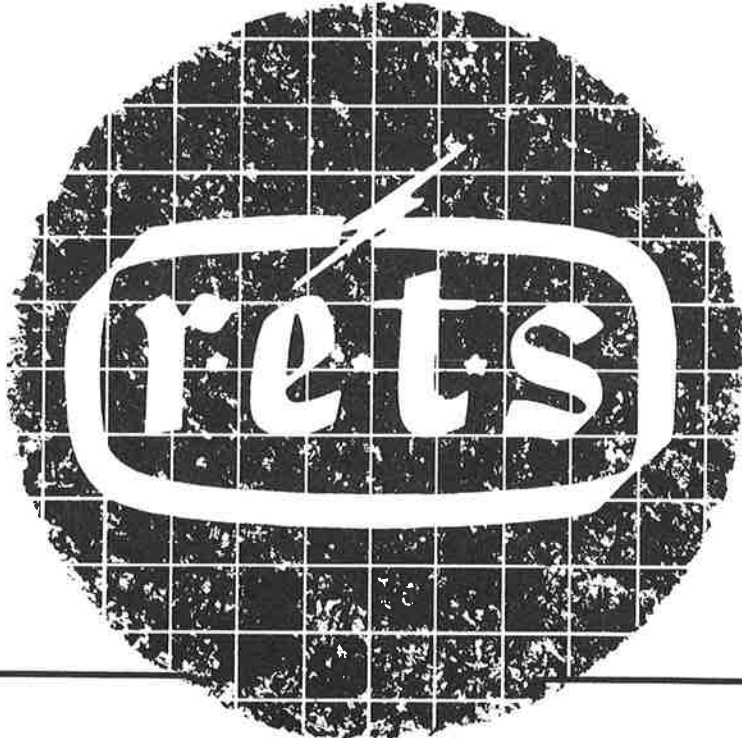


Training Specialists for Industry Since 1935



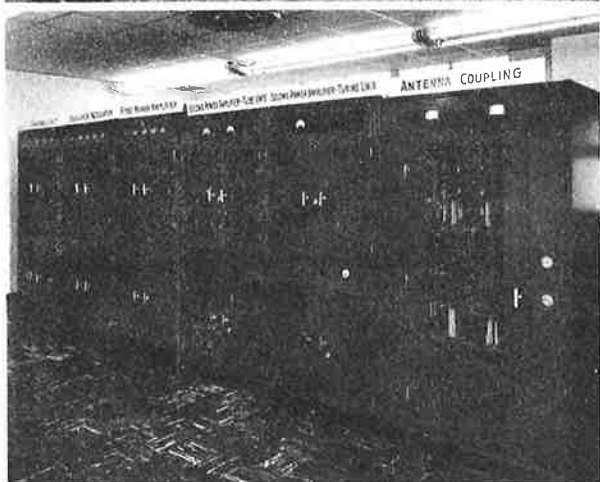
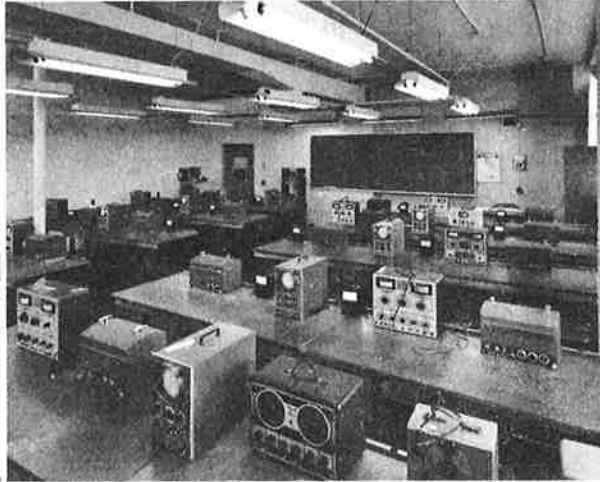
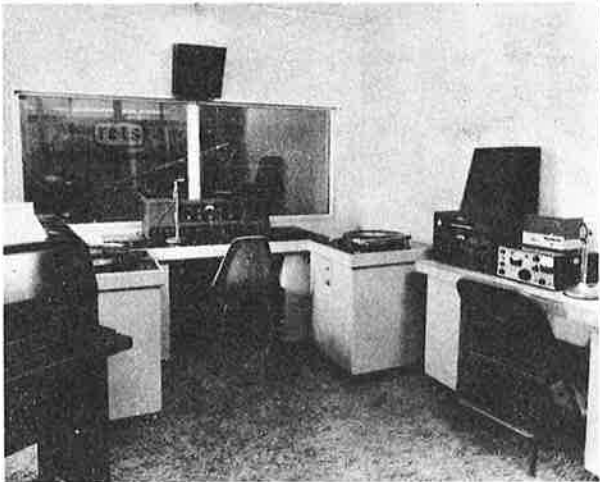
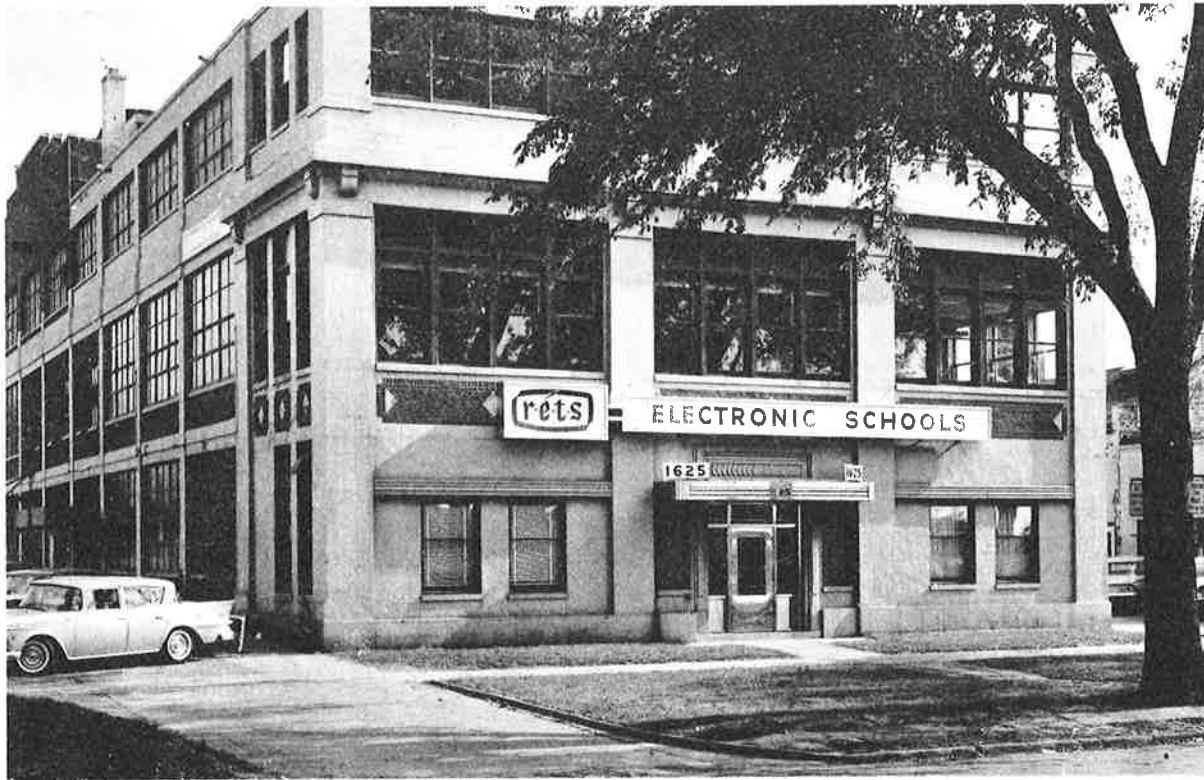
**GENERAL
INFORMATION**
and
COURSE OUTLINES

R. E. T. S. ELECTRONIC SCHOOLS

INTERNATIONAL OFFICES

1625 E. Grand Blvd • Detroit, Michigan 48211

Revised June 1, 1970



GENERAL INFORMATION

R.E.T.S. ELECTRONIC SCHOOLS is located at 1625 East Grand Boulevard, Detroit, Mich., immediately East of the intersection with Mt. Elliott Ave. The Edsel Ford Expressway provides direct access to the school from the Mt. Elliott ramps.

R.E.T.S. Electronic Schools was established in 1935 and has trained thousands of electronic specialists for employment in responsible positions throughout the world.

R.E.T.S. has established training laboratories in the United States and Canada to assist the Electronic Industry in acquiring the added personnel that the rapid growth of Electronics has created.

The R.E.T.S. training facility at the above address in Detroit, is the parent school and International Headquarters of the R.E.T.S. Electronic Training Systems.

The school occupies approximately 28,000 sq. feet of floor space in a building completely renovated in 1962, to provide air-conditioned lecture and laboratory rooms. Ample free parking facilities are available in the immediate vicinity of the school.

FULL TIME COURSES

ENTRANCE REQUIREMENTS. The applicant must have completed four years of secondary school or have an equivalent education that will be evaluated during a personal interview by a member of the Credentials Committee.

LENGTH OF COURSE: The course consists of nine semesters or quarters of twelve weeks each.

SYSTEM OF CREDITS. The credit hours (Units) for each subject indicate the number of hours spent each week in class and laboratory for one semester. Each subject is listed with two credit numbers, representing (1) Classroom Time (2) Laboratory (or Drawing) Time. The division of time between lecture (or recitation), laboratory (or drawing) is shown in the Description of Subjects.

PART TIME COURSES

ENTRANCE REQUIREMENTS. The applicant must have completed two years of secondary school or have an equivalent education that will be evaluated during a personal interview.

SYSTEM OF CREDITS. Credits are computed on a lock hour basis and home assignments.

TUITION. Tuition rates are listed in the Course Outline on the following pages. Budget plans are available for payment of tuition.

REFUND POLICY, Each student is accepted with the understanding that he has registered for the entire course of study. Parents and students should bear in mind that commitments with the faculty and staff and for operation and maintenance of classrooms are made by the year and expenses involving these obligations do not diminish when the students are absent, withdraw, or are dismissed.

Once a student commences training he agrees that if for any reason he cannot continue his course of study he will discuss the matter with an official of the school, at which time the school agrees to issue to the student written release from all future semester or quarter tuition, provided the student has paid in full all tuition due for the entire semester or quarter for which he is then attending.

If the student is dismissed from the school for academic or conduct deficiencies, no tuition refund will be made.

Any part of a semester or quarter is considered as a full semester or quarter.

Any requests for refunds after enrollment in classes must be submitted in writing to the registrar. When a refund of tuition is due, it will be made within 30 days of receipt of such request.

Veterans adjustments will be made in accordance with Public Law. 89-358 V.A. regulation title 38 chapter 34.

CREDIT FOR PREVIOUS TRAINING. Credit for previous experience or training is granted on an entrance examination basis only. The student may be advanced to that level of training indicated as a result of the successful completion of the examination.

SCHOOL CALENDAR. The School operates on a continuous schedule usually starting a class each month during the year. Advanced classes are scheduled as necessary according to the semester or quarter progression.

Enrollment dates are announced 60 to 90 days prior to the starting date. The student may enroll for any scheduled date and a place is reserved for him in that particular class.

THE FOLLOWING LEGAL HOLIDAYS ARE OBSERVED. Decoration Day - Independence Day - Labor Day - Thanksgiving Day and the day following - day before Christmas and Christmas Day - day before New Year's and New Year's Day. Friday before Easter.

Students are excused from classes on the last Friday of the following semesters or quarters: One, Two, Four, Five, Seven, and Eight. After the completion of the Third and Sixth Semesters or Quarters a week's vacation is granted.

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GENERAL INFORMATION CONTINUED

PROGRESS RECORDS. Student Periodic Progress Reports regarding grades, attendance, and an evaluation of the student's conduct, will be furnished to the person he designates.

STANDARDS OF PROGRESS. GRADING. A standard system is used for recording student progress: (A) Excellent, (B) Good, (C) Fair, (D) Passing, (E) Failure, and (INC) Incomplete.

MINIMUM PROGRESS. To graduate, a student must complete all lecture assignments and practical laboratory work with a (D) rating or better.

PROBATION. The Director may place a failing student on probation for a period of 30 days. If his grades do not improve by the end of the probationary period, he may be dismissed from the school.

ABSENCES. A student is required to make a report to his instructor after each absence. If the absence is unexcused, the student is warned. Five unexcused absences result in the student being sent to a School Official at which time he is either dismissed from the school or, if extenuating circumstances prevailed, given an opportunity to correct himself. If no improvement, AN INTERRUPTION FOR UNSATISFACTORY ATTENDANCE will result.

TARDINESS. Excused tardiness will be entered on the student's class record as excused. Unexcused tardiness will be entered as one hour's absence for tardiness. Excessive tardiness without an acceptable excuse will not be tolerated. In all cases the student is warned, but after the third recurrence he is either dismissed from the school or placed on probation.

MAKE-UP WORK. The student is required to make up work missed as a result of his absence. The instructor will assign the work that is to be completed to his satisfaction. If the student is absent too many times and is unable to maintain the class progress, he will be put back a class.

LEAVES. When a student returns to School after a short leave to complete military reserve or national guard obligations he will be permitted to re-enter at a phase of training that is identical to the one he left. Earlier phases of training may be repeated at no additional tuition costs as determined by the School.

PLACEMENT SERVICE. R.E.T.S. maintains a placement service that is available to all graduates. This service is available not only at the time of graduation, but at any time to an alumnus. Assistance is also given to any student seeking employment while attending school.

HOUSING. The Detroit area provides, within a short distance of R.E.T.S., adequate apartments and room-

ing facilities. Assistance will be provided to any student, upon request, to locate such quarters.

CONDUCT AND DISCIPLINE. The Institution reserves the right to dismiss at any time a student whom it deems unsatisfactory for any reason. Students are expected to behave with decorum, to obey the regulations of the Institution, and to pay due respect to its officers. Unethical or undesirable conduct, which is inconsistent with general good order, wherever it may occur, is held to be sufficient grounds for dismissal.

It is the purpose of the faculty to administer the discipline of the students so as to maintain a high standard of integrity and a scrupulous regard for the truth. The attempt of any student to present as his own any work which he has not honestly performed, or to pass any examination by improper means is regarded by the faculty as a most serious offense and renders the offender liable to immediate expulsion. The aiding and abetting of a student in any dishonesty is likewise held to be a grave breach of discipline.

VOCATIONAL REHABILITATION PROGRAM. The cooperative effort of R.E.T.S. and the Department of Vocational Rehabilitation in many states has resulted in the rehabilitation of a great number of persons afflicted with physical disabilities into the field of Electronics, where they can earn their livelihood and become an integral part of this nationally important industry. There are many jobs in electronics that can be performed by the physically handicapped. This training may be taken in day or evening classes by either full-time or part-time attendance.

FOREIGN STUDENTS. The Immigration and Naturalization Service of the U.S. Department of Justice has approved R.E.T.S. as qualified to accept foreign students for full-time training in Electronics. Visas and compliance with the rules and regulations of the Immigration and Naturalization Service are the responsibility of the student. Prospective enrollees may apply for admission under the same entrance requirements as for domestic students.

VETERANS ADMINISTRATION APPROVAL. R.E.T.S. ELECTRONIC SCHOOLS has V.A. approval for training veterans under Public Law 894 (Vocational Rehabilitation Program), and under Ch. 35, Title 38, United States Code (war orphan). Veterans or children of deceased veterans seeking training under any of these laws should make application to the V.A. prior to entering school.

PARKING. A marked-off area on the east side of the building is reserved for the use of Faculty and Visitors. An additional area, in this same location, is available to students. R.E.T.S. assumes no responsibility, whatsoever, for any damage to any car, nor by loss by theft of any vehicle or any of its contents.

TO EDUCATE FOR LEADERSHIP IN THE FIELD OF ELECTRONICS

This Institution was created in the year of 1935 as an expression of faith in the then embryonic, electronics industry; and from the very beginning our policies have been directed toward the education of Electronic Engineering Technicians both in the theory and practical phases of electronics. It was our belief that this young industry had an urgent need for professional personnel, who could design, construct prototypes, and also install, maintain and sell the equipment.

R.E.T.S. has been built upon these policies. The contributions of our graduates to the electronic industry over the years have more than proved our convictions.

Among these accomplishments was the recommendation of over four hundred graduate engineers and technicians who were employed by Chrysler Missile. Many of these graduates have progressed to executive positions, including the chief engineer in charge of all Chrysler operations at Cape Kennedy.

The "Broadcast Engineers Journal," the official publication of Broadcast Engineers and Technicians, state in an article concerning R.E.T.S. as follows: "The student learns early in his training the important element of job responsibility and is lectured on the important aspects of personality, dependability, and the art of getting along with people — his fellow workers and the employer, alike."

The article ended with the following statement. "That's the story behind R.E.T.S. and how they produce the rare combination of technical training and operational experience, the student with experience, and a real sense of responsibility to himself, his fellow workers and his employer."

In the late 1930's and early 1940's R.E.T.S. personnel conducted valuable research programs in television and also taught classes in this new means of communication. When commercial television burst on the scene in the early post-war years, the school was in an excellent position to assume the responsibility for training young men as technicians and engineers to fill the many positions which resulted from television's explosive growth.

During these early years, most graduates were employed by the large television networks, as well as independent TV and radio stations. In recent years, however, R.E.T.S. graduates have been called upon to assume important technical positions in such rapidly expanding fields as aircraft, missiles, computers, automation, space exploration and industrial electronics. Mankind has barely begun to unlock the wonders of the age of electronics. As we probe the secrets of the earth and outer space, the need for skilled technicians will become greater. R.E.T.S. is proud of its role in our progress this far and accepts the challenge of training future leaders in the field of electronics.

ELECTRONIC ENGINEERING TECHNOLOGY COURSE

THIS TRAINING PROGRAM IN ELECTRONIC ENGINEERING TECHNOLOGY COMPRISES NINE SEMESTERS (OR QUARTERS). EACH SEMESTER (OR QUARTER) CONSISTS OF TWELVE WEEKS OF TRAINING.

TRAINING PROGRAM SCHEDULE			
Semester-Weeks		Credit Hours (Units)	Clock Hours
I	12	25	300
II	12	25	300
III	12	25	300
IV	12	25	300
V	12	25	300
VI	12	25	300
VII	12	25	300
VIII	12	25	300
IX	12	25	300
TOTALS			
9	108	225	2700

OUTLINE OF TRAINING PROGRAM AND TUITION COSTS

ELECTRONIC ENGINEERING TECHNOLOGY COURSE

Semesters (or Quarters) One, Two and Three

	Units		
	Class Room	Laboratory	Combined
SEMESTER I			
ELECTRONICS I	10		
MATHEMATICS REVIEW	5		
ELECTRONIC LABORATORY I		10	
Totals	15	10	25
SEMESTER II			
ELECTRONICS II	10		
APPLIED MATHEMATICS I	5		
ELECTRONIC DRAWING I		2.5	
ELECTRONIC LABORATORY II		7.5	
Totals	15	10	25
SEMESTER III			
ELECTRONICS III	7.5		
ELECTRONIC DRAWING I		2.5	
APPLIED MATHEMATICS II	5		
ELECTRONIC LABORATORY III		10	
Totals	12.5	12.5	25

Cost (\$425.00) First Semester (or Quarter) and (\$300.00) for each succeeding Semester (or Quarter) — includes
 (a) Text Material, (b) Lab. Fees, (c) Tuition

OUTLINE OF TRAINING PROGRAM AND TUITION COSTS

ELECTRONIC ENGINEERING TECHNOLOGY COURSE

Semesters (or Quarters) Four, Five and Six

SEMESTER IV	Units		Combined
	Class Room	Laboratory	
ELECTRONICS IV	7.5		
ALGEBRA I	5		
COMMUNICATION SKILLS I	5		
ELECTRONIC LABORATORY IV		7.5	
Totals	17.5	7.5	25

SEMESTER V

ELECTRONICS V	7.5		
ALGEBRA II	5		
COMMUNICATION SKILLS II	5		
ELECTRONIC LABORATORY V		7.5	
Totals	17.5	7.5	25

SEMESTER VI

ELECTRONICS VI	10		
COMPUTER MATHEMATICS	5		
ELECTRONIC LABORATORY VI		10	
Totals	15	10	25

OUTLINE OF TRAINING PROGRAM AND TUITION COSTS

ELECTRONIC ENGINEERING TECHNOLOGY COURSE

Semesters (or Quarters) Seven, Eight and Nine

SEMESTER VII	Units		Combined
	Class Room	Laboratory	
ELECTRONICS VII	10		
TECHNICAL MATHEMATICS I	5		
ELECTRONIC LABORATORY VII		10	
Totals	15	10	25

SEMESTER VIII

ELECTRONICS VIII	7.5		
TECHNICAL MATHEMATICS II	5		
PHYSICS I	2.5		
TECHNICAL WRITING I	2.5		
ELECTRONIC LABORATORY VIII		7.5	
Totals	17.5	7.5	25

SEMESTER IX

ELECTRONICS IX	5		
TECHNICAL MATHEMATICS III	5		
TECHNICAL WRITING II	5		
ELECTRONIC LABORATORY IX		10	
Totals	15	10	25

Grand Total of Units
(for nine semesters or quarters)

140 85 225

ELECTRONIC ENGINEERING TECHNOLOGY COURSE

ELECTRONICS I 10 UNITS

Fundamental electrical quantities, voltage, current, resistance, power, inductance, capacitance, measuring instruments, volt-ohm-milliammeter, vacuum tube voltmeter, cathode ray, oscilloscope, series circuits, parallel circuits, series parallel circuits, magnetism, motors, alternators, generators.

ELECTRONICS II 10 UNITS

Static and dynamic characteristics of electron tubes, static and dynamic characteristics of solid state devices, essential functions of receivers, AM receivers, FM receivers, TV receivers, power supply circuits, basic voltage and power amplifier circuits, detectors, discriminators, oscillators, mixers, electronic servicing by signal injection.

ELECTRONICS III 7.5 UNITS

Solid state physics, types of transistors, static parameters, Alfa, Beta, temperature effects, CB amplifier, CE amplifier, CC amplifier, load lines circuit parameters, biasing methods and bias stabilization, types of distortion in amplifiers, cascade amplifiers, oscillators, regulated power supplies.

ELECTRONICS IV 7.5 UNITS

Commercial communication receiving systems, superheterodyne theory, RF amplifiers, mixers, local oscillators, IF amplifiers, discriminators, detectors, A.V.C., squelch, ANL, audio amplifiers, power supplies, UHF and VHF circuit techniques, circuit tracing, test equipment limitations, electronic servicing by signal injection and by signal tracing, servicing with VOM, antennas, transmission lines.

ELECTRONICS V 7.5 UNITS

Basic transmitter circuit functions, transmitter oscillators, tuned RF power amplifiers, push pull and parallel power amplifiers, frequency multipliers, amplitude modulation methods, frequency modulation methods, audio peak limiters TV receiving systems, sync. systems, vertical and horizontal deflection circuits, AGC, AFC, flyback power supplies, cathode-ray display devices.

ELECTRONICS VI 10 UNITS

Industrial electronics, gas filled tubes, phase shift devices, sequence timing, motor controls, photoelectric devices, proximity controls, saturable reactors, basic computer theory, basic logic circuits, AND gates, OR gates, NAND gates, NOR gates, encoders, decoders, transistor gate logic, half-adder, full-adders, multivibrators, up-down-ring counters, Boolean Algebra.

ELECTRONICS VII 10 UNITS

Information structure and numbers. Logic functions: pulse, gates, and bistable multivibrators. Functional blocks: adders, complementers, encoders, decoders, counters and registers. Binary arithmetic operations, sub-systems, words and commands, codes. Arithmetic hardware. The control sub-system, software and programming. Memories, and input/output devices.

ELECTRONIC ENGINEERING TECHNOLOGY COURSE

ELECTRONICS VIII 7.5 UNITS

The electronic technician and standard technical practices, analysis of technical measurements, AC, DC, and transient network analysis, circuit and waveform analysis, system analysis including specification, functions, and diagrams.

ELECTRONICS IX 5 UNITS

Individual application through study and research of electronic theory and practice leading to a technical semester paper.

ELECTRONIC LABORATORY I 10 UNITS

Fundamental electrical quantities, voltage, current, power, resistance inductance, capacitance. Measuring instruments, volt-ohm-milliammeter, vacuum-tube voltmeter, cathode-ray oscilloscope, series circuits, parallel circuits, series parallel circuits, motors, alternators, generators.

ELECTRONIC LABORATORY II 7.5 UNITS

Static and dynamic characteristics of electron tubes, half wave power supplies, full wave power supplies, basic amplifier circuits, voltage and power audio amplifiers, tuned amplifiers, detectors, oscillators, converters, amplifier circuit analysis. Electronic servicing using signal generator and V-O-M.

ELECTRONIC LABORATORY III 10 UNITS

Static and dynamic characteristics of solid state devices, temperature effects, amplifier circuits, compensation input impedance, bias, bias stabilization, coupling, amplifier circuit measurements, servicing solid state devices, percent regulation measurements in power supplies.

ELECTRONIC LABORATORY IV 7.5 UNITS

Commercial communication receiving systems, A.M., F.M., P.M., UHF, and VHF measuring techniques, circuit tracing, test equipment limitations, characteristic impedance of transmission lines, characteristics of one fourth wavelength and one half wave length sections of transmission lines, antennas and antenna arrays.

ELECTRONIC LABORATORY V 7.5 UNITS

Commercial communications transmitters, frequency measurements, deviation measurements, percent modulation measurements, power output measurements, audio peak limiters, television receiving systems, use of the cathode-ray oscilloscope in servicing electronic equipment, display devices, high voltage measuring techniques.

ELECTRONIC ENGINEERING TECHNOLOGY COURSE

ELECTRONIC LABORATORY VI 10 UNITS

Industrial electronics, phase shift circuits, sequence timing, motor control, photoelectric devices, proximity controls. Basic computers, computer patch boards, logic system boards, multivibrator oscillators, gates, encoders, decoders.

ELECTRONIC LABORATORY VII 10 UNITS

Experiments with the solid state and integrated circuit breadboards for extended analysis of logic circuits, counters, serial and parallel adders, code conversion, and clock synchronizing. Demonstrations and use of the classroom digital computer system.

ELECTRONIC LABORATORY VIII 7.5 UNITS

Technical standards for common construction practices, including printed and integrated circuits. Meters and standard measurement techniques. Evaluation of oscilloscope performance. Pulse and transient waveform examination. Demonstration of systems composed of any of the following: (a) Laser (optics), (b) microwave, (c) radar, (d) studio equipment, (e) computer hardware, (f) industrial numerical control, (g) electronic controls for electric welding.

ELECTRONIC LABORATORY IX 10 UNITS

Data collection for technical semester paper. Information gathered through experiments, measurements, observation, and operation of equipment will support the theory and descriptions set forth in the semester paper.

MATHEMATICS REVIEW I 5 UNITS

Basic fundamentals of arithmetic; fractions, decimals, powers and roots, square root, ratio and proportion. Operations of addition, subtraction, division, and multiplication with whole numbers, decimal numbers and fractions. Scientific notation (powers of ten) and slide rule.

APPLIED MATHEMATICS I 5 UNITS

The application of mathematics to electronic circuits is emphasized. Subjects studied include equations containing fractions, graphing linear equations, exponents and radicals, study of angles, trigonometric functions, solution of right triangles, and periodic functions.

APPLIED MATHEMATICS II 5 UNITS

Mathematical application to alternating current and series and parallel AC circuits are studied. Included are functions of angles, periodic functions, vectors, equations for voltage and current, resistance, inductance, capacitance, and logarithms.

ELECTRONIC ENGINEERING TECHNOLOGY COURSE

ALGEBRA I 5 UNITS

Multiplication of signed numbers, division of signed numbers, numerical reductions, evaluation of algebraic expressions, multiplication of monomials by a monomial, division of multinomials by a monomial, division of multinomials, transposition, general solution of linear equations, factoring, binomial factors, simple trinomial factors.

ALGEBRA II 5 UNITS

Fractions, equations of the first degree, exponents, roots and radicals, graphic methods, quadratic equations, systems involving quadratic equations, angles, trigonometric functions, tables of functions, solution of right triangles.

COMPUTER MATHEMATICS 5 UNITS

Covers the basic number systems used in computers, binary, octal, hexa-decimal. Conversion from one number system to another: the use of these number systems by modern computers and fundamentals of algebra used in programming languages.

TECHNICAL MATHEMATICS I 5 UNITS

Functions, algebraic equations, systems of linear equations, mathematics of resistive networks, trigonometry.

TECHNICAL MATHEMATICS II 5 UNITS

Vector algebra and complex numbers, logarithms and exponents, matrix algebra, parameters of two-part networks.

TECHNICAL MATHEMATICS III 5 UNITS

Introduction to calculus.

ELECTRONIC DRAWING I 5 UNITS

Basic drafting equipment, geometry of lines, construction of straight lines, construction of curved lines, line weights and conventions, use of scales, free-hand lettering, graphic presentation of engineering data, orthographic projection, third angle projection, views, circles, ellipses and surfaces, auxiliary views, section views, isometric drawing, graphic symbols, schematic diagrams, connection of wiring diagrams.

ELECTRONIC ENGINEERING TECHNOLOGY COURSE

PHYSICS I 2.5 UNITS

Force and motion, work, energy and power, analysis of basic machines, friction, rotation, torque, power transmission. The nature of light and illumination, principles of optical instruments.

COMMUNICATION SKILLS I 5 UNITS

Principles of English: grammar, punctuation, sentence and paragraph composition.

COMMUNICATIONS SKILLS II 5 UNITS

Effective organization and presentation of ideas; fundamentals of technical writing.

TECHNICAL WRITING I 2.5 UNITS

Effective style, organization, and mechanics in technical writing. Qualities of technical reports.

TECHNICAL WRITING II 5 UNITS

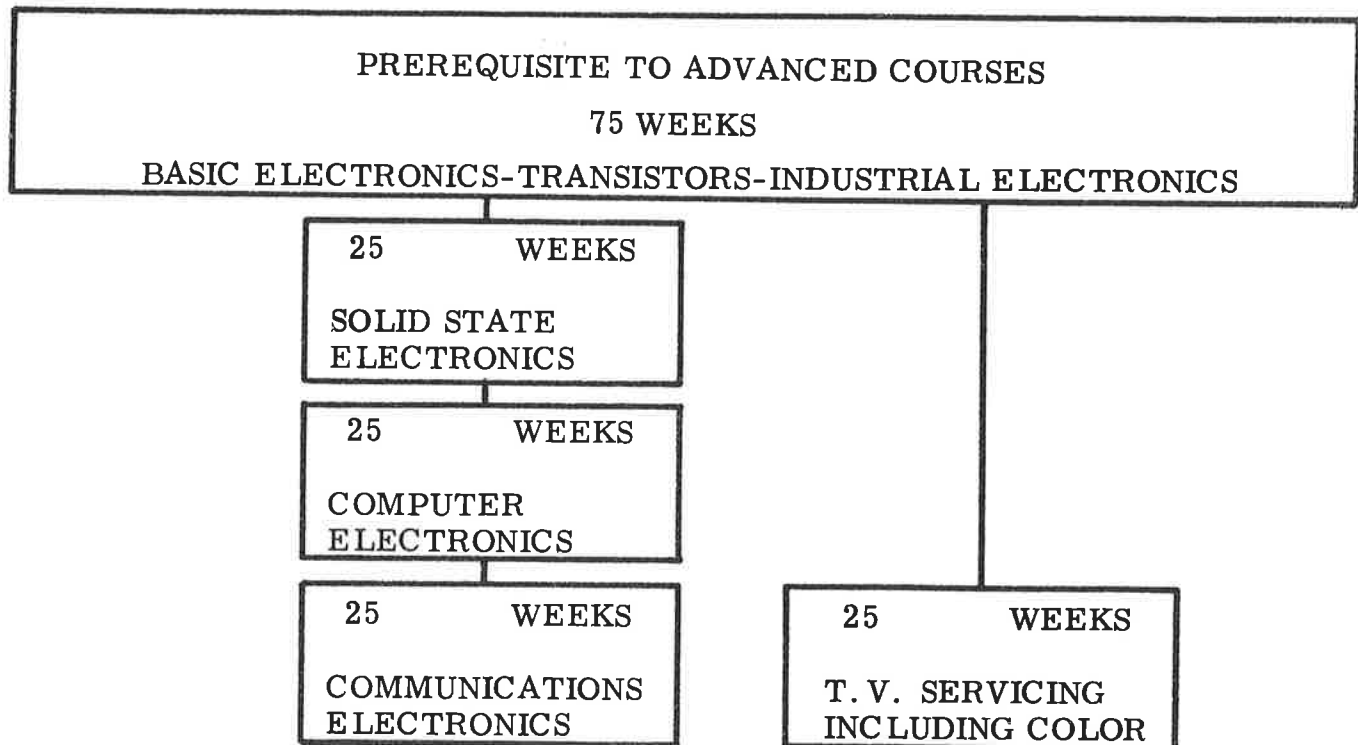
Analysis of technical articles and papers, formal and semiformal technical reports and proposals, business correspondence, preparation and publication of a technical term paper.

Part Time Training Program

ELECTRONIC TECHNICIAN COURSES



Specialized training programs in Electronics are available under the R. E. T. S. combination resident and home study system. These programs are especially planned for the student who must remain fully employed while in training and consist of approximately 12 hours of home study each week and one evening (or morning) of attendance (4 hours) each week for laboratory work. The following chart shows the courses available under the "R. E. T. S. Specialized Training Program" and the sequence in which these courses may be taken.



Electronic Technician Course in

BASIC ELECTRONICS - TRANSISTORS - INDUSTRIAL ELECTRONICS

OUTLINE OF TRAINING PROGRAM AND TUITION COSTS

75 Week Training Program				
TRAINING PROGRAM SCHEDULE				
Phase	Weeks	Resident	Home Assignments	Total Clock Hours
One	25	100 hours	300 hours	400
Two	25	100 hours	300 hours	400
Three	25	100 hours	300 hours	400
Totals	75	300 hours	900 hours	1200

PHASE ONE - Electricity & Electronics (Subjects & Hours)

I. Basic Electricity

Introduction to Electricity & Modern Electronics
Units & Symbols
Electrical Laws
Electrical Circuits
Magnetism & Electromagnetism
Generators
Motors
Signalling Circuits
Applied Electricity
Basic Math Review

II. Basic Electronics

Simple Characteristics of Electricity - I
Measuring Equipment - I
Simple Characteristics of Electricity - II
Characteristics of Resistance
Fundamentals of AC
Oscilloscopes
Electronic Tubes
Introduction to Transistors
Capacitance
Math as required to understand the above subjects.

Electronic Technician Course in

BASIC ELECTRONICS - TRANSISTORS - INDUSTRIAL ELECTRONICS

Continued

III. Electronic Components

Inductance

Characteristics of Reactance

Solid State & Tube Rectifiers

Power Supplies

Power Supplies for Modern Electronic Equipment

Waves

Electromagnetic Waves & The Broadcast System

Triodes, Tetrodes & Pentodes

Voltage & Power Amplifiers

Math as required to understand the above subjects.

Phase One Totals:	Resident Training	100 hours
	Home Assignments	300 hours

Electronic Technician Course in

BASIC ELECTRONICS - TRANSISTORS - INDUSTRIAL ELECTRONICS

Continued

PHASE TWO - Circuit Configurations & Systems Analysis (Subjects & Hours)

IV. Circuit Configurations

Resonant Principles

Detectors

High Frequency Amplifiers

Oscillator Circuits

Mixer Circuits

Practical Application for Test Equipment

Lab Requiring the wiring and appropriate service tests on the above.

Math as required to understand the above circuit arrangements.

V. Systems Analysis

Communications Systems

Tape Recorders

Wide Band Amplifiers

Solid State Electronics

Lab requiring the service of the above systems.

VI. Solid State Electronics & Industrial Applications

Solid State Amplifiers

Grounded Emitter, Base & Collector Circuits

Solid State Oscillators

High Frequency Amplifiers

Service Techniques for Transistors

Introduction to Industrial Electronics

Symbols & Terminology

Oscilloscope, Volt-ohm-milliammeter, & Signal Generator

Applications in Measurements

Math as required.

Phase Two Totals:	Resident Training	100 hours
	Home Assignments	300 hours

Electronic Technician Course in

BASIC ELECTRONICS - TRANSISTORS - INDUSTRIAL ELECTRONICS

Continued

PHASE THREE - Electronics in Industrial Systems (Subjects & Hours)

VII. Industrial Electronics - I

Introduction to Graphical Symbols and Terminology
Power Supplies for Industrial Equipment - Regulated Supplies
Instrumentation
Alternating Current
Vacuum Tubes in Industry
Gas-filled Tubes and Phase Shift Devices
Circuit Characteristics - Sequence Timing
Lab Projects Requiring Circuit Development & Testing

VIII. Industrial Electronics - II

Motor Controls
Photoelectric Devices
Resistance Welding
Conversion Devices & Proximity Controls
Induction & Dielectric Heating
Saturable Reactors and Magnetic Amplifiers
Automation and Switching Logic
Transistors
Lab Projects Requiring Circuit Development & Testing

IX. Industrial Electronics - III

Ultrasonics
Synchro Devices & Servomechanisms
Temperature Controls
Inspection & Sorting Controls
Counting Controls
Closed Circuit Radio & Television Systems
Industrial Electronics Systems Maintenance
Lab Projects Requiring Circuit Development & Testing

Phase Three Totals:	Resident Training	100 hours
	Home Assignments	300 hours
Course Totals:	Resident Training	300 hours
	Home Assignments	900 hours

Cost: (\$335.00) for Phase I, Phase II and III (\$250.00) each - includes (a) Textbooks, (b) Lab Fees, (c) Tuition
Budget Plans Available

Advanced Electronic Technician Course in SOLID STATE ELECTRONICS

25 Week Training Program			
TRAINING PROGRAM SCHEDULE			
Weeks	Resident Training	Home Assignments	Total Hours
25	100 hours	300 hours	400

OUTLINE OF TRAINING PROGRAM AND TUITION COSTS

Solid State Devices, Math for Electronics, Physics and Advanced Electronic Theory (Subjects & Hours)

I. Solid State Devices & Mathematics for Electronics

Transistor Physics
 Transistors - Type & Construction
 Junction Transistors
 Basic Transistor Amplifier Circuits
 Biasing of Transistors
 Basic Engineering Math as Applied to Electronics

II. Transistors & Advanced Electronic Theory

Transistor Power Amplifier & Phase Inverters
 Cascade Amplifiers
 High Frequency Junction Transistors
 Transistor Logic Circuits
 Applied Physics (Power, Work & Efficiency)
 Magnetism & Magnetic Circuits
 Inductance & Capacitance Design Characteristics

III. Solid State Devices & Advanced Electronic Theory

Transistor Oscillator Circuits
 Transistor Multivibrators
 Solid State Regulated Power Supplies
 Silicon Controlled Rectifiers
 Tunnel Diodes
 Trigonometry as Applied to AC Circuits
 Vector Analysis of AC Circuits

Course Totals:	Resident Training	100 hours
	Home Assignments	300 hours

Cost: (\$285.00)
 (a) Text Material, (b) Lab Fees, (c) Tuition
 Budget Plans Available

Advanced Electronic Technician Course in COMPUTERS

25 Week Training Program			
TRAINING PROGRAM SCHEDULE			
Weeks	Resident Training	Home Assignments	Total Hours
25	100 hours	300 hours	400

OUTLINE OF TRAINING PROGRAM AND TUITION COSTS

Computers, Advanced Electronic Theory, Drafting & Fundamentals of Electronic Reporting (Subjects & Hours)

I. Computers, Advanced Electronic Theory & Drafting

Introduction to Computers
Analog & Digital Computers
Application of Computers
Special Purpose & General Purpose Computers
Computer Number Systems
Vector Analysis of AC Circuits
Resonant Circuits
Electronic Drafting

II. Computers, Advanced Electronic Theory & Drafting

Computer Logic Circuits
Computer Systems Analysis
Computer Programming
Computer Flow Charts
Filter Circuits
Advanced Vacuum Tube Theory & Design Characteristics
Electronic Drafting

III. Computers, Advanced Electronic Theory, Drafting & Fundamentals of Electronic Reporting

Computer Control Circuits
Computer Arithmetic Unit
Computer Memory Unit
Filter Circuits
Power Supply Circuitry & Design Characteristics
Electronic Drafting
Electronic Reporting

Course Totals:	Resident Training	100 hours
	Home Assignments	300 hours

Cost: (\$275.00) includes
(a) Text Material, (b) Lab Fees, (c) Tuition
Budget Plans Available

Advanced Electronic Technician Course in COMMUNICATIONS ELECTRONICS

25 Week Training Program			
TRAINING PROGRAM SCHEDULE			
Weeks	Resident Training	Home Assignments	Total Hours
25	100 hours	300 hours	400

OUTLINE OF TRAINING PROGRAM AND TUITION COSTS

Receiving Equipment, Transmitting Equipment, Microwave, Radar, and F.C.C. Preparation (Subjects & Hours)

I. Mobile & Standby Power Supplies, Propagation of Radio Waves, Receiving Equipment, and F.C.C. Preparation

Generators
Motors
Propagation of Radio Waves
Squelch & Limiting Circuits
Crystal Filters
BFO's
AM Receivers
FM Receivers
F.C.C. Preparation

II. Transmitters & F.C.C. Preparation

Studio Equipment
Oscillators
Transmitter Circuits
Modulation
Sidebands A. M.
Frequency Modulation
Radio Frequency Power Amplifiers
F.C.C. Preparation

III. Transmitters, Microwave, Radar, and F.C.C. Preparation

Transmission Lines
Antennas
Principles of Radar
Radar Timer & Modulator
Waveguides
Magnetrons & Duplexers
F.C.C. Preparation

Course Totals:	Resident Training	100 hours
	Home Assignments	300 hours

Cost: (\$275.00) includes
(a) Text Material, (b) Lab Fees, (c) Tuition
Budget Plans Available

Advanced Electronic Technician Course in TELEVISION SERVICING BLACK AND WHITE AND COLOR

TRAINING PROGRAM SCHEDULE			
Weeks	Resident Training	Home Assignments	Total Hours
25	100 hours	300 hours	400

OUTLINE OF TRAINING PROGRAM AND TUITION COSTS

- I. Television Systems
 - Cathode Ray Devices
 - Color Picture Tube Convergence
 - Deflection Oscillators and A. F. C.
 - Deflection Amplifiers
 - High Voltage Power Supplies
 - Sync Separators and DC Restoration
 - Color Synchronization Circuits

- II. Principals of Color Demodulation
 - Chromo and Luminance Matrices
 - Wide Band Solid State Circuits
 - Video Amplifiers and Frequency Distribution
 - IF Amplifiers and Wide Band Detectors
 - Automatic Gain Control Circuit Operation
 - Intercarrier Sound Circuits
 - RF Tuners for Television Reception

- III. Low Voltage Power Supplies and Distribution
 - Television Receiver Servicing I (Monochrome)
 - Television Receiver Servicing II (Solid State)
 - Television Receiver Servicing III (Color)
 - Color A. F. P. C. Adjustments
 - Color Bandpass and Demodulation Alignment
 - Solid State Adjustment and Alignment
 - Practical Television Servicing Procedures
 - Generalized Television Servicing Procedure

Total Cost of Television Servicing Course \$290.00 – includes
(a) Textbooks, (b) Lab Fees, (c) Tuition

Budget Plans Available

