

ENGINEERING SCIENCE AND TECHNOLOGIES ELECTRICAL ENGINEERING TECHNOLOGY (ELT) (HEGIS 5310)

This program is for students interested in employment in a wide variety of high technology industries. Technician opportunities are available in semiconductor manufacturing, telecommunications, electrical and electronic fields. The program is designed to provide students with a solid technological foundation thus preparing them for success in either high technology industry or transfer to baccalaureate programs. Hands-on learning and open-ended problem solving is encouraged throughout.

The program also incorporates the following competency development wherever applicable: team work, customer awareness, quality and continuous improvement, technical communication skills, computer literacy, manual skills (i.e. tools, solder, surface mount), circuit assembly, machine shop processes, reading specification sheets, schematics, and mechanical drawings.

Three advisement tracks are available to help students gain employment serving specific industry needs:

- semiconductor manufacturing technology
- telecommunications technology
- equipment technology

Students interested in high technology but without a specific industry in mind, or those students interested in transfer should follow the general degree program. Graduates will find employment in many sectors of industry as design testers, engineering technicians, semiconductor manufacturing technicians, equipment technicians, telecommunications technicians, and electronics technicians.

Opportunities exist for transfer to many upper division engineering technology programs and a wider variety of opportunities are continually investigated. Students considering transfer to any four year program are strongly advised to continue the math sequence and should, at least, take Calculus I (MAT 221).

The Associate in Applied Science (A.A.S.) degree is awarded upon completion of the requirements for this program.

Courses should be selected in consultation with an advisor.

Course No.	Descriptive Title	Cr.Hrs.
FIRST SEMESTER		
ENG 101	Composition I	3
MATH (a)		3-4
ELT 105	DC Circuits	3
ENR 100	Engineering Technology Introductory Seminar	1
PHY 121	General Physics I	4
ELT 115	Digital I	2
	TOTAL	16-17
SECOND SEMESTER		
MATH (a)		4
ELT 106	AC Circuits	3
ENT 102	Electronics I	3
ENR 103	Applications in Interactive Computing	3
	Science/Technical Elective (b)	4
	TOTAL	17
SUMMER SEMESTER		
ENR 106	Statistical Process Control	3
	TOTAL	3
THIRD SEMESTER		
ENT 202	Electronics II	4
ENG 102	Composition II	3
ELT 213	Electro-Mechanical Devices	3
ENT 131	Technical Drawing	1
	Technical Elective (c)	3-4
	TOTAL	14-15
FOURTH SEMESTER		
WFE 101	Lifetime Wellness and Fitness	3
ELT 250	Electronics Project Laboratory	1
	Free Elective (e)	3
BHS 103	Social Problems in Today's World	3
ECO 105, GOV 121, HIS 104, HIS 108		3
	Technical Elective (d)	3-4
	TOTAL	16-17
	TOTAL 66 CREDIT HOURS	

- a. Mathematics courses: MAT 184, MAT 185, MAT 221, MAT 222. Students must meet math course prerequisites.
- b. General degree/transfer students take PHY 122; telecommunication technology tracked students take TEL 101; semiconductor manufacturing tracked students take CHE 111 or CHE 121; equipment technology tracked students take PHY 122, CHE 111 or CHE 121.
- c. General degree/transfer students and equipment technology tracked students take ELT 215; semiconductor manufacturing tracked students take ELT 211 (offered at SUNY New Paltz); telecommunication technology tracked students take TEL 201. Students must meet course prerequisites.
- d. General degree/transfer students take TEL 101 or ELT 203; equipment technology tracked students take ELT 216, telecommunication technology tracked students take TEL 202; semiconductor manufacturing tracked students take ELT 214 during the preceding winter break. Students must meet course prerequisites.
- e. See page 97 for a full discussion of the free elective requirement. The subject area for this program includes all courses labeled ELT, EMS, ENT.

Semiconductor Manufacturing Technology Advisement Track: This track is designed for students seeking immediate employment in the semiconductor manufacturing industry. To develop this concentration, students must select the following course options:

- 2nd semester applicable chemistry course (see note (b))
- 3rd semester ELT 211 Semiconductor Processes (see note (c))
- Winter Break ELT 214 Vacuum and RF Technology
(after 3rd sem.) (see note (d))

Additional valuable courses include ELT 215 and ELT 216.

Telecommunications Technology Advisement Track:

This track is designed for students seeking immediate employment in the rapidly growing telecommunications industry. To develop this concentration, students must select the following course options:

- 2nd semester TEL 101 Telecommunications I (see note (b))
- 3rd semester TEL 201 Telecommunications II (see note (c))
- 4th semester TEL 202 Telecommunications III (see note (d))

Equipment Technology Advisement Track: This track is designed for students seeking immediate employment in high technology industries. Equipment technicians are in demand to maintain, repair and troubleshoot technologically advanced equipment. To develop this concentration, students must select the following course options:

- 2nd semester applicable physics or chemistry course
(see note (b))
- 3rd semester ELT 215 Digital II (see note (c))
- 4th semester ELT 216 Electro-Mechanical Systems
(see note (d))

Students in this track planning to work in the semiconductor manufacturing industry are strongly encouraged to take ELT 214 during the winter break after the third semester.

