or credited to the student's account with a third party or government fund in the event a student has financed all or part of the program price with a third party or government fund. Refund computations will be based on the last date of student attendance. Refunds for students who withdraw after starting school or are terminated by the school will be computed as follows:

Time of Withdrawal	Amount Student Pays
During first seven days of program	$350
After first seven days but within 25%	25% of total program price plus $150
After 25% but within 50% of program	50% of total program price plus $150
After 50% but within 75% of program	75% of total program price plus $150
After 75% of program	100% of total program price

For programs longer than one year (12 calendar months) in length, the cancellation and refund policy will apply to the stated tuition price attributable to each school year. All of the stated tuition prices attributable to the period beyond the first year will be cancelled and/or refunded during the first year.

Veteran Students

The Veterans Administration has established rules and regulations pertaining to refund policy and procedures. The Financial Aid Department can provide this information upon request.

■ Textbook Policy

All textbooks remain the property of the school and are loaned to students as needed at the beginning of each term. Students are responsible for returning textbooks to the school in good reusable condition.

The student or student's tuition account will be charged for textbooks not returned and textbooks that have been damaged, defaced or rendered unusable.

Students have the option of purchasing textbooks from the school. Incidental supplies such as paper and pencils are to be furnished by students.

■ Financial Assistance

National Education Center® offers students several options for payment of tuition. Those able to pay tuition are given a plan to help reduce their fees upon entry. On the other hand, the school recognizes that many students lack the resources to begin their educational training. National Education Center® participates in several types of federal, state and institutional financial aid programs, most of which are based on financial need.

Students seeking financial assistance must first complete an *Application for Federal Student Aid.* The school's financial aid representative uses this form to determine students' needs and assist them in deciding what resources are best suited to their circumstances.

If students withdraw from school, an adjustment in the amount they owe may be made, subject to the refund policy of the school. If they received financial aid in excess of what they owe the institution, these funds must be restored to the federal fund account, or to the lender if they received a Stafford Student Loan.

The priority for returning funds is as follows: 1) PLUS/SLS, 2) Stafford, 3) Perkins, 4) SEOG, 5) PELL, 6) Other programs, 7) Student/Parent.

The following is a description of the financial aid programs available at this school. Additional information can be obtained through the Financial Aid Office. Information regarding benefits available from the Bureau of Indian Affairs or the Vocational Rehabilitation Program can be obtained through those agencies.

Pell Grant

The Pell Grant Program is the largest federal student aid program. For many students, these grants provide a foundation of financial assistance that may be supplemented by other resources. Eligibility for the Pell Grant Program is determined by a standard formula that is revised and approved every year by the federal government. Unlike loans, grants do not have to be paid back.

Stafford Student Loan (SSL)

Formerly the Guaranteed Student Loan (GSL), this low-interest loan is available to qualified students through the lending institutions or agencies participating in the program and is guaranteed by the U.S. government. Repayment starts six months after the student drops below half-time status, terminates training or graduates.

Supplemental Educational Opportunity Grant (SEOG)

Students who are unable to continue their education without additional assistance may qualify for this program. Grants are based on the funds available and do not have to be repaid. Need is determined by the financial resources of the student and parents, and the cost of attending the school.

Perkins Loan

Previously known as the National Direct Student Loan, this low-interest loan is available to qualified students who need financial assistance to meet educational expenses. Repayment of the loan begins nine months after graduation or termination of training.

PLUS and SLS

The Parent Loan for Undergraduate Students (PLUS) and Supplemental Loan for Students (SLS) provide additional funds to help parents or independent students pay for educational expenses. The interest rate for these loans is competitive and the repayment schedules differ. Loan origination fees may be deducted from the loan by the institution making the loan as set forth by government regulations.

Scholarships

National Education Center® Full-Tuition Scholarship

Three full-tuition scholarships, excluding books and supplies, are awarded to graduating high school seniors, age 17 or older. Winners may choose any of the curricula offered by the school. The curriculum selected determines the value of the award.

High school seniors may obtain scholarship applications from a participating high school guidance department or they may call the school for an application. Students must fill out the application completely and obtain the signature of a counselor or a math, science or vocational-technical teacher. Applications should be mailed in by the end of March or by the designated deadline.

All applicants must take the Career Programs Assessment Test (CPAt), which measures competency in reading and math. The top 10 scorers will become the finalists.

A panel of public school officials and representatives of local employers interviews finalists about their personal and career goals, accomplishments and extracurricular activities. This panel will select three winners by consensus vote. Alternates may be selected at the discretion of the school to account for scholarships that are offered but not accepted.

Scholarships will be awarded annually. They are not transferrable nor can they be exchanged for cash. Scholarships are good for up to seven months after the award date.

Student Services

■ Placement Assistance

Student

National Education Center® assists students in finding part-time or full-time employment while they attend school. Assistance includes advice in preparing for an interview, aid in securing an interview and a list of available jobs.

Graduate

The school encourages students to maintain satisfactory attendance, conduct and academic progress so they may be viewed favorably by prospective employers.

While the school cannot guarantee employment, it has been successful in placing the majority of its graduates in their field of training. All graduating students participate in the following job preparation activities:

- Preparation of resumes and letters of introduction — an important step in a well-planned job search.
- Interviewing techniques. Students practice proper conduct and procedures for interviews.
- Job referral by Placement Office. The Placement Office compiles job openings from employers in the area.
- On-campus interviews. Many companies visit the school to interview graduates for prospective employment.

All students are expected to participate in the placement assistance program and failure to do so may jeopardize these privileges.

Graduates may continue to utilize the school's placement assistance program at no additional cost.

■ Student Activities

Throughout the school year, activities that encourage school spirit and develop student leadership may be offered. The school believes that participation in these activities is an important part of the educational process, and student involvement is encouraged.

■ Housing Assistance

Although the school does not maintain dormitory facilities, students who are relocating and must arrange their own housing may request additional assistance from the Student Services Department.

■ Transportation Assistance

The school maintains information on public transportation and a list of students interested in car pooling.

■ Field Trips

National Education Center® believes that training is enriched by observing real-life applications. When appropriate, visits are arranged to industrial or professional locations.

■ Special Lectures

Guest lecturers are often invited to speak to students about career opportunities and current industry applications of educational programs.

■ Drug Abuse Prevention

Information on drug abuse prevention is available at the school for all students and employees.

Family Educational Rights and Privacy Act of 1974, As Amended

Under the authority of the Family Educational Rights and Privacy Act of 1974, the school has established a policy for the release of student and/or graduate information:

1. All students attending this postsecondary institution, parents of minor students and parents of tax-dependent students shall have the right to inspect, review and challenge their academic records, including grades, attendance, advising and any additional information contained in their education record or that of their minor, or tax-dependent child. Students are not entitled to inspect financial records of their parents. As a postsecondary educational institution, parental access to students' records will be allowed without prior consent if the students are dependents as defined in Section 152 of the Internal Revenue Code of 1954.

2. Education records are defined as files, materials or documents that contain information directly related to students and are maintained by the institution. Records are supervised by the school director and access is afforded by school officials for purposes of recording grades, attendance and advising, as well as determining financial aid eligibility.

3. Students may request a review of their records by writing the school director at the address in this catalog. The review will be allowed during regular school hours under appropriate supervision. Students may also obtain copies of their records for a nominal charge.

4. Students may challenge the record for purposes of correcting or deleting any of the contents. The changes must be made in writing, with the reason for the requested change stated fully. Grades and course evaluations can be challenged only on the grounds that they are improperly recorded.

   The instructor and/or advisor involved will review the challenge and if necessary meet with the student, then determine whether to retain, change or delete the disputed data.

If a student requests a further review, the school director will conduct a hearing, giving the student a full and fair opportunity to present evidence relevant to the disputed issues. The student shall be notified of the director's decision, which will be final.

Copies of challenges and/or written explanations regarding the contents of the students' record will be included as part of the students' permanent record.

5. Directory information is information that may be unconditionally released to third parties by the school without the consent of the student unless the student specifically requests that the information not be released. The school requires students to present such requests in writing within 10 days of the date of enrollment.

   Directory information includes the student's name, address(es), telephone number(s), birth date and place, program undertaken, dates of attendance and certificate or diploma awarded.

6. Written consent is required before education records may be disclosed to third parties with the exception of the accrediting commissions and government agencies so authorized by law.

NATIONAL EDUCATION CENTERS

The following schools are accredited by the Accrediting Commission for Trade and Technical Schools of the Career College Association:

National Education Center — Bryman Campus located in:

Anaheim, CA
Long Beach, CA
Los Angeles, CA
Oakland, CA
(Branch of Rosemead, CA)
Rosemead, CA
San Francisco, CA
San Jose, CA
Torrance, CA
Winnetka, CA
Atlanta, GA
Chicago, IL
Oak Lawn, IL
New Orleans, LA
(Branch of San Jose, CA)
Brookline, MA
Detroit, MI
(Branch of Brookline, MA)
Houston, TX - North Campus
Houston, TX - South Campus

National Education Center located in:

Cleveland, OH
(Branch of Blairsville, PA)
Fort Worth, TX
(Branch of Tampa, FL)

National Education Center — National Institute of Technology Campus located in:

Homewood, AL
San Jose, CA
(Branch of Wyoming, MI)
West Des Moines, IA
East Detroit, MI
Livonia, MI
Wyoming, MI
Cuyahoga Falls, OH
Dallas, TX
San Antonio, TX
Cross Lanes, WV

National Education Center -
Arkansas College of Technology Campus
Little Rock, AR

National Education Center -
Arizona Automotive Institute Campus
Glendale, AZ

National Education Center -
Bauder College Campus
Fort Lauderdale, FL

National Education Center -
Bauder College Campus
Miami, FL
(Branch of Fort Lauderdale, FL)

National Education Center -
Tampa Technical Institute Campus
Tampa, FL

National Education Center -
Kentucky College of Technology Campus
Louisville, KY

National Education Center -
Brown Institute Campus
Minneapolis, MN

National Education Center -
RETS Campus
Nutley, NJ

National Education Center -
Spartan School of Aeronautics Campus
Tulsa, OK

National Education Center -
Vale Technical Institute Campus
Blairsville, PA

The following schools are accredited by the Accrediting Commission for Independent Colleges and Schools of the Career College Association:

National Education Center –
Sawyer Campus
Commerce, CA

National Education Center –
Sawyer Campus
Sacramento, CA

National Education Center –
Skadron College of Business Campus
San Bernardino, CA

National Education Center –
Capitol Hill Campus
Washington, DC

National Education Center –
Temple School Campus
Baltimore, MD

National Education Center –
Allentown Business School Campus
Allentown, PA

National Education Center –
Thompson Institute Campus
Harrisburg, PA

National Education Center –
Thompson Institute Campus
Philadelphia, PA
(Branch of Harrisburg, PA)

National Education Center –
Kee Business College Campus
Newport News, VA

National Education Center –
Kee Business College Campus
Norfolk, VA

National Education Center –
Kee Business College Campus
Portsmouth, VA
(Branch of Norfolk, VA)

National Education Center –
Kee Business College Campus
Richmond, VA
(Branch of Norfolk, VA)

Statement of Ownership

National Education Center® — National Institute of Technology Campus is operated by National Education Centers, Inc., a California Corporation which is a wholly owned subsidiary of National Education Corporation, a Delaware corporation.

National Education Centers, Inc.

1732 Reynolds, Irvine, California 92714

Officers

Harvey Goldstein
President

Gerry T. Kosentos
Vice-President, Operations and Sales

Leaders in Vocational Training

National Education Centers have been providing comprehensive vocational training that is responsive to the changing needs of business and industry for more than 30 years.

To keep up with the pace of an increasingly sophisticated world, National Education offers hands-on instruction that uses the same technology and equipment found in today's workplace. Courses are continually updated to meet current employment requirements. At National Education, you will learn the valuable technical skills that can help place you in the job of your choice after graduation.

More than 50 campuses located in 22 states offer training in fields ranging from health care, secretarial sciences and electronics to business management and computer science. Whichever field you have selected, National Education can teach you the skills you need to succeed.