



**KANSAS
TECHNICAL
INSTITUTE**

1979-81
Vol. 7
KTI

1979-1981 GENERAL BULLETIN



KANSAS TECHNICAL INSTITUTE

2409 Scanlan Avenue

Salina, Kansas

913 825-0275

GENERAL INFORMATION BULLETIN

Engineering and Science Technology

Volume 7

1979-81



Cover Photo by Jack Gordon
of Dark Room 2001, Salina, Ks.



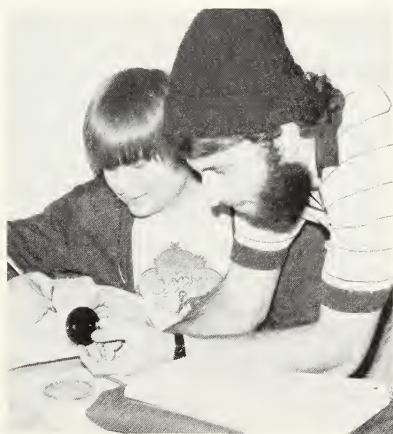
TABLE OF CONTENTS

	PAGE
Section 1: GENERAL INFORMATION	
History of the Institute	10
Institute Mission	10
Goals of the Institute	11
Campus	12, 13, 14
Section 2: ADMISSIONS AND FEES	
Admission Procedures	16
Admission as a Transfer Student	16
Out-of-State Applicants	17
Foreign Applicants	17
Pre-Admission Testing	17
Medical History	17
Fees and Expenses	18
Enrollment Fees	18
Incidental Fees	18
Student Activity Fees	19
Student Union Fees	19
Vehicle Registration Fees	19
Refunds	19
Section 3: ACADEMIC INFORMATION	
Scope of Programs	22
Scheduling of Classes	22
Enrolling for Credit or Audit	22
Special Student	22
Continuing Education Division	23
Continuing Education Student	23
Semester Credits	24
Student Load	24
Class Attendance	24
Examinations	24
Grading System	25
President's Honor Roll	25
Dean's Honor Roll	26
Credit by Special Examination	26
CLEP	26
Withdrawal from Class	26
Academic Probation and Dismissal	27
Reinstatement	27
Repetition of Courses	27
Graduation Requirements	28
Graduation with Honors	29

Section 4: STUDENT SERVICES	PAGE
Student Services	32
Counseling	32
Financial Aid	32
Application Procedures	33
Dormitory	35
Food Service	36
Off-Campus Housing	36
Married Student Housing	36
Veterans Affairs	36
Health Service	38
Placement Service	38
Transcript	39
Library Services	39
Student Union	39
Section 5: STUDENT ACTIVITIES	
Outline of Activities	42
Recreation and Intramurals	42
Participation	43
Alumni Association	43
Section 6: CURRICULA & COURSE DESCRIPTIONS	
Academic Departments	46
Engineers' Council for Professional Development Accreditation	46
North Central Association of Colleges and Secondary Schools Candidacy Status	46
Program Options	47
Mathematics Transition Program	47
English and Reading Proficiency Programs	47
Key to Identification of Courses	49
Courses of Study	
Aeronautical Technology	51
Aviation Maintenance	51
Associate of Aeronautical Technology	52
Aviation Maintenance Management	53
Aeronautical Course Descriptions	54
Civil Engineering Technology	59
Environmental Protection Technology	60
Surveying Technology	62
Civil Engineering Technology Course Descriptions	64
Computer Science Technology	69
Electronic Data Processing Technology	70
Computer Science Technology Course Descriptions	72
Electronic Engineering Technology	77

	PAGE
Electronic Engineering Technology Course Descriptions	78
General Engineering Technology	82
General Engineering Technology Course Descriptions	83
Mechanical Engineering Technology	90
Solar Energy Utilization Technology	91
Mechanical Engineering Technology Course Descriptions	93
Section 7: CONTROL OF THE INSTITUTE	
Board of Control	97
Administration	97
Officers of the Institute	97





General Information

HISTORY OF THE INSTITUTE

The Kansas Technical Institute was created by the Kansas Legislature during the 1965 general session. At that time, the State Education Authority Act, House Bill 1101, was enacted into law. The bill provided for the establishment of a state technical institute to offer two year programs of engineering and science technology. Originally called Schilling Institute the campus was developed on property that was formerly a part of Schilling Air Force Base.

The Kansas legislature, during the 1968 general session changed the name of the school to "Kansas Technical Institute" and transferred the responsibility for the school to the newly developed State Board of Education. In 1976 the legislature transferred the responsibility for the school to the Kansas Board of Regents as the seventh state school under the control and supervision of that board.

Classes first opened to 93 students in four technologies in the fall of 1966. Enrollments have increased to approximately 300 students in eight fields of study in the fall of 1977.

The programs at KTI have been two year associate degree or certificate programs since the beginning of the school. The certificate program in Airframe and Powerplant Maintenance has been continuously certified by the Federal Aviation Agency since its start in 1966. Other programs in engineering technology have been accredited by the Engineers Council for Professional Development. The strong affiliation the institute maintains with professional and technical associations has been a major factor in the success of its graduates.

INSTITUTE MISSION

KTI is the state institution of higher education whose mission is specifically devoted to technology education and training in Kansas. The following mission statement, which is consistent with the broad mission outlined in KSA 72-4332, was received by the Board of Regents at the regular meeting of the board in December, 1976: "Kansas Technical Institute shall be responsible for providing technical education and training in the fields of Engineering Technology, Science Technology and related fields. The principal mission of the institute shall be met in part by programs approved by the Board of Regents, special institutes, seminars, short courses and workshops at appropriate locations in Kansas as approved by the Extension Officer of the Board of Regents."

GOALS OF THE INSTITUTE

The institute has the following goal for fulfilling its statewide mission:

Resident instruction: A primary goal of the Kansas Technical Institute is to provide college-level programs of Engineering, Science and related technologies to prepare the student for immediate employment as a Technician or Technologist upon graduation.

A secondary goal of the institute is to instill a discipline of mathematics, Physical Science, Communications skills and Technical Specialty skills to enable the students to build upon and expand their knowledge and skills as they work in their chosen field of specialization.

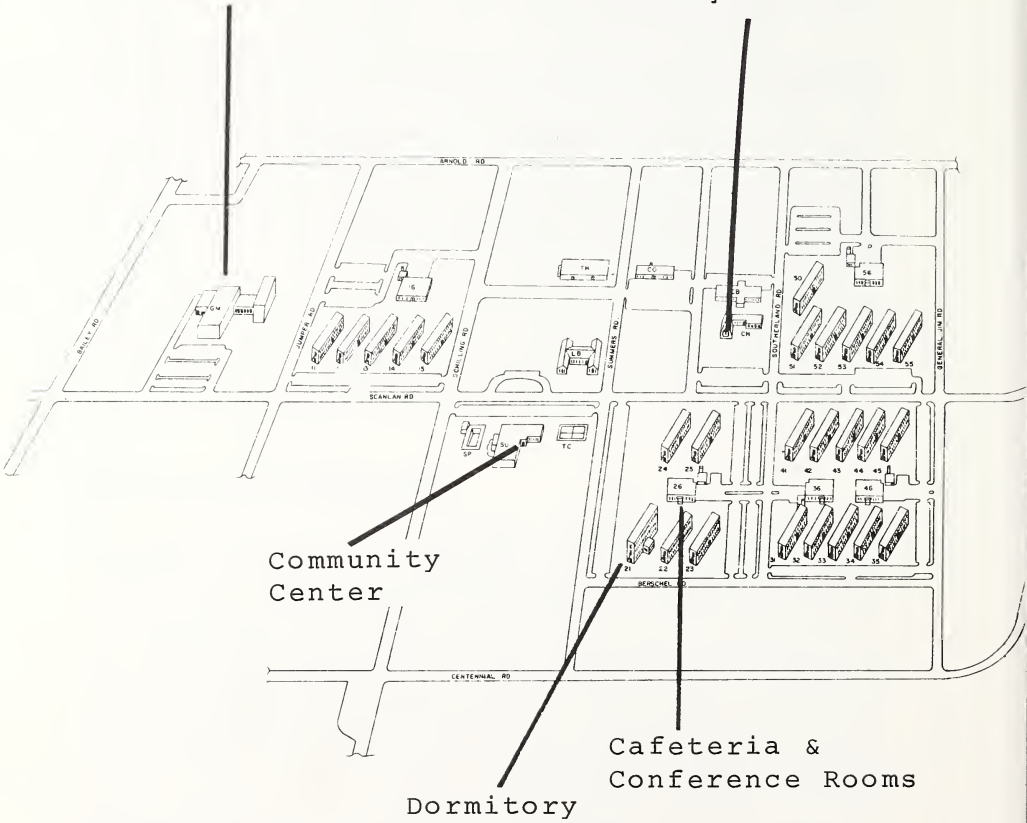
A third goal of the institute is to provide a basis for understanding the fundamentals of scientific and engineering principles that will allow students to pursue advanced academic study in their technical field.

Community Service and Continuing Education: It is a goal of the Kansas Technical Institute to offer such specialized technical and related courses to the adult community of Kansas as is compatible with KSA 72-4332. Such courses may be held on campus or off campus as needs and resources dictate. Specialized and technical related courses may include, but not by way of limitation, short courses, seminars, institutes, workshops, and semester credit hour courses.



KTI Gymnasium

Chapel &
Chapel Annex



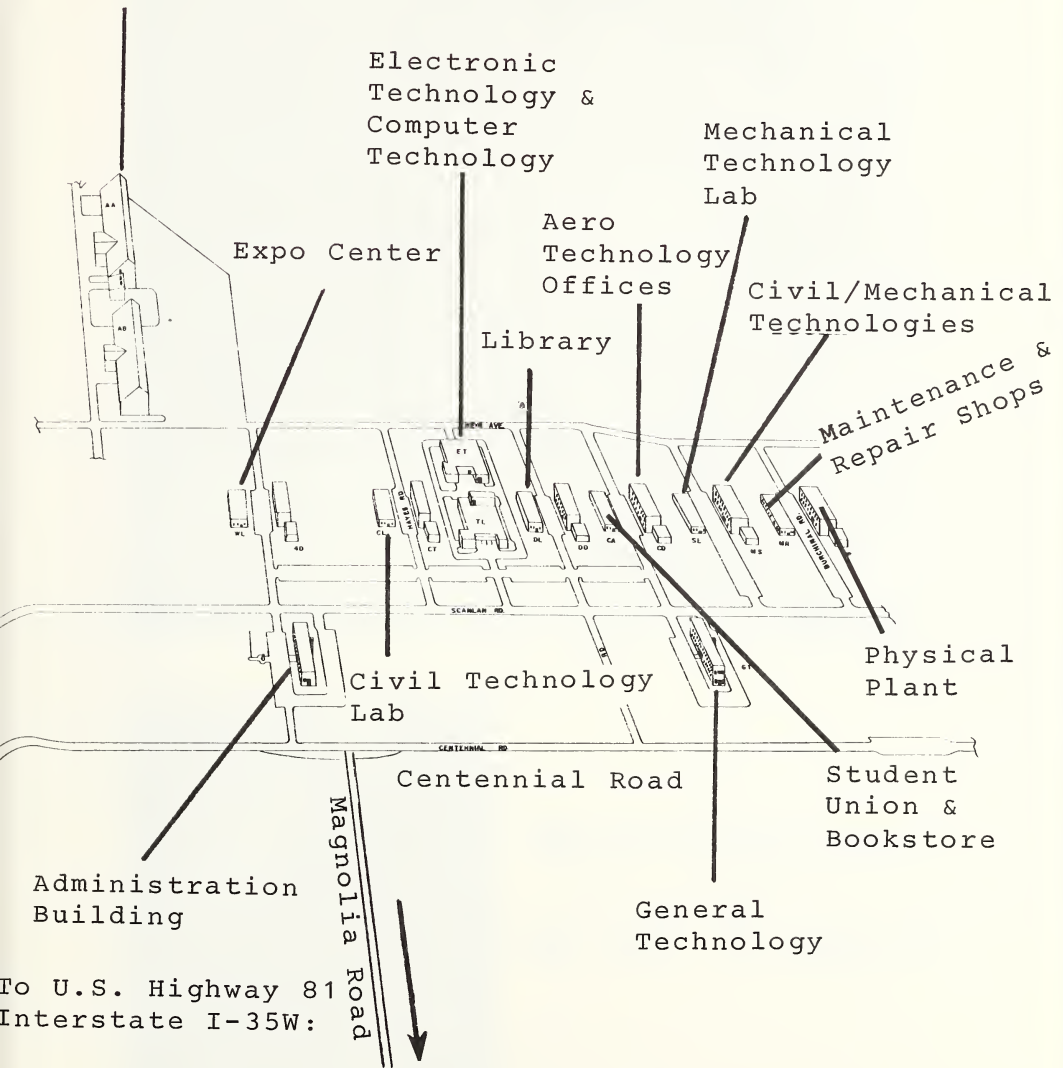
Community
Center

Cafeteria &
Conference Rooms

Dormitory

Campus Map

Aeronautical
Technology
Lab







Admission and Fees

ADMISSION PROCEDURES

Application for admission should be directed to the Office of Admissions. All applicants should have completed a four-year course of study in any high school accredited by the State Superintendent or have taken the General Educational Development Test (G.E.D.). The applicant shall then be entitled to admission to the freshman class at KTI.

The following procedures should be followed to apply for admission to the Institute:

1. Submit to the Institute a completed Application Form for Admissions with a \$10 application fee, which is not refundable.
2. Have sent directly to the Institute a transcript of all high school work. If not a high school graduate, then an official copy of the scores attained on the G.E.D. test must be provided.
3. Applicants must submit transcripts of all college level work completed.

Each applicant will be notified by mail as to his or her status. Applicants will be formally accepted as a student upon completion of the above entry criteria.

ADMISSION AS A TRANSFER STUDENT

Applicants for admission as transfer students from an approved university, college, junior college, technical institute, or area vocational-technical school may be accepted if their records indicate the ability to successfully pursue the courses in their chosen curriculum.

The procedure for a transfer student is as follows:

1. Provide an Application for Admission form.
2. Provide an official transcript from each post-secondary school attended and a copy of the high school transcript.
3. If waiver of course requirements is desired prior to enrollment, it is advisable to submit all of the above information to the Registrar by not later than thirty days prior to the Institute's enrollment date. All credits will be evaluated by the heads of the department that offer the courses to determine if they relate to courses in the chosen field of study. Those courses that do relate and meet the necessary criteria of content and success level will be recommended for approval. A Waiver of Credit form will be issued by the Registrar to appropriate department heads. All courses approved on the Waiver of Credit form will become part of the student's transcript.

OUT-OF-STATE APPLICANTS

Out-of-state applicants for admission to Kansas Technical Institute will be required to pay non-resident fees (see fee schedule) and generally must have a good academic rank in their high school graduating class. The residence of students entering Kansas Technical Institute is determined by the Kansas State Board of Regents as follows:

“Persons entering the state educational institutions who, if adults, have not been, or if minors, whose parents have not been residents of the state of Kansas for twelve (12) months prior to matriculation in the state educational institutions, are non-residents for the purpose of payment of matriculation and incidental fees.”

FOREIGN APPLICANTS

Foreign applicants should contact the Dean of Student Services for information concerning enrollment procedures. Correspondence should begin by not later than six (6) months prior to the desired enrollment date. Foreign students will be considered as out-of-state applicants for the purpose of paying student fees. They will also be required to document that they have adequate funds to meet their cost of education.

PRE-ADMISSION TESTING

All applicants for enrollment will be required to take the American College Testing (ACT) test or the Scholastic Aptitude Test (SAT) prior to enrollment. High school students should arrange with their counselor or principal to take the tests during their senior year and request that these scores be sent to the Kansas Technical Institute. Other applicants may contact a local high school or the Student Services Office at the Institute for test information on the American College Testing program. Residual testing is administered at KTI at the fall enrollment period. The battery is used as a counseling and guidance aid only and is not used as a pre-admission requirement. The ACT college code number assigned to Kansas Technical Institute is 1453. The SAT college code number assigned to Kansas Technical Institute is 006345.

MEDICAL HISTORY

A personal medical history is required of each new student. Applicants who have been accepted for admission at Kansas Technical Institute will be mailed a medical form which should be completed by the student and/or his or her parents.

The medical report, filed with the Institute by the student will become a part of the student's confidential file. The purpose of

the report is to provide medical history in the event a student requires medical consideration while at the Kansas Technical Institute.

FEES AND EXPENSES

The amount a student spends and the actual cost of obtaining an education at Kansas Technical Institute are two different items. A student can anticipate certain fixed expenses, such as enrollment fees, but beyond that, financial outlays depend to a considerable extent on the personal habits and management ability of the student. An estimate of the cost of attending the Institute for two regular semesters for a Kansas resident follows:

Fees	\$345
Books and Supplies *	150
Room and Board (on campus)	1,250
Total Estimated Cost **	\$1,745

* First year students in all technologies, other than Airframe and Powerplant students are required to own a scientific calculator (e.g. T. I. SR 50A, 51A or HP21) which costs approximately \$70 additional.

** Does not include expenditures for clothing, laundry, travel, social activities, weekend meals, and miscellaneous expenses. Students living in dorm over interterm will be charged \$100 which includes 15 meals per week in the cafeteria.

ENROLLMENT FEES

Fees at the Kansas Technical Institute are established by the State Board of Regents and are subject to change at any time. Following is a description of the current student fees per semester at the Institute:

<i>Regular Semester Fees</i>	<i>Kansas</i>	<i>Non-Kansas</i>
	<i>Resident</i>	<i>Resident</i>
Incidental Fee	\$150.00	\$450.00
Student Activities	15.00	15.00
Student Union	7.50	7.50
	<hr/>	<hr/>
	\$172.50	\$462.50

(Interterm costs included in semester fees.)

<i>Regular Semester Fees Students Enrolled in Six Semester Credits or Less</i>	<i>Kansas</i>	<i>Non-Kansas</i>
	<i>Resident</i>	<i>Resident</i>
Incidental Fees and Audit Fees	\$10.75	\$32.25
(Per semester credit)		
Student Activities *	7.50	7.50
Student Union *	3.75	3.75
Summer Session Fee and Audit Fees		
Incidental Fees (per semester credit)	10.75	32.25
Student Activities	7.50	7.50
Student Union	3.75	3.75

* Special programs and seminars may be exempt from these fees.

INCIDENTAL FEES

The Incidental Fee is used to pay, in part, costs of administration, operation, maintenance, equipment, library books, and other supplies.

STUDENT ACTIVITY FEES

The Student Activity Fees are used to financially support student activities, including intramural sports, student organizations, intercollegiate athletics, and student dances.

STUDENT UNION FEES

The Student Union Fees are used for the Student Union development and activities.

VEHICLE REGISTRATION FEES

Students enrolled at the Institute who plan to operate motor vehicles on the campus must register them with the Business Office in the Administration Building. The registration fee is five dollars (\$5) per academic year for the first car and two dollars (\$2) per additional car. The student will be issued an identification sticker permitting parking in all non-restricted parking areas. Violation of traffic and parking regulations will result in progressive fines and, if excessive, may result in dismissal from the Institute.

REFUNDS

A student who enrolls at Kansas Technical Institute, but who finds it necessary to withdraw from school, is entitled to a refund of enrollment fees as determined by the Business Office. The refund schedule allows 80% refund after the first class day. This refund percentage diminishes at a rate of 4% for each class day. After the 20th day, no refund will be allowed.



"The best money I ever spent was on tuition at KTI."

Alumni



"I chose a technical college because of the excellent job opportunities and income."

Alumni





Academic Information

SCOPE OF PROGRAMS

The year at Kansas Technical Institute consists of two regular semesters, an interterm, and a summer session. A student who carries a prescribed credit load and who makes satisfactory progress can graduate after the completion of four regular semesters (two years).

Although the interterm and the summer session are not required, many students enroll in them for additional technology enrichment courses or to satisfy course deficiencies. Students should consult their faculty advisor to determine whether or not a practical advantage may be gained by attending a summer session or interterm.

SCHEDULING OF CLASSES

A schedule of classes is established by the faculty for each semester, interterm and the summer session. A copy of the class schedule can be obtained from the Student Services Office.

In general, classes are scheduled Monday through Friday. Most classes are scheduled between 8:00 a.m. and 5:00 p.m.; however, some classes are scheduled in the evenings to extend the services of instruction to persons who cannot attend classes between the hours of 8 and 5.

Lecture classes are 50 minutes in duration with a ten minute interval between periods. Laboratory classes are generally 1 hour and 50 minutes, but specific courses may hold 2 hour and 50 minute sessions.

ENROLLING FOR CREDIT OR AUDIT

Students may enroll in any course for credit provided they have met all prerequisite requirements. Students enrolled in a course for credit will take all examinations scheduled for the course. Courses taken for credit will be posted to the student's transcript with the letter grade earned in the course.

A student may enroll in a course for audit with permission from the instructor and upon payment of the course fee. Courses taken for audit will be posted to the student's transcript as audit (AU). Audit indicates that the individual has paid fees and is allowed to attend classes without the requirements to perform homework assignments or take examinations. The Credit Waiver Committee has the authority to grant credit in those instances where a student has been assigned to audit a class as a condition for credit waiver.

SPECIAL STUDENT

A special student is the classification given to one not regularly enrolled in work for a degree. Any special student is expected to

meet the same admission requirements for a regular student. A special student may be included under the following:

Undeclared Majors—Students who will enroll for only a few courses may wish to apply under this category.

High School Students—High school students are allowed to take several credit courses and/or non-credit classes before completing their high school education. Students may have to have approval of their high school.

Non High School Graduates—Adults who are not a high school graduate or equivalent may be admitted as a special student if previous school work completed was of good quality.

Students seeking a degree or certificate should change their status to a specific degree major as early as possible. Special students may not apply for candidacy for a degree.

Special students are subject to regulations for regular students, and are responsible for the same fee and regular attendance at classes as regular students, whether for credit, non-credit or audit.

A student may enroll in a given course provided the necessary prerequisites have been met or waived by the Academic Dean.

CONTINUING EDUCATION DIVISION

The Continuing Education Division offers special courses to meet the needs of individuals, groups, and organizations. Workshops, seminars, short-term and full-term courses are Kansas Technical Institute's answer to the State's challenge to provide educational opportunity in fields of technology.

These courses reflect the interests and needs of the individual community or state and cover a wide variety of subjects, providing information for both occupational and personal use. Instructors are leading professional men and women on the institute's faculty. For many of these classes there are no entrance requirements and class schedules are set for the convenience of the students during both daytime and evening hours.

Special courses can be designed to meet the needs of individuals, groups, and organizations. The Continuing Education staff are eager to cooperate with firms which wish to arrange for courses, workshops or seminars in conjunction with their own training programs. These services can be provided on-campus, in-plant or in the respective communities where technical services are needed but not readily available.

CONTINUING EDUCATION STUDENT

An individual who enrolls in credit or non-credit courses but who is not working toward a degree is classified as a Special Student. These persons may receive a Certificate of Completion for certain courses as they are not candidates for a degree.

Those desiring to work toward a degree at K.T.I. or planing to transfer course work to another institution of Higher Education must complete regular admission policies and request that their classification be changed. (See page 14 Admission Procedures)

SEMESTER CREDITS

The units of completed work are "semester credits." One semester credit presumes that a student will spend three hours per each week of the semester for academic study. One semester credit of lecture class requires that a student attend one fifty-minute period of lecture each week during the semester and that the student spend approximately two hours each week on homework or outside assignments. One semester credit of laboratory requires a student to spend a minimum of two hours in the laboratory with possible additional outside work.

STUDENT LOAD

A student may enroll in up to eighteen semester credits of course work without special permission. Students who desire to enroll in more than eighteen credits must obtain written permission from the Academic Dean. Students generally may not enroll in more than 18 semester credits their first semester at the Institute. A student with a poor scholastic record or a student who is employed part-time may be counseled to carry a reduced load. (See Reinstatement.)

Any student enrolled in 7 or more semester credits is officially classified as a full-time student.

CLASS ATTENDANCE

Regular and punctual class attendance is important to a high standard of work. The student is expected to recognize the importance of regular class attendance.

Each instructor is responsible for advising the students of the attendance and tardiness criteria in his class. The student is expected to know and comply with each instructor's regulations. It is the student's responsibility to make up all work missed due to the absence.

EXAMINATIONS

Examinations play a vital part in determining a student's performance in class. Each instructor will schedule a sufficient number of examinations to determine the student's progress in the course.

Final examinations are considered a part of each course and are generally scheduled during the last week of each regular semester, the summer session and the interterm. All students are ex-

pected to take a final examination in each course during the scheduled period. In emergency cases, a student may take a final examination at other than the scheduled time.

A list of potential graduating seniors will be prepared by the Academic Dean during the spring semester of each year. The grade for these students must be determined prior to the final examination period of the spring semester; hence, instructors will arrange to give final exams to potential graduates prior to the regular final examination period.

GRADING SYSTEM

The Institute uses the following grade and point system:

<i>Grade</i>	<i>Type of Performance</i>	<i>Grade Points</i>
A	Superior	4
B	Above average	3
C	Average	2
D	Below average	1
F	Failure to earn credit	0
I	Incomplete	0
Au	Audit	0
S	Satisfactory (Pass)	0
U	Unsatisfactory (Fail)	0
WP	Withdrew Passing	0
WF	Withdrew Failing	0

A grade of "I" (Incomplete) may be given in special cases where a student was unable to complete all work in a course. The instructor will determine if a student should be assigned an "Incomplete" rather than a letter grade at the end of a semester. In each case where an "I" is assigned, instead of a letter grade the instructor will advise the student and the Office of the Registrar of the date by which the course work must be completed. If the student fails to complete the course requirements within the allotted time, the grade for the course is automatically assigned on the basis of the work completed.

The grade point average for each student is reported for each semester and as a cumulative average for the entire period of attendance. This average is computed by dividing the total number of grade points earned by the total number of semester credits.

PRESIDENT'S HONOR ROLL

Any student carrying a full-time load (12 hours or more) and earning a 3.75 or better grade point average with no grade below a "C" will be listed on the President's Honor Roll for that semester.

DEAN'S HONOR ROLL

Any student carrying a full-time load (12 hours or more) and earning a 3.25 to 3.75 grade point average with no grade below a "C" will be listed on the Dean's Honor Roll for that semester.

CREDIT BY SPECIAL EXAMINATION

Any student who feels that past education or experience has provided the basic knowledge that is equivalent to a course may take a special examination for that course.

Credit in any subject may be granted by special examination. Permission to take a special examination should be initiated through the department head who requests a waiver of credit form from the Registrar.

The fee for taking a special examination for course credit is three dollars (\$3.00) per semester credit.

Upon successfully completing the special examination, the form will then become part of the student's permanent file and the particular courses noted on the student's transcript.

CLEP

CLEP provides an excellent means of obtaining college credit for skills or knowledge obtained through experience in areas outside of the formal college environment. Any student has the opportunity to utilize for credit experience gained through employment, formal and informal study, military experience and training, and many other areas where knowledge or skill is acquired.

CLEP examinations are administered at test centers throughout the country at specific periods during the year. Students wishing to take a CLEP examination must complete an application form and submit it, along with the appropriate test fees, to the center of their choice.

KTI accepts for waiver of credit many of the CLEP examinations. Interested persons should contact the Registrar's Office for specific details.

WITHDRAWAL FROM CLASS

Students are responsible for completing all courses in which they enroll. They may withdraw from any course within the limits provided below. It is their responsibility to insure that all withdrawal procedures are completed.

1. If a withdrawal is completed prior to Friday (5 p.m.) of the eighth week of the regular semester, no record of the class will appear on the individual's transcript.
2. A withdrawal after Friday (5 p.m.) of the eighth week thru Friday (5 p.m.) of the thirteenth week of the regular semester will result in a grade of "WP" (withdrew-passing) or "WF"

(withdrew-failing) depending on the class standing at the time of withdrawal.

3. There will be no withdrawal from class after Friday (5 p.m.) of the thirteenth week. The grade earned will be the grade received.

For summer session and interterm course drop dates consult the bulletin supplement available from the Student Services Office.

Students wishing to withdraw from a class shall initiate such action with the department head of their major technology. They will then be advised of the procedure they are to follow to complete the withdrawal action. Unless the withdrawal procedure is completed prior to Friday (5 p.m.) of the eighth week of the regular semester, the course grade earned will become a permanent part of the student's transcript.

ACADEMIC PROBATION AND DISMISSAL

A student is expected to attend class regularly and maintain normal progress toward the completion of the program. Students who earn less than a 1.8 grade point average in any semester (except their first semester at the Institute) will be placed on academic probation. The probation condition will be removed when the student earns a semester grade point average of 1.8 or better.

Any student on academic probation who earns less than a 1.8 grade point average will be dismissed for academic reasons. Persons dismissed for academic reasons will not be allowed to enroll except with special permission of, and under conditions established by the Academic Standards Committee.

Students enrolled in (6) or less semester credits will not be subject to probation or dismissal action.

REINSTATEMENT

Students who have been dismissed for academic reasons may petition for reinstatement.

A student desiring to be reinstated will be advised of the procedure by the Office of Academic Affairs and should make all arrangements through that office. Arrangements should be initiated by not later than two working days prior to enrollment.

Students who are reinstated will be on academic probation for the semester in which they are reinstated and may be required to carry a reduced course load.

REPETITION OF COURSES

A course may be repeated to improve a grade of "D" or "F". All grades received in a given course will be shown on the student's

transcript; however, the grade received the last time the course is taken will be the grade used for computing the cumulative grade point average.

GRADUATION REQUIREMENTS

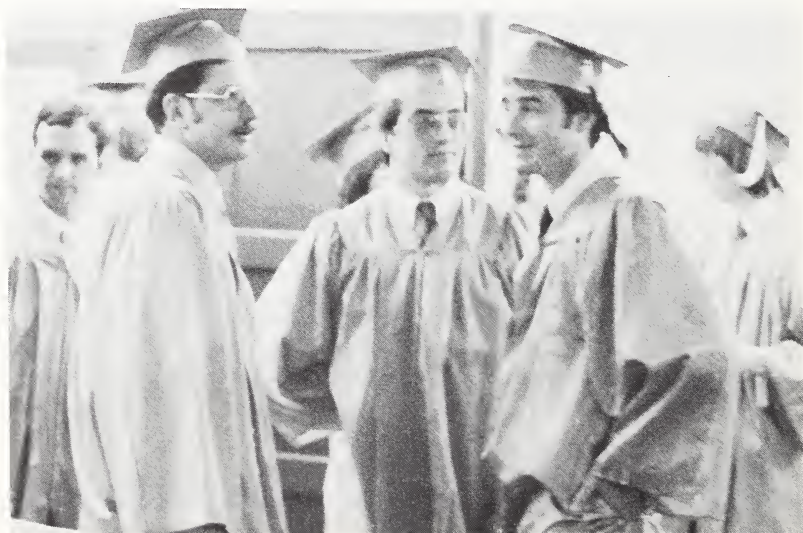
The Board of Regents is authorized by the Legislature to empower the President to grant Associate Degrees/or certificates by type and title as approved by the Board of Regents. Any student who plans to obtain the degree/certificate should be aware of the following criteria used by the faculty for recommending degree/certificate candidates to the President:

The candidates for the degrees/certificates must:

1. successfully complete or obtain a waiver for each course in their study,
2. earn a 2.000 overall grade point average in all courses in their study which are taken at K.T.I.,
3. be screened and recommended for graduation by the Academic Standards Committee, and
4. attend commencement exercises or obtain written permission for graduation in absentia.*

* A written request for graduation in absentia will be made as soon as the candidate becomes aware of circumstances which will prevent attendance at commencement. Such request will be directed to the Academic Dean.

Any student to be considered for graduation shall have successfully completed his final fifteen (15) semester credits in residence at the Institute.



GRADUATION WITH HONORS

Students maintaining a high level of academic achievement are recognized at graduation by Honors and High Honors recognition.

The requirement for graduation with High Honors is that the student shall earn an overall grade point average of 3.75 or above based on a 4.00 point system.

The requirement for graduation with Honors is that the student shall earn an overall grade point average of 3.40 or above.

A grade of "D" or "F" in any course will eliminate any recognition of Honors or High Honors.

In no case will the Honors and High Honors graduates exceed ten percent of the graduating class.

“More technical jobs available than graduates to fill them is great!”

Student



“Why KTI? I enjoyed Math. I didn’t want to teach. And, I didn’t want to go to school for 4 years.”

Alumni



Student Services

STUDENT SERVICES

The primary goal of Kansas Technical Institute is to prepare its students for the rewarding and satisfying careers in their chosen areas of specialization. To attain this goal, the Institute not only provides educational opportunities in the classroom and laboratories, but also provides the means whereby students can develop their individual talents and meet their many non-academic needs.

Students entering the Institute are considered to be mature individuals who are responsible for their own behavior. High standards of personal, ethical, and moral conduct are expected of all students, on campus and elsewhere. The capacity for sound planning and desire to establish good study and work habits are characteristic of a successful student.

Students are expected to use the Institute facilities with consideration, and to conduct themselves with decorum. Students who refuse to conform to accepted standards of conduct will be dismissed from the Institute.

COUNSELING

Kansas Technical Institute administrative and faculty personnel are available at all times to counsel students in their educational programs and to help the student who seeks vocational guidance. Students will find the Institute personnel are eager to contribute their training and knowledge to aid students in solving their specific problems.

Each student is assigned a faculty advisor who will work with the student to help him solve any academic problems that may arise. The faculty of the Institute has a great amount of industrial experience that qualifies them to assist students in vocational guidance.

Students are strongly encouraged to discuss personal and non-academic problems with personnel of the Student Services Office. Of course the student may wish to consult solely with his faculty advisor. In either case, every effort will be made to help students through personal counseling and guidance while they are enrolled in an educational program at Kansas Technical Institute.

FINANCIAL AID

The primary function of the financial aid program at Kansas Technical Institute is to provide financial assistance to students who want to attend the Institute but would find it difficult to do so without financial aid. A comprehensive assistance program of

federal grants, campus employment, scholarships, and loans is administered by the Student Services Office.

A student may receive aid from the following programs:

- Basic Educational Opportunity Grant
- College Work Study
- Supplemental Educational Opportunity Grant
- Scholarship (and Sponsorships)
- Higher Education Assistance Foundation Loan
- Emergency Student Loan

If a student demonstrates extensive financial need, a combination of these financial aid programs will be offered as a "financial aid package."

APPLICATION PROCEDURES

1. A student must be enrolled or accepted for admission before he will be considered for financial aid. (See "Admission Procedures" on page 14.)

2. A Kansas Technical Institute Financial Aid Application must be completed and submitted to the KTI Office of Student Services.

3. The American College Testing Program (A.C.T.) "Family Financial Statement" or the College Board Financial Aid Form must be completed for processing. A fee specified on the form is charged to process this financial need analysis. A financial need analysis must be on file before any financial aid, except loans, can be awarded.

4. Those who are eligible to apply should complete a Basic Educational Opportunity Grant application. The results of this application will be sent to the student and should be forwarded to the Student Services Office for processing.

After the applications have been processed, the detailed financial aid need analyses will be used by the Financial Aid Committee in determining the student's financial need and corresponding "financial aid package" for that student.

Although no specific application deadline exists for these programs, it is recommended that students interested in financial aid have all completed forms submitted by April 15 for fall semester enrollment.

Basic Educational Opportunity Grant (BEOG) Program

This is a federally funded program available to eligible students attending any approved post-secondary institution. The amount of the individual non-repayable grants varies from \$200-

\$1800 per academic year. An undergraduate student enrolled on at least a half-time basis is eligible to apply.

College Work-Study Program

The College Work-Study Program was established to assist students of low income families by providing jobs on campus. These jobs are available in various departments and will permit a student to earn part of his educational expenses. The number of hours a student works per week depends on his eligibility total. However, this is limited to not more than 20 hours per week while school is in session. The pay rate is the minimum wage as established by law. The school and the federal government share the cost of the College Work-Study Program.

Supplemental Educational Opportunity Grant (SEOG) Program

This federally funded program is for students who have exceptionally high financial need as exhibited through the "Application Procedures" outlined above. An SEOG award ranges from \$200 to \$1500 per year and does not have to be repaid. To be eligible students must be enrolled at least half-time or accepted for enrollment. The grants are awarded by the Financial Aid Committee.

Scholarships/Sponsorships

A limited number of scholarships are made available to KTI students from interested individuals, businesses, and organizations. These vary from \$50 to \$365 per year. Eligibility requirements vary according to the scholarships. The regular "Application Procedures" should be followed to apply for any of these scholarships; selection is made by the Financial Aid Committee.

Higher Education Assistance Foundation (HEAF)

The HEAF program enables students to borrow directly from local banks or participating lenders who are willing to make these educational loans. The loan is guaranteed by the federal government. The maximum loan per academic year is \$2500, with repayment normally beginning nine months after graduation or withdrawal from post-secondary education. Maximum annual interest is 7% on the unpaid balance. The maximum total amount that can be borrowed by an individual student during undergraduate studies is \$7500.

Students interested in this loan program should contact their local banks or the KTI Office of Student Services.

Student Emergency Loan

Kansas Technical Institute maintains a small loan fund to help students meet emergency situations. These loans are for \$50 or

less and must be repaid within 60 days or by the end of the semester, whichever comes first. The Office of Student Services administers these loans.

For application forms or more information concerning any of these financial aid programs, please write or call:

Office of Student Services
Kansas Technical Institute
Salina, KS 67401
Phone 913/825-0275

DORMITORY

Recognizing the benefits to be gained from experience in group living, Kansas Technical Institute provides modern dormitory and dining facilities for students enrolled in a resident instruction program.

All single freshmen students who live beyond commuting distance will be required to live in a dormitory approved by the Institute for a period of two (2) semesters, summer school not included as an academic semester.

The following types of students are permitted to take residence elsewhere:

1. A student who has attended another institution of higher learning for two (2) semesters.
2. A student who is a veteran.
3. A student who is twenty-one years of age or older.
4. Special cases include the following:
 - a. Students living with relatives who live within commuting distance of Salina. This will require a signed, notarized statement from the student's parent. This form must be obtained from the Student Services Office.
 - b. Medical reasons, which require a doctor's certification.
 - c. Other similar situations.

All exceptions in this category require approval by the Dean of Student Services.

Dormitory rooms are reserved by paying a deposit of \$25.00 which is not refundable after August 15. Reservations, including the deposit, should be made as early as possible. As soon as an applicant's reservation has been confirmed by the Institute contracts for room and board will be sent to applicants for their signature. Housing regulations and campus rules of conduct will be printed on and attached to the contract and each student must agree to abide by these rules and regulations.

If the student withdraws from the Institute or obtains special permission to move from the dormitory after the beginning of the semester, the contract will be cancelled and a refund will be made according to the refund schedule printed on the reverse side of the contract form. Generally, no refund will be made for students

withdrawing during the last six (6) weeks of classes of a semester or the last three (3) weeks of a summer session.

A damage deposit of \$25.00 is required when a student moves into the dormitory. This deposit will be refunded, if there is no damage to the room, when the resident moves from the dorm.

Dormitory facilities are designed to accommodate two (2) students per room. All rooms are equipped with single beds, adequate storage, and comfortable furniture. Dormitory fees do not include weekly linen service. Blankets, pillows, and other incidental room furnishings must also be supplied by occupants.

Kansas Wesleyan will furnish a dormitory room for any Kansas Tech female student who is required to live in a dormitory.

FOOD SERVICE

The Institute provides a pleasant cafeteria conveniently located near the dormitory complex for the convenience and enjoyment of students, staff and visitors. The preparation of food is under the supervision of qualified dietitians to insure balanced and wholesome meals.

OFF-CAMPUS HOUSING

For those students who are not required to live in the campus dormitory and who wish to seek residence in the local community, there is usually adequate housing available. The Student Services Office may post known vacancies or the student may wish to contact a local real estate agency for assistance.

MARRIED STUDENT HOUSING

The Local Housing Authority has a limited number of houses available for use by qualified married students. A student must be enrolled full-time and meet a maximum net income level for the size of his family. Interested students should contact the Student Services Office for details and applications.

VETERANS AFFAIRS

Veterans comprise a substantial contingent of the total student population at KTI, and it is recognized that they require special assistance in many respects. Because of this, the Kansas Technical Institute maintains an Office of Veterans Affairs to assist veterans in receiving their entitled benefits, counseling as particularly related to veterans, assistance in locating part-time jobs, and numerous other areas which are specific to veterans' needs.

The GI Bill which was passed by Congress in 1966 establishes a comprehensive program of governmental assistance to help restore lost educational opportunities for persons who have served on active duty in the Armed Forces for a period of at least

181 consecutive days, any part of which was after January 31, 1955, and who were discharged or released under conditions other than dishonorable. The mechanics of such a program are vast. The following material was prepared to better acquaint the individual veteran with those procedures which must be performed either by himself or by the Veterans Affairs Office at Kansas Technical Institute.

The following are explanations of procedures and guidelines used in the Veterans Program. Please read the material carefully.

I. Application Procedures

Applications for the benefits may be obtained through the Regional Veterans Administration Center or the KTI Veterans Affairs Office. Early application should result in an Advance paycheck arriving at the institute in time for registration. When filling out your VA paperwork answer all questions, even if it means a response of NA (not applicable). The following documents may be required as needed:

1. DD-214-Notice of Separation. This document should accompany all initial applications.
2. Marriage Certificate-Not needed if the marriage is the first for both the veteran and wife.
3. Birth Certificate-If any previous marriages are involved.

Application and all necessary documents should be returned to the "Veterans Affairs Officer," Kansas Technical Institute six (6) weeks prior to time of enrollment. This timeliness will enable us to complete the school's part of the paperwork, and forward the completed documents to VA for speedy processing.

II. Enrollment Procedures

It is the veteran's responsibility to notify the Veterans Affairs Officer when he will be enrolling, changing numbers of hours, or dropping classes. Proper and timely certification will then be made with the veteran's help.

NOTE: When a veteran changes programs for a second time, VA counseling will be required. See your Veterans Affairs Officer if clarification is needed.

III. Procedures for Reporting Changes

Any changes in a veteran's address, course load, dependency, educational program, place of training, etc., should be reported to the Veterans Affairs Office at Kansas Technical Institute immediately. The Veterans Administration has forms for reporting these changes, or they may be obtained through the Veterans Affairs Office. In most cases, the school must certify the changes on these forms and payments will not be released until the school certification is received by the VA.

NOTE: When a veteran changes his course-load during a part of the month, he will receive the monthly payment for the course load which he was carrying at the beginning of the month. His payments will not be reduced until the beginning of the following month. For example, a veteran who drops from a full-time course load to a three-fourths load during the second week of the month will receive a payment for full-time benefits for the month in which the drop occurs, but will be reduced to the three-fourths rate at the beginning of the following month. Also, when a veteran acquires a dependent, either a wife or a child, he should immediately notify the Veterans Affairs Office which will then contact the Veterans Administration Center. Claims for a dependent will be paid for the entire period when made within one year of the marriage or birth. If the veteran does not furnish proof of the dependent with his letter, he may be asked to do so at a later date.

IV. Guidelines for Evaluating Semester Credit-Course Load Equivalents

Regular Semester		
<i>Course Load</i>		<i>Semester Credits</i>
Full-time		12 or more
¾ time		9, 10, 11
½ time		6, 7, 8
Less than ½ time (VA pays tuition and fees only)		5 or less
Summer Semester		
<i>Course Load</i>		<i>Semester Credits</i>
Full-time		6 or more
¾ time		5
½ time		3, 4
Less than ½ time (VA pays tuition and fees only)		2 or less

The amount of payments is the same as for the regular semester. Payments may be changed by legislation and therefore are not shown in this catalog.

NOTE: Non-credit deficiency courses may be included in arriving at the course load level.

HEALTH SERVICE

Emergency first aid and minor medical services are provided on the Institute campus. Injuries or illnesses which require the attention of a physician are referred to Salina clinics which perform any medical service required by a student at Kansas Technical Institute. The cost of this service, of course, will be assumed by the student.

A special student health and accident program is available to all students enrolling at Kansas Technical Institute. This program is optional but deserves serious consideration from students who are not covered under some form of medical insurance or for those who wish to supplement their existing coverage. Representatives of the insurance agency will be available to explain the program and enroll students in the program in conjunction with the Institute's regular enrollment schedule.

PLACEMENT SERVICE

Kansas Technical Institute maintains close contact with numerous industries and business firms who are interested in graduates of technical institutes as prospective employees. Students taking advantage of the Institute's Placement Center are given the opportunity to discuss their employment goals with representatives of these firms during the final year of their educational programs. These discussions may take place on the campus, or if feasible, the student is provided the opportunity to visit the site of

the firm itself in order to obtain a clearer picture of the working conditions and operations of the business establishment.

The Placement Center also maintains files of information for resource materials to use in the job pursuit process. References are available on industries and businesses in many cities in the United States. Staff of the Student Services Office are available for added guidance and assistance.

The Placement Center does not limit its services to graduates of the Institute. Current files on part-time job opportunities are maintained for the use of students who are interested in supplementing their income while they are enrolled in their educational program.

TRANSCRIPT

The transcript is the official record of a student's success at the Institute. The transcript is a record that colleges and employers use to evaluate a student or graduate of the Institute. It must be certified by the Registrar before it will be used as an official record.

Copies of the transcript may be obtained by contacting the Registrar's Office. A student may obtain transcripts at a cost of fifty cents per copy.

LIBRARY SERVICES

A vital part of every technical education center is the availability of relevant and current library resources. The library serves many functions which contribute toward better academic progress of the student body.

The library houses an authoritative, current, and relevant technical information; it provides supplementary reference material which offers a wide range of modern technological subject matter.

Audio visual materials in the library and in each department offer further opportunity for curriculum enrichment.

An inviting atmosphere is offered in the well lighted and attractive library.

Staff is able to assist students in locating materials and in the general use of the library.

STUDENT UNION

The Institute has a Student Union building designed to house all student activities. The Union is supported financially by the fees paid by all students during each enrollment period.

Some of the functions of the Student Union are to provide recreational activities such as pool and ping-pong, a well-equipped snack bar, rooms for many of the campus organizations, and a music room with a comprehensive selection of recordings.

The Student Union provides a comfortable, entertaining and relaxed atmosphere for people who enjoy the company of others.



“You don’t get lost
in the crowd.”

Student



“I wasn’t just a
number at KTI, I
was a person.”

Alumni





Student Activities

OUTLINE OF ACTIVITIES

A wide range of student activities is provided for the enjoyment and development of the student. These activities are widely diversified and all students, regardless of their personal interests, may find a group or club which will appeal to their special interests.

Students are urged to take an active role in the Student Governing Association (SGA). The SGA will participate in the development of basic codes of conduct, disciplinary measures, campus activities, and other facets of administrative organization and control. In addition, there is permanent student representation on the KTI President's Advisory Council.

Various social events will be scheduled throughout the year for the social development and enjoyment of students at the Institute. In most cases, the planning and organization of social activities will be the responsibility of representatives from the student body and the SGA.

The student chapter of the American Society of Certified Engineering Technicians (A.S.C.E.T.) is a very active campus organization. The chapter is the first student chapter established for student technicians in the United States. The ASCET chapter provides students an opportunity to become part of what will be their future professional organization.

Students who receive a semester grade point average (GPA) of 3.0 or above for twelve or more semester credits are eligible for membership in the honor fraternity, Tau Omicron Tau. The fraternity performs helpful and honorable services on the campus and gives students an opportunity for leadership and service.

Other campus activities include: photography club, student yearbook, student newspaper, ham radio club, chess club and others that may be of interest to student groups.

RECREATION AND INTRAMURALS

Recognizing the benefits to be derived from activities other than those connected with formal instruction, Kansas Technical Institute has facilities for a well-rounded program of recreation and entertainment for its students.

Students may participate in intramural competition in a wide variety of sports. In some instances, a small fee may be assessed for participating teams or individuals to defray the cost of trophies and other awards of achievement.

PARTICIPATION

Students are encouraged to participate in all activities sponsored by school organizations. Individual participation is subject to the policies and regulations of the organization in which the student is involved.

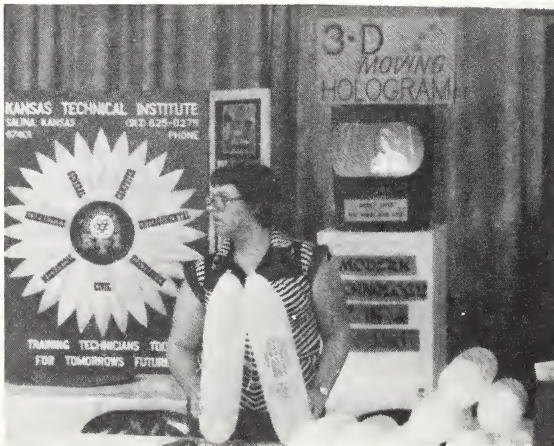
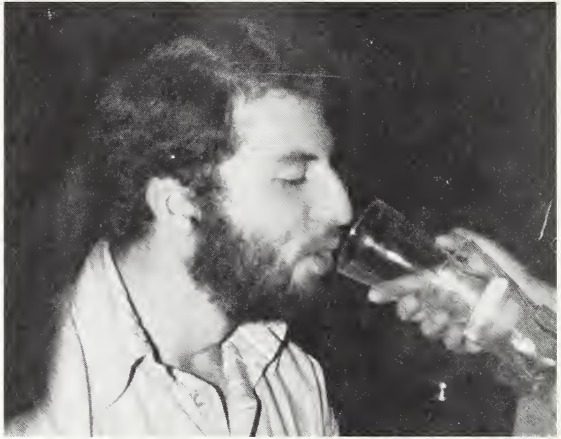
ALUMNI ASSOCIATION

Each student upon enrollment at KTI becomes a potential alumnus. After graduation his name is entered into the alumni records and maintained by the Association. Currently records are maintained on nearly 600 alumni. KTI graduates reside in over 30 states and several foreign countries.

The purpose of the Association is to provide services and benefits to each individual graduate and to the institute. All alumni programs are financed by voluntary memberships and donations from alumni and friends who remain actively interested in supporting their alma mater. The Association also maintains a Student Aid Fund for the purpose of providing scholarships and emergency loans.

"I would do it all over again!"

Student



"I enjoy working in a predominantly male field."

Alumni



Curricula
and
Course Descriptions

ACADEMIC DEPARTMENTS

Kansas Technical Institute is authorized to provide instruction in a wide field of engineering and science technology. The faculty at the Institute has a standing committee to review the needs for technology education in Kansas and work to develop a program specifically designed to meet those needs.

The Institute enrolled students in five technology programs in the fall of 1968. These five programs, used to initiate engineering technology into the State's system of higher education, have continued to be relevant to the needs of Kansas as indicated by a statewide study in the spring of 1973.

Presently there are six departments of instruction. They are:

- Aeronautical Technology
- Civil Engineering Technology
- Computer Science Technology
- Electronic Engineering Technology
- General Engineering Technology
- Mechanical Engineering Technology

Detailed curricula and course descriptions are provided in this bulletin for each of the programs of study taught by these six departments.

ENGINEERS' COUNCIL FOR PROFESSIONAL DEVELOPMENT ACCREDITATION

The following programs are accredited by ECPD as engineering technology curricula.

- Civil Engineering Technology
- Computer Science Technology
- Electronic Engineering Technology
- Mechanical Engineering Technology

The Engineers' Council for Professional Development is the nationally recognized accrediting agency operating in the fields of engineering and engineering technology.

NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS CANDIDACY STATUS

Kansas Technical Institute is a candidate for accreditation with the North Central Association of Colleges and Secondary Schools. Candidate for accreditation is a status of affiliation with a regional accrediting Commission which indicates that an institution is progressing toward accreditation. Attainment of this affiliate status does not automatically assure accreditation. Candidate for accreditation status indicates that an institution has provided evidence of sound planning, has available the resources

to implement its plans and appears to have the potential for attaining its goals within a reasonable time.

PROGRAM OPTIONS

A variety of program alternatives can be obtained to suit the specific interest of the student. A student entering the Institute may consult with the faculty in the subject area of his special interest. A specific program of study will be selected for the student at the earliest possible time to insure that the student progresses toward a degree objective with the least delay.

Extensive study and planning has resulted in a variety of programs related to ecology and environmental protection. Students interested in these specific areas of instruction should counsel with the Department Head of the Civil Engineering Technology department to determine the specific area most suitable to the student's interest.

Students who desire a less intense specialization but prefer a more general technology education may obtain a degree in General Engineering Technology.

MATHEMATICS TRANSITION PROGRAM

A large number of men and women have the interest and capabilities of a satisfactory career as an engineering technician. For various reasons many of these persons have not considered such a career during their high school experience. Frequently, new students have not completed the mathematics courses that would be most helpful to them in pursuing work in this career field.

The faculty at Kansas Technical Institute has recognized this problem and a transition program in mathematics is provided to assist those who have for some reason recognized that their mathematics ability is less than adequate.

A combination of basic mathematics applications courses and laboratory exercises assist in developing mathematical competence in students who have only fundamental working ability in math. Students entering Kansas Technical Institute will be offered a Mathematics Placement examination and will be given, if desired, the special help needed to insure that they develop competence in mathematics. This will allow them to be successful in the mathematics sequence in the technology of their choosing. If a competency in math is exhibited they may move directly into the prescribed mathematics sequence without having to participate in the Mathematics Transition Program.

ENGLISH AND READING PROFICIENCY PROGRAMS

Like the Mathematics Transition Program, the English and Reading Proficiency Programs are designed to aid students whose

level of competency in these areas may be below the normal college level.

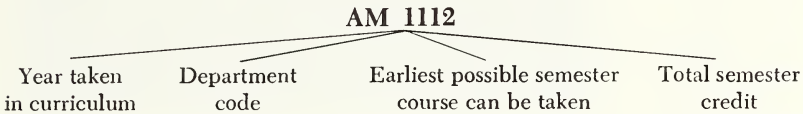
Proficiency examinations can be administered to help identify those students who need developmental work in English and Reading. The students may then enroll in Developmental English and/or Developmental Reading to prepare them for the more advanced work they will encounter and may be taken concurrently with other communication courses and technical courses.

Key to Identification of Courses

Courses are listed alphabetically by department codes as follows:

- AM—Aviation Maintenance
- CL—Civil Engineering Technology
- CP—Computer Science Technology
- EP—Environmental Protection Technology
- ET—Electronic Engineering Technology
- GT—General Technology
- MT—Mechanical Engineering Technology

The format of the course numbers is the department code plus a four digit number. The digits are explained in the following example:



Parentheses at the end of a course description indicate the amount of recitation, laboratory, and semester credits for that course. The AM 1112 example has (1-1-2) which means there is one semester credit of recitation, one semester credit of laboratory, and a two semester credit course total.

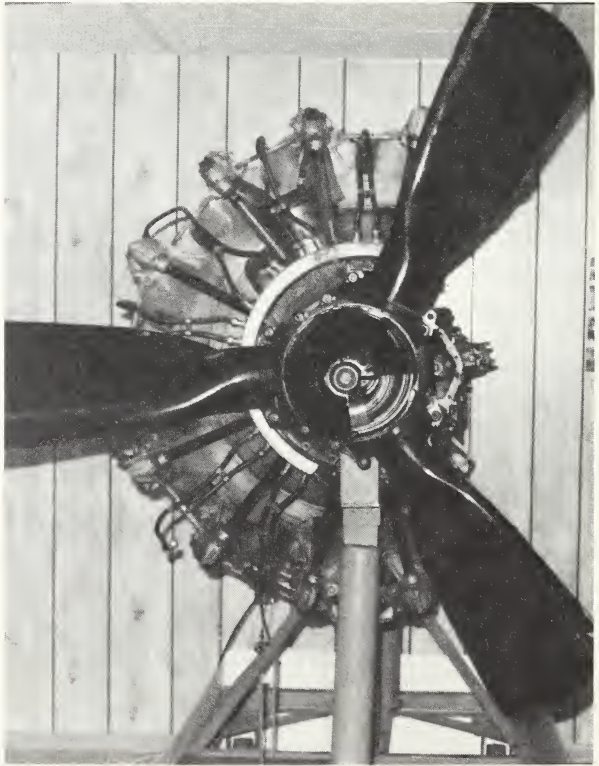
Information following the semester credit block indicates **prerequisites** or **concurrency**, where they may exist. The prerequisite courses must be taken before the course being described may be taken. Concurrency means that the course may be taken at the same time as the course being described.

Example: AM 1223 has **prerequisites** of AM 1115 and GT 1213 which means that before taking AM 1223 (Aircraft Fluid Power), the student must have completed Aircraft Science (AM 1115) and College Algebra (GT 1213).

Example: AM 2433 has **concurrent** course AM 2434 meaning that Powerplant Fundamentals (AM 2434) may be taken at the same time as AM 2433.

The 11-digit number following each course description in the Catalog is for administrative use only.

AERONAUTICAL TECHNOLOGY



AERONAUTICAL TECHNOLOGY

The aviation industry has advanced in a few short years from the embryo stage to a diversified industry. This rapid improvement of aeronautical technology is providing a stable and rewarding future for millions of persons who want to work in the field of aviation. Kansas Technical Institute provides sound programs of instruction in a variety of aviation related fields.

Options in

Aviation Maintenance

The aircraft maintenance program is fully certified as an "Aviation Maintenance Technician School No. 3344" as designated in Federal Aviation Regulation Part 147. A student who satisfactorily completes this two-year aviation maintenance program will be awarded a Certificate of Completion which will be recognized by the FAA as a document authorizing the graduate to take the federally administered airframe and powerplant (A&P) written and oral examinations. Upon passing the exams, the graduate will be a licensed, government-certified Airframe and Powerplant maintenance technician.

Airframe, Powerplant Curriculum

First Year—Fall Semester

Course No.	Course Name	Hours/Week*			Semester Credits
		R	L	S	
GT 1213	College Algebra	3	0	6	3
AM 1212	Aircraft Drawings	0	4	0	2
AM 1115	Aircraft Science	3	6	4	5
AM 1112	Aircraft Standards	1	3	2	2
AM 1114	Basic Aircraft Electricity	3	3	4	4
AM 1113	Aircraft Welding	2	3	4	3
Total Credits					19

First Year—Spring Semester

AM 1224	Airframe Systems	2	6	4	4
AM 1325	Airframe Structures and Repair	3	6	6	5
AM 1223	Aircraft Fluid Power	2	3	4	3
AM 1122	Airframe Electrical Systems	1	3	2	2
AM 1323	Navigation Aids and Communications Systems	2	3	4	3
Total Credits					17

Second Year—Fall Semester

AM 2434	Powerplant Fundamentals	3	3	6	4
AM 2433	Powerplant Induction & Fuel Systems	2	3	4	3
AM 2235	Aircraft Inspection and Assembly	3	6	6	5
AM 2232	Aircraft Wood and Fabric	1	3	2	2
AM 2443	Powerplant Ignition Systems	2	3	4	3
Total Credits					17

Second Year—Spring Semester

AM 2242	Powerplant Electrical Systems	1	3	2	2
AM 2442	Propellers	1	3	2	2
AM 2543	Powerplant Operations & Troubleshooting	1	6	2	3
AM 2644	Powerplant Overhaul	1	9	3	4
AM 2544	Gas Turbine Powerplants	2	6	4	4

Total Credits 16

Total semester credits required to complete certificate requirements 68

^o R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week.

Associate of Aeronautical Technology

A person interested in a career in production control, quality control, manufacturing supervision of aircraft and aircraft component manufacturing may consider a career in Aeronautical Technology. A graduate of this program may receive the Associate of Technology degree and would be qualified to assist production supervisors in the production, quality and manufacture of aircraft and aircraft components. This program may be taken congruently with the A&P maintenance technician program.

Aeronautical Technology Curriculum

First Year—Fall Semester

Course No.	Course Name	<i>Hours/Week^o</i>			<i>Semester Credits</i>
		<i>R</i>	<i>L</i>	<i>S</i>	
GT 1213	College Algebra	3	0	6	3
AM 1212	Aircraft Drawing	0	4	0	2
AM 1115	Aircraft Science	2	9	4	5
AM 1112	Aircraft Standards	1	3	2	2
AM 1114	Basic Aircraft Electricity	3	3	4	4

Total Credits 16

First Year—Spring Semester

GT 1212	Plane Trigonometry	2	0	4	2
AM 1325	Airframe Structures and Repair	3	6	6	5
AM 1224	Airframe Systems	2	6	4	4
AM 1223	Aircraft Fluid Power	2	3	4	3
AM 1122	Airframe Electrical Systems	1	3	2	2

Total Credits 16

Second Year—Fall Semester

GT 1124	Technical Physics	3	2	7	4
GT 1712	Written Communications	2	0	4	2
GT 1222	Analytic Geometry and Calculus I	2	0	4	2
AM 2434	Powerplant Fundamentals	3	3	6	4
AM 2433	Powerplant Induction and Fuel Systems	2	3	4	3
AM 2443	Powerplant Ignition Systems	2	3	4	3

Total Credits 18

Second Year—Spring Semester

GT 1721	Report Writing Lab	0	2	1	1
AM 2543	Powerplant Operation and Troubleshooting	1	6	2	3
AM 2544	Gas Turbine Powerplants	2	6	4	4
GT 2713	Technical Writing	3	0	6	3
GT 1413	Industrial Relations	3	0	6	3
GT 1312	Oral Communications	2	0	4	2
Total Credits					16
Total semester credits required for Associate of Technology Degree					66

* R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week.

Aviation Maintenance Management

The field of aviation has many areas that require diverse technical skills. Kansas Technical Institute offers the Airframe and Powerplant Maintenance Program that provides the Aviation Mechanics necessary for both commercial and civil aviation. These people provide a very necessary service but they find they have one basic weakness—fundamental business management.

Kansas Technical Institute has recognized this weakness and has opened a new curriculum for Aviation Maintenance Technicians. The curriculum is in Aviation Maintenance Management and is to be taught on both the Kansas Wesleyan and Kansas Tech campuses. The consortium agreement between Kansas Wesleyan and Kansas Tech has made this curriculum possible.

This curriculum is available to graduates of the KTI Aviation Maintenance Technician curriculum or to individuals who already possess an F.A.A. Airframe and Powerplant Mechanics License.

Graduates of this curriculum will find a two-fold advantage toward: First, obtaining supervisory and management positions with commercial airlines, aircraft companies, corporate business aircraft operators, fixed-base operators, repair stations and governmental flight agencies and Second, having the background for operating the managing the economically important small-town airports.

Aviation Maintenance Management Curriculum
First Year—Fall Semester

Course No.	Course Name	Hours/Week* Semester			Credits
		R	L	S	
GT 1213	College Algebra	3	0	6	3
43:112!	Principles of Management	3	0	9	3
46:101!	Principles of Accounting I	3	0	9	3
GT 1712	Written Communications	2	0	4	2
GT 1423	Economics	3	0	6	3
GT 1413	Industrial Relations	3	0	6	3
Total Credits					17

First Year—Spring Semester

GT 2713	Technical Writing	3	0	6	3
43:213!	Marketing	3	0	9	3
46:102!	Principles of Accounting II	3	0	9	3
GT 1721	Report Writing Lab	0	1	1	1
GT 1312	Oral Communications	2	0	4	2
	Elective†				5
Total Credits					17
Total semester credits required for Associate of Technology Degree					34

° R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week.

! Kansas Wesleyan Courses

† Technical electives will be selected from KTI courses with the consent of the student's advisor and approved by the Aeronautical Technology Department Head.

Part of the technical elective requirement will be waived for students who possess a private pilot license or who have completed private pilot ground school and have logged a minimum of 35 flight hours.

This curriculum is available to graduates of the KTI Aviation Maintenance Technician curriculum or to individuals who already possess an F.A.A. Airframe and Powerplant Mechanics License.

AVIATION

AM 1112 Aircraft Standards

A survey of the organization of the Federal Aviation Administration and the Civil Aeronautics Board. Emphasis will be placed on the regulations, standards, and specifications of each of these organizations. A detailed study of weight and balance procedures will be conducted in the classroom and in the laboratory. (1-1-2)

Prerequisite: None 1 41 121 1 5302

AM 1113 Aircraft Welding

Theory and skill development in aircraft welding processes. Exercises in gas welding processes as applied to ferrous and non-ferrous materials. Inert gas atomic hydrogen, and resistance welding processes are to be studied. Additional studies will be made in the following areas: welding magnesium, welding stainless steels, brazing, soldering, silver soldering. Some arc welding fundamentals will also be covered. (2-1-3) Prerequisite: None 1 41 161 1 5302

AM 1114 Basic Aircraft Electricity

A basic concept of D.C. and A.C. circuits, basic laws relating to the following: measurement of capacitance and inductance; calculating and measurement of electrical power; measuring voltage, current, resistance, continuity and leakage; relationship of voltage, current and resistance in electrical circuits; reading and interpretation of electrical circuit diagrams; inspection and servicing of batteries; electrical devices; A.C. current studies; magnetism; tubes, transistors, rectifiers, inverters; meters; D.C. and A.C. motors and generators; alternators; regulation of electrical

systems; and maintenance and inspection of electrical systems. (3-1-4) Prerequisite: None *1 41 141 1 5302*

AM 1115 Aircraft Science

A survey of aircraft nomenclature, theory of flight and aerodynamics, aircraft ground operation and servicing, and aircraft materials and processes. (3-2-5) Prerequisite: None *1 41 111 1 5302*

AM 1122 Airframe Electrical Systems

An indepth study of the following systems and components: electrical conductors; wire sizes and current carrying capacity, lacing and typing of wire bundles, cutting wire and cables, emergency splicing repairs, connecting terminal blocks, bonding and grounding, connectors, electrical equipment installation, aircraft lighting systems, and maintenance and inspection of lighting systems. (1-1-2) Prerequisite: AM 1114 *1 41 142 1 5302*

AM 1212 Aircraft Drawings

The course is designed to teach the student how to recognize and identify each kind of line as it appears in drawings, to interpret the meaning of the lines as they relate to surfaces and details in drawings. The student will make drawings illustrating major repairs or alterations, and study the reading and interpretation of blueprints. (0-2-2) Prerequisite: None *1 41 131 1 5302*

AM 1223 Aircraft Fluid Power

A study of basic fluid mechanics as it applies to practical applications in aircraft systems. Compressible and incompressible fluid systems will be studied. (2-1-3) Prerequisites: AM 1115, GT 1213 *1 41 112 1 5302*

AM 1224 Airframe Systems

A study of the airframe systems and components common to various types of general aviation aircraft. (2-2-4) Prerequisite: AM 1115 *1 41 122 1 5302*

AM 1323 Navigational Aids and Communications Systems

A survey study of the aids to navigation and communications used in light and intermediate class aircraft. Operation and installation of the various types of equipment will be stressed. (2-1-3) Prerequisite: AM 1114 *1 41 152 1 5302*

AM 1325 Airframe Structures and Repair

A study of materials commonly used in airframe structures and the associated study of making structural repairs according to recommended procedures. Skills in sheetmetal are stressed. (3-2-5) Prerequisite: AM 1115 *1 41 132 1 5302*

AM 2232 Aircraft Wood and Fabric

A course designed to acquaint the student with the various fabric coverings used on aircraft and methods used in application of finishes to aircraft surfaces, also includes a study of materials commonly used in airframe structures and the associated study of making structural repairs according to recommended procedures. Skills in woodworking are stressed. (1-1-2) Prerequisite: None *1 41 233 1 5302*

AM 2235 Aircraft Inspection and Assembly

A study of the assembly, assembly procedures, manufacturing procedures, and inspection of aircraft components. This course also covers in detail the inspections required in aircraft maintenance, aircraft alterations and inspections governing the issuance of airworthiness certificates, either under the manufacturers type certificate or a supplemental type certificate. (3-2-5) Prerequisites: GT 1513, AM 1212, AM 1115, AM 1112, AM 1114 *1 41 243 1 5302*

AM 2242 Powerplant Electrical Systems

An in-depth study of the following powerplant electrical systems and components: general requirements of powerplant electrical systems, lacing and typing of wire bundles, cutting wire and cables, stripping wire and cables, emergency splicing repairs, connecting terminal lugs and terminal blocks, bonding and grounding, connectors, conduits, electrical equipment installation, reciprocating engine starting systems, starting system using combination inertia starter, direct cranking electric starting system for large reciprocating engines, direct-cranking electric starting system for small aircraft. (1-1-2) Prerequisite: AM 1114 *41 244 1 5302*

AM 2433 Powerplant Induction and Fuel Systems

A study of aircraft induction and fuel metering systems including fuels, carburetors, fuel injection systems, superchargers and other induction system components used to insure a dependable and accurate fuel supply at any flight configuration and attitude. (2-1-3) Concurrent: AM 2434 *1 41 223 1 5302*

AM 2434 Powerplant Fundamentals

A study of the principles of operation, design features and operating characteristics of reciprocating aircraft engines. Includes the study of radial, in-line and horizontal opposed engines. (3-1-4) Prerequisite: None *1 41 213 1 5302*

AM 2442 Propellers

A study of the use, maintenance, and inspection of propellers, and their related control systems. (1-1-2) Concurrent: AM 2434 *1 41 214 5302*

AM 2443 Powerplant Ignition Systems

A study of battery, magneto high and low tension ignition systems for today's aircraft. Emphasis will be placed on troubleshooting, repair, and timing of aircraft ignition systems. (2-1-3) Prerequisite: AM 1114; Concurrent: AM 2434 1 41 253 5302

AM 2543 Powerplant Operation and Troubleshooting

Experience in installation, operation, and removal of reciprocating engines. Engine analysis and diagnosis of malfunctions, including methods of remedy are items that are fundamental to the operation phase of this course. (1-2-3) Prerequisite: AM 2434 1 41 224 1 5302

AM 2544 Gas Turbine Powerplant

Advanced study of the fundamentals of gas turbine powerplants including principles of operation, studies of supporting systems, and methods of inspection are fundamentals of this course. (2-2-4) Prerequisite: AM 2434 1 41 254 1 5302

AM 2644 Powerplant Overhaul

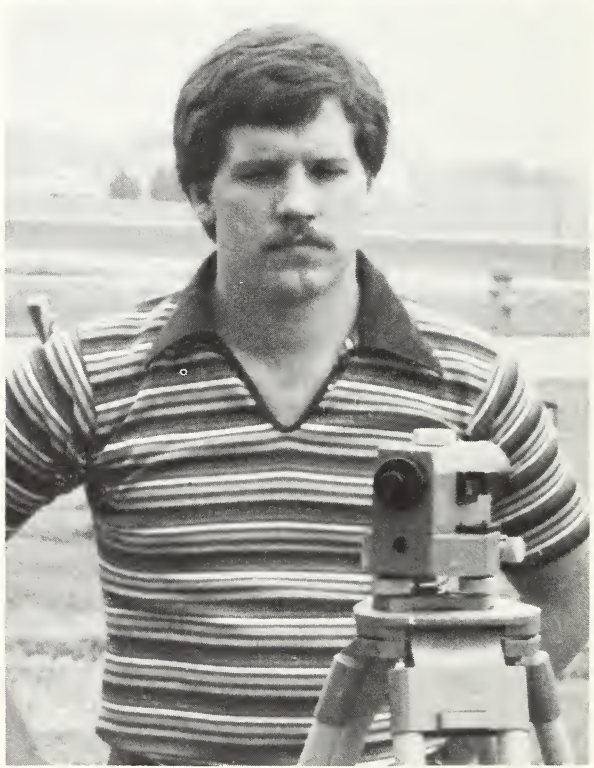
Practical experience in overhauling reciprocating engines. Some experience will be gained on radial engines; however, emphasis will be placed on small opposed engines of a current popular variety. Attention will be devoted to various inspection methods, allowable tolerances, replacement procedures, and assembly. (1-3-4) Prerequisite: AM 2434 1 41 234 1 5302

AM 2930 Problems in Aeronautical

A course in which advanced study is done in a specific area chosen by the instructor. (1 to 6) Prerequisite: Instructor's consent 1 41 293 3 5302

CIVIL

ENGINEERING
TECHNOLOGY



CIVIL ENGINEERING TECHNOLOGY

Scientific research and new technological developments have made great changes in the field of civil engineering, increasing the need for improved technical education and the highly skilled technician. The use of electronic measuring devices in surveying and the computer in structural analysis are only two revolutionary advancements in this fast moving field.

The Civil Engineering Technician, to keep abreast of these new advancements, must acquire a vast source of technical knowledge and competence. To do so the technician will study in the areas of construction materials sampling and testing, construction equipment and practices, principles of surveying and photogrammetry and their applications, structural design and fabrication, as well as related areas of science, math, economics and personnel management.

Options In:

Civil Engineering Technology

The program will equip and prepare the Civil Technician for employment in industries dealing with the design and construction of highways, bridges, railroads, airports, water supply and distribution projects, and other projects ranging from small scale construction jobs to those involving tremendous capital expenditures. Civil Engineering Technicians have many employment opportunities.

Civil Engineering Technology Curriculum

First Year—Fall Semester

Course No.	Course Name	Hours/Week*			Semester Credits
		R	L	S	
GT 1213	College Algebra	3	0	6	3
GT 1212	Plane Trigonometry	2	0	4	2
GT 1311	Materials Sampling & Testing	0	2	1	1
GT 1113	Applied Chemistry	3	0	6	3
MT 1113	Technical Drafting	0	6	3	3
GT 1712	Written Communications	2	0	4	2
GT 1312	Oral Communications	2	0	4	2
Total Credits					16

First Year—Spring Semester

GT 1124	Technical Physics	3	2	7	4
GT 1222	Analytic Geometry & Caculus I	2	0	4	2
CL 1322	Soils & Foundations	1	2	3	2
CL 1124	Plane Surveying	2	6	4	4
CL 1221	Survey Drafting	0	2	1	1
GT 1721	Report Writing Lab	0	2	1	1
GT 1413	Industrial Relations	3	0	6	3
Total Credits					17

Second Year—Fall Semester

CL 2435	Statics & Strength of Materials	5	0	10	5
GT 2232	Analytic Geometry & Calculus II	2	0	4	2
MT 2533	Fluid Mechanics	2	2	5	3
CL 2134	Route & Construction Surveying	2	6	4	4
CL 2531	Photogrammetry	0	2	1	1
GT 2713	Technical Writing	3	0	6	3
Total Credits					18

Second Year—Spring Semester

CL 2445	Structural Design	3	4	8	5
CL 2532	Construction Methods & Estimating	1	2	3	2
CL 2444	Transportation Systems	2	4	6	4
GT 1423	Economics	3	0	6	3
MT 2631	Management & Human Development	1	0	2	1
Total Credits					15

Total semester credits required for Associate of Technology Degree 66

° R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week.

Environmental Protection Technology

Rapidly growing public concern over environmental quality has resulted in a dramatic increase in the manpower needed to develop, plan and implement pollution prevention and control activities. Although mass public concern is relatively recent, the needed technology has been developing for many years. It was begun largely by the concern and efforts of health officers and sanitary engineers in providing safe supplies of drinking water, milk and foods; and by many natural resource and wildlife conservationists. A wide variety of professionals and technicians are presently involved in a broad scale program of research, protecting and restoring the quality of our modern environment.

Environmental protection and control efforts represent a diverse area of work and consequently draw heavily upon a wide variety of occupational skills. Virtually every occupation can be related in some phase to an aspect of environmental protection, resource conservation and development of impact statements. The extensive nature of environmental control measurements and pollutant detection for permit applications has resulted in a wide spectrum of occupations. These occupations demand skill levels from basic operation jobs to higher educational technician through the advanced PhD levels.

A program in Environmental Protection Technology, closely related to the Civil Engineering Technology program at K.T.I., will develop the Environmental Technicians to actively provide the technical and field support for solving the problems of the nation's land, air and water quality. The Environmental Protec-

tion Technology program is established as a broad educational program so that the student may select one of several career possibilities.

Career Options and Employment

An Environmental Technician performs functions in the areas of pollution survey and control; water and waste systems design; water, land and air monitoring; laboratory techniques and environmental inspection. His purpose is protecting and aiding in the correction and improvement of our inherited resources. The Environmental Protection Technology program trains the student to provide technical support for solving the vast problems of environmental quality but also aids in the development of desirable quantity supply for communities and industry. The graduate will possess the lab and technical design background necessary to perform the economically applied functions sought by many firms and agencies.

The basic program may be expanded by taking additional courses on campus in Civil, Mechanical, Computer and Electronics. Close cooperation is present with Kansas Wesleyan for students to obtain credits in both biology and advance chemistry. This allows further depth of knowledge tailored to individual desire.

Environmental Protection Technology Curriculum

First Year—Fall Semester

Course No.	Course Name	Hours/Week ^o			Semester Credits
		R	L	S	
GT 1213	College Algebra	3	0	6	3
GT 1212	Plane Trigonometry	2	0	4	2
MT 1113	Technical Drafting	0	6	3	3
GT 1113	Applied Chemistry	3	0	6	3
GT 1111	Applied Chemistry Lab	0	2	1	1
GT 1712	Written Communications	2	0	4	2
EP 1312	Water Resources, Domestic Supply	2	0	2	2
Total Credits					16

First Year—Spring Semester

GT 1222	Analytic Geometry and Calculus I	2	0	4	2
GT 1124	Technical Physics	3	2	7	4
CL 1124	Plane Surveying	2	6	4	4
GT 1413	Industrial Relations	3	0	6	3
GT 1721	Report Writing Lab	0	2	1	1
DP 1233	Chemistry and Microbiology of Water	1	2	3	3
Total Credits					17

Second Year—Fall Semester

EP 2333	Domestic Water Treatment Methods	2	1	3	3
GT 2232	Analytic Geometry and Calculus II	2	0	4	2
MT 2533	Fluid Mechanics	2	2	5	3
CL 2642	Civil Technology Design (Storm Sewers)	1	2	3	2
GT 2713	Technical Writing	3	0	6	3
EP 2243	Chemistry and Microbiology of Waste	1	2	3	3
Total Credits					16

Second Year—Spring Semester

GT 1312	Oral Communications	2	0	4	2
CL 2643	Civil Technology Design (Waste Collection and Treatment Systems)	2	2	5	3
CL 2433	Civil Technology Design (Water Systems)	2	2	5	3
MT 2631	Management and Human Development	1	0	2	1
EP 2343	Waste Treatment Methods	2	1	3	3
GT 1423	Economics	3	0	6	3
EP 2352	Environmental Field Survey & Reporting	0	4	2	2
Total Credits					17

Total semester credits required for Associate of Technology Degree 66

* R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week.

NOTE: The following are additional courses which are offered within the Environmental Protection Technology Curriculum:

- EP 1223 Environmental Public Health
- EP 2930 Problems in Environmental Technology

It is also possible for students to take additional coursework in the areas of microbiology, biology, entomology, zoology and chemistry through the Salina College Consortium.

Surveying Technology

From as early as 1400 B.C. man has found it necessary to determine property boundaries and to divide areas of land in smaller sections. Over the years the use of surveying has expanded until today it is impossible to imagine any land transaction or construction project that does not make use of some type of survey.

Surveys are necessary for the planning, design and layout of all major engineering projects. Surveys are used for subdivisions, buildings, bridges, railroads, highways, airports, canals, dams, irrigation and drainage projects and in the preparation of any type of map. A surveyor must be able to think logically, to plan and to take pride in his work. He must be able to work and have the ability to make a neat and orderly record of his measurements and calculations.

The tremendous amount of physical development in our country has created a need for qualified surveyors at a faster rate than our schools have been able to produce them. Graduates of the Surveying Technology option will be able to find employment in the areas of construction, as governmental surveyors

(federal, state, county and municipal) and in the fields of engineering consulting and private surveying.

It's important to note that any person who goes into private practice must be licensed. This program combined with the necessary work experience will help the individual qualify to take the Surveying Examination.

Surveying Technology Curriculum

First Year—Fall Semester

Course No.	Course Name	Hours/Week ^o			Semester Credits
		R	L	S	
GT 1213	College Algebra	3	0	6	3
GT 1212	Plane Trigonometry	2	0	4	2
GT 1413	Industrial Relations	3	0	6	3
MT 1113	Technical Drafting	0	6	3	3
GT 1712	Written Communications	2	0	4	2
GT 1312	Oral Communications	2	0	4	2
CL 1311	Materials Sampling & Testing	0	2	1	1
Total Credits					16

First Year—Spring Semester

CL 1221	Survey Drafting	0	2	1	1
GT 1124	Technical Physics	3	2	7	4
GT 1222	Analytic Geometry & Calculus I	2	0	4	2
CL 1124	Plane Surveying	2	6	4	4
GT 1721	Report Writing Lab	0	2	1	1
CL 1322	Soils & Foundations	1	2	3	2
CL 1123	Land Surveys	2	3	4	3
Total Credits					17

Second Year—Fall Semester

GT 2232	Analytic Geometry & Calculus II	2	0	4	2
CL 2435	Statics & Strength of Materials	5	0	0	5
CL 2134	Route & Construction Surveying	2	6	4	4
CL 2531	Photogrammetry	0	2	1	1
GT 2713	Technical Writing	3	0	6	3
CL 2133	Surveying Astronomy	3	0	6	3
Total Credits					18

Second Year—Spring Semester

CL 2444	Transportation Systems	2	4	6	4
CL 2532	Construction Methods & Estimating	1	2	3	2
GT 1423	Economics	3	0	6	3
MT 2631	Management & Human Development	1	0	2	1
CL 2143	Surveying Law	3	0	6	3
CL 2142	Advanced Surveying	1	3	2	2
Total Credits					15

Total semester credits required for Associate of Technology

Degree 66

^o R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week.

CIVIL ENGINEERING TECHNOLOGY

CL 1123 Land Surveys

A course dealing with the procedures for researching records, conducting surveys, formulating descriptions, and producing plats which relate to the surveying of land. (2-1-3) Prerequisite or concurrent: CL 1124 1 43 103 0 5309

CL 1124 Plane Surveying

This course in the theory and practice of obtaining field measurements for surveying. Emphasis is placed on accuracy and how to avoid or minimize errors and mistakes. (2-2-4) Prerequisite or concurrent: GT 1212 1 43 122 1 5309

CL 1221 Survey Drafting

This course consists of making the various types of maps and plats common to surveying. "Certificates" for property and mortgage surveys, topographic maps, and subdivision plats are prepared. Office calculations as they relate to surveying are also used. (0-1-1) Prerequisite: MT 1113 1 43 122 1 5309

CL 1311 Materials Sampling and Testing

A study of aggregates in respect to their use for asphalt and concrete construction. the study includes sampling techniques and methods of testing to conform with the American Society of Testing Materials and the American Association of State Highway and Transportation Officials specifications. Concrete mix design along with field and laboratory testing is emphasized. (0-1-1) Prerequisite: None 1 43 121 1 5309

CL 1322 Soils and Foundations

This course covers the criteria used in the selection, design and construction of the elements of a structure that transfers its total load to the underlying formation. Physical characteristics of compacted and uncompacted soils, soil bearing qualities and an insight into the design for footings, walls, piers and piling used for foundation purposes. (1-1-2) Prerequisite: GT 1222 1 43 132 1 5309

CL 2133 Surveying Astronomy

A study of the definitions and methodology used in determining latitude, longitude, time, and azimuth from solar and polar observations. (3-0-3) Prerequisites: None 1 43 205 0 5309

CL 2134 Route and Construction Surveying

A study of the geometry involved in vertical and horizontal alignment of roads and streets. The effects of the alignment on grades, design speed and slight distance are considered. In the laboratory the knowledge is used to perform the staking necessary

for preliminary studies as well as construction. (2-2-4) Prerequisite: CL 1124 1 43 203 1 5309

CL 2142 Advanced Surveying

A study of the advanced areas of surveying with primary emphasis on geodetic surveying and the use of electronic surveying equipment and computers in the surveying field. (1-1-2) Prerequisites: CL 2134, CL 1123 1 43 207 0 5309

CL 2143 Surveying Law

A study of the legal aspects that apply to the surveying profession, and the role of the surveyor within the judicial frame work of our court system. (3-0-3) Prerequisite: CL 1123 1 43 206 0 5309

CL 2433 Civil Technology Design (Water Systems)

A continuation of hydraulics in the specific application to a domestic water supply system. It includes distribution requirements, layout and sizing as well as materials, specifications, codes and construction methods. (2-1-3) Prerequisite: MT 2533 1 43 213 1 5309

CL 2435 Statics and Strength of Materials

A study of forces, stresses, structures, and design characteristics of a variety of engineering components. (5-0-5) Prerequisite: GT 1124 1 43 243 0 5309

CL 2432 Statics

A study of forces and their effects on the bodies upon which they act. (2-0-2) Prerequisites: GT 1124 1 43 223 0 5309

CL 2443 Strength of Materials

A study of the internal resistance to external forces. The course also deals with the resulting changes in the dimensions and shapes of bodies produced by outside forces. (3-0-3) Prerequisites: CL 2432 1 43 264 0 5309

CL 2444 Transportation Systems

A study of the design of transportation systems with emphasis on highways, urban roadways, railroads and airports. General topics included are roadway alignment, drainage structures and pavements. (2-2-4) Prerequisite: CL 2134 1 43 204 1 5309

CL 2445 Structural Design

A course combining the design of structures in reinforced concrete and structural steel. Basic stress calculations and design concepts are studied for use in either a design or inspection role. (3-2-5) Prerequisite: CL 2435 1 43 214 1 5309

CL 2743 Structural Steel Design

A course covering the basic fundamentals of structural steel design. Stress calculations and design concepts are studied for

use in either a design or inspection role. (2-1-3) Prerequisites: CL 2435 1 43 274 1 5309

CL 2753 Reinforced Concrete Design

A course covering the basic fundamentals of reinforced concrete design. Stress calculations and design concepts are studied for use in either a design or inspection role. (2-1-3) Prerequisites: CL 2435 1 43 275 1 5309

CL 2531 Photogrammetry

An introduction to the principles, equipment, techniques, and applications of using aerial photographs for topographic and plainimetric mapping, site location and highway design and construction. (0-1-1) Prerequisite: CL 1124 1 43 253 1 5309

CL 2532 Construction Methods and Estimating

A study of the basic equipment needs, usage, costs, and quantity determinations for planning and estimating construction projects. Field trips through construction sites and visitation with the inspectors assist in developing reporting procedures and inspection responsibilities. (1-1-2) Prerequisite: None 1 43 263 1 5309

CL 2642 Civil Technology Design of Storm Sewers

Surface runoff and collection hydraulics from established data are studied along with grade line layout, detailing, materials and construction methods. (1-1-2) Prerequisite or concurrent: MT 2533 1 43 244 1 5309

CL 2643 Civil Design (Sewage Collection and Treatment Systems)

A continuation of hydraulics in specific applications to a collection, transporting and treatment system. It includes the use of established data to determine collection requirements, layout and sizing of the sytem. A study of treatment systems relative to capacities, quantities and effluent will be included. The materials, specifications, sites and construction methods will be integrated into the course at appropriate times to provide clarification and understanding. (2-1-3) Prerequisite: MT 2533 1 43 254 1 5309

CL 2930 Problems in Civil

A course in which advanced study is done in a specific area chosen by the student. (1 to 6) Prerequisite: Instructor's consent 1 43 293 3 5309

EP 1223 Environmental Public Health

An introductory course in the theory and practice of the role of environmental Sanitation in the field of Public Health. The course covers elements of communicable disease, air pollution, milk and food and institutional sanitation, disinfection, and insect and rodent control, occupational health, plumbing inspec-

tion, vital statistics and Public Health organizations. (3-0-3) Prerequisite: None *1 43 112 1 5399*

EP 1312 Water Resources and Domestic Supply

An introductory course to provide an overview of the major areas of emphasis in Environmental Technology. Included are the areas of domestic water supply and treatment as well as sewage collection and treatment. (2-0-2) Prerequisite: None *1 43 131 0 5399*

EP 1233 Chemistry and Microbiology of Water

A course designed to help the student visualize the more important biological phenomena encountered in connection with water and provide the opportunity to observe comparable phenomena first hand in the laboratory. (1-2-3) Prerequisite: GT 1111 *1 43 123 5399*

EP 2243 Chemistry and Microbiology of Waste

A course designed to help the student visualize the more important biological phenomena encountered in connection with sewage and provide the opportunity to observe comparable phenomena first hand in the laboratory. (1-2-3) Prerequisite: GT 111 1 43 224 1 5399

EP 2333 Domestic Water Treatment Methods

A study of the purification methods, objectives and the results that may be expected from each. The laboratory will provide the vehicle to allow first hand observation of facilities in operation. (2-1-3) Prerequisite: EP 2233 *1 43 233 1 5399*

EP 2343 Waste Treatment Methods

A study of the different methods, objectives, and the results that may be expected from each. The laboratory provides the vehicle for first hand observation of facilities in operation. (2-1-3) Prerequisite: CL 2243 *1 43 234 1 5399*

EP 2352 Environmental Field Survey

An introductory course in the theory and practice of the role of environmental sanitation in the field of Public Health. The course covers elements of communicable disease, air pollution, milk and food and institutional sanitation, disinfection, and insect and rodent control, occupational health, plumbing inspection, vital statistics and Public Health organizations. (3-0-3) Prerequisite: None *1 43 235 1 5399*

EP 2930 Problems in Environmental

A course in which advanced study is done in a specific area of interest chosen by the student. (1 to 6 hrs.) Prerequisite: None *1 43 293 5399*

COMPUTER SCIENCE TECHNOLOGY



COMPUTER SCIENCE TECHNOLOGY

The expansion of computer usage in the scientific industry has grown steadily since the beginning of the U. S. space program. Almost any scientific endeavor, whether it be in education, the space program, the food industry, agriculture, or any other area, uses the computer to do the bulk of the laborious calculations and provide information for planning, simulation, and even graphical drawings.

The person majoring in Computer Science Technology at KTI has an immediate objective to become a computer programmer and/or systems analyst in the scientific or engineering fields. The Systems Analyst formulates mathematical models of scientific engineering, and other technical problems for solution by computer: They analyze the problem, consult with engineering or scientific personnel using their language to define the project, search the library for applicable mathematical formulations, prepare the model, reduce the problem originator, and prepare reports. The Computer Programmer works closely with the systems analyst to define the problem, analyze the input data and output requirements, and prepare an actual program of instruction which the computer can follow to solve the problem. Another popular field for scientific programmers is the area of Systems Programming. The systems programmer develops or modifies software so that maximum benefits can be derived from the hardware.

Both analyst and programmer must be able to apply knowledge of advanced mathematics, established precepts in the technical or scientific area involved, and have a clear understanding of the capabilities of the computer and peripheral equipment to be used. The Institute's laboratories offer each student "hands on" operation of the varied equipment of this profession from the keypunch machines through the digital and analog computer systems.

Options In:

Computer Science Technology

Computer Science Technology is a challenging profession and one which is very rewarding to the individual who has strong logical and creative abilities. A wide range of job opportunities are available in the field.

Computer Science Technology Curriculum

First Year—Fall Semester

Course No.	Course Name	Hours/Week*			Semester Credits
		R	L	S	
CP 1212	Computer Science Concepts	2	0	4	2
CP 1113	Fortran IV	2	2	5	3
GT 1213	College Algebra	3	0	6	3
GT 1212	Plane Trigonometry	2	0	4	2
GT 1712	Written Communications	2	0	4	2
GT 1113	Applied Chemistry	3	0	6	3
Total Credits					15

First Year—Spring Semester

CP 1122	Microcomputers and Microprocessors	2	0	4	2
GT 1222	Analytic Geometry and Calculus I	2	0	4	2
ET 1113	D. C. Circuits	2	2	5	3
GT 1721	Report Writing Lab	0	2	1	1
GT 1124	Physics	3	2	7	4
CP 1222	Computer System Architecture	2	0	4	2
CP 2122	PL/I or				
CP 2222	RPG	1	2	3	2
Total Credits					16

Second Year—Fall Semester

CP 2134	Bal for 1130 and 360	2	4	6	4
CP 2233	Statistics and Quality Control	2	2	5	3
GT 1423	Economics	3	0	6	3
GT 2232	Analytic Geometry and Calculus II	2	0	4	2
CP 2133	Numerical Methods	2	2	5	3
CP 1123	COBOL	2	2	5	3
Total Credits					18

Second Year—Spring Semester

CP 2143	Computer Systems Seminar	2	2	5	3
CP 2232	Computer Graphics	0	4	2	2
CP 2444	Analog Computer Methods with Applied Differential Equations	3	2	7	4
GT 1413	Industrial Relations	3	0	6	3
GT 2713	Technical Writing	3	0	6	3
GT 1312	Oral Communications	2	0	4	2
Total Credits					17

Total semester credits required for Associate or Technology Degree 66

* R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week

Electronic Data Processing Technology

Every segment of life today is affected either directly or indirectly by the electronic computer. The computer is a powerful tool which is helping to develop our modern world. At first the computer was used primarily as a research tool; however, applications are now being found in all areas of business and industry. Credit and purchases, bank statements, pay checks, and grocery

check-out systems are now computerized along with many other daily transactions.

The person who majors in electronic data processing technology at KTI has an immediate objective to become a computer programmer and/or systems analyst dealing with applications in the business field. The Systems Analyst develops ordered methods for data collection, processing and reporting. The objective is to improve data processing efficiency, either making the best use of available equipment or determining the need for different equipment. The Computer Programmer works closely with the systems analyst to define problems, analyze input data and output requirements, and prepare the program of instructions which the computer follows to solve problems and prepare reports.

Both analyst and programmer must be able to apply knowledge of computer concepts, accounting principles, management methods, and have a clear understanding of the capabilities of the computer and peripheral equipment to be used. The training program at KTI provides the competence in the various phases of business-oriented computer languages and concepts, accounting procedures, business law, and management techniques. The Institute's laboratories offer each student "hands on" operation of the varied equipment of their profession from the keypunch through the digital computer system.

Electronic Data Processing Technology offers a challenging and rewarding profession to individuals who wish to work in the business-oriented computer area. A wide range of job opportunities is available in the field.

Electronic Data Processing Technology Curriculum

First Year—Fall Semester

Course No.	Course Name	Hours/Week ^o			Semester Credits
		R	L	S	
46:101	Principles of Accounting I	3	0	9	3
GT 1213	College Algebra	3	0	6	3
CP 1113	Fortran IV	2	2	5	3
CP 1212	Computer Science Concepts	2	0	4	2
GT 1712	Written Communications	2	0	4	2
GT 1113	Applied Chemistry	3	0	6	3
Total Credits					16

First Year—Spring Semester

46:102	Principles of Accounting II	3	0	9	3
GT 1423	Economics	3	0	6	3
CP 1122	Microcomputers and Microprocessors	2	0	4	2
GT 1721	Report Writing Lab	0	2	1	1
CP 1222	Computer System Architecture	2	0	4	2
Option:					
CP 2122	PI/I or				
CP 2222	RPG	1	2	3	2
	Electives†				4
Total Credits					17

Second Year—Fall Semester

43:216	Business Law	3	0	9	3
43:112	Principles of Management Science	3	0	9	3
CP 2233	Statistics and Quality Control	2	2	5	3
CP 2134	Bal for 1130 and 360	2	4	6	4
CP 1123	Cobol	2	2	5	3
	Electives†				2

Total Credits 18

Second Year—Spring Semester

DP 2243	EDP Applications	1	4	4	3
CP 2143	Computer System Seminar	2	2	5	3
GT 2713	Technical Writing	3	0	6	3
GT 1312	Oral Communications	2	0	4	2
	Electives†				4

Total Credits 15

Total semester credits required for Associate of
Technology Degree 66

† Electives; CP 2232, CP 2133, 43:213, CP 2930, GT 1212, GT 1222, GT 1124, ET 1113, GT 2232, 46:315, GT 1413, CP 2444, 46:201, 46:315.

° R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week.

NOTE: Prerequisite requirements must be satisfied.

COMPUTER SCIENCE TECHNOLOGY

CP 1113 Fortran IV

The description of a digital computing system and the strategy of problem-solving using FORTRAN IV. Including the concepts and properties of Algorithms with numerous problems solved by the student. In the laboratory students write, process and debug programs using the computer on an open shop basis. (2-1-3)
Prerequisite or concurrent: GT 1213 1 42 121 1 5103

CP 1122 Microcomputers and Microprocessors

Microprocessor operation and architecture, stressing applications for industrial uses. Evaluation techniques for microprocessors and microcomputers including limitations. Also covers the various numbering systems, Boolean logic circuits, fundamentals of internal MOS, LSI, MSI, and TTL chip structure and characteristics, microcode, control memories, and programming microprocessor computers. Microprocessor simulation on the institute's on-campus computer system and "hands-on" use of a Motorola M6800 Microcomputer System are included. (2-0-2)
Prerequisite: None 1 42 122 0 5103

CP 1132 Introduction to Basic

Study of the computer language "BASIC", used on many microcomputers, minicomputers, and time-sharing systems. In addition to a one hour lecture, a two hour laboratory using the on-campus computer system is provided for solving fundamental programing problems. Variations of "BASIC" called AD-

VANCED BASIC and EXTENDED BASIC will be covered if time permits. (1-1-2) Prerequisites: None *1 42 112 1 5103*

CP 1123 Cobol

This course provides the business oriented student (or the scientific oriented student) with the programming skills required in the general industrial computer installation. Emphasis is placed on business problems using the cobol language. (2-1-3) Prerequisite or concurrent: CP 1212 *1 42 132 1 5103*

CP 1212 Computer Science Concepts

This course is designed to provide the student with the basic knowledge and experience necessary to use computers effectively in the solution of problems and to introduce the student to the relations which hold among the elements of data involved in problems, the structures of storage media and machines, and the methods which are useful in representing structured data in storage, and the techniques for operating upon data structures. (2-0-2) Prerequisite: None *1 42 131 0 5103*

CP 1222 Computer System Architecture

Design of computer systems, emphasizing computer architecture. Basic information units, information storage and accessing, addressing techniques, control functions, and input-output devices are covered, as are parallel processing and multiprocessing systems. Specific computer systems that demonstrate underlying principles are studied. (2-0-2) Prerequisite: CP 1212 *1 42 222 0 5103*

CP 2122 PL/1

The detailed structure of the compiler language PL/1. Emphasis is placed on the language elements, grammars and the adaption of the programming language to the solution of problems. (1-1-2) Prerequisite: None *1 42 231 1 5103*

CP 2133 Numerical Methods

Numerical methods necessary for finding solutions to mathematical equations and for analysis of tabulated data. Topics include error analysis, linear systems of equations, numerical integration techniques, numerical solutions of partial differential equations and finite differences. The algorithmic approach and the efficient use of the computer are emphasized. (2-1-3) Prerequisite of concurrent: GT 2232 *1 42 223 1 5103*

CP 2134 Bal for 1130/360

Designed to teach programming of a digital computer at the machine language and assembly language levels with emphasis on IBM system 1130 and system 360 computers. Simulators, emulators, macro systems and programs with subroutines in other languages will be considered. In the laboratory the student

writes, processes and debugs programs using the computer. (2-2-4) Prerequisite: CP 1113 and CP 1122 *1 42 212 1 5103*

CP 2143 Computer Systems Seminar

Covers file structures and sorting basics, the basics of multiprogramming, teleprocessing, high level monitor systems, virtual storage, and time sharing systems. Also surveys state-of-the-art computer hardware and equipment. (2-1-3) Prerequisite or concurrent: CP 2134 *1 42 234 1 5103*

CP 2222 RPG

The course introduces the student to the concepts of the Report Program Generator (RPG) programming language, which is used primarily in generating business reports such as payroll and labor accounting, statistical studies, accounts receivable, accounts payable, inventory and material accounting, and other business oriented reports. Particularly recommended for the business student. (1-1-2) Prerequisite: None *1 42 224 1 5103*

CP 2232 Computer Graphics

Study of the problems in handling graphic information. Input-output and representation will be introduced from the hardware and software points of view. The course is intended to serve both the student interested in specializing in computer graphics and the student who seeks to apply graphic techniques to his particular problem. Topics include display memory, generation of points, vectors, etc. Interactive versus passive graphics. Analog storage of images on microfilm. Digitalizing and digital storage. Pattern recognition by features, syntax tables, random nets. The mathematics of three-dimensions, projections, and the hidden-line problem. "Graphical program," computer-aided design and instruction. (0-2-2) Prerequisite: CP 1113 *1 42 243 1 5103*

CP 2233 Statistics and Quality Control

An introduction to elementary statistics with emphasis on the application of statistics. Topics include description and representation of sample data, probability, theoretical distributions, sampling, estimating, correlation, regression, CPM, PERT, and computer statistical routines. (2-1-3) Prerequisite: CP 1113, GT 1213 *1 42 233 1 5103*

CP 2444 Analog Computer Methods with Applied Differential Equations

Introduction to analog to digital converters, digital to analog converters, hybrid systems, electronic analog computer systems, and analog system simulation on the IBM 1130 system. Study of elementary mathematical models involving practical application of differential equations and their solution on analog and digital computers. (3-1-4) Prerequisite: GT 2232 and ET 1113 *1 42 244 1 5103*

CP 2930 Problems in Computer

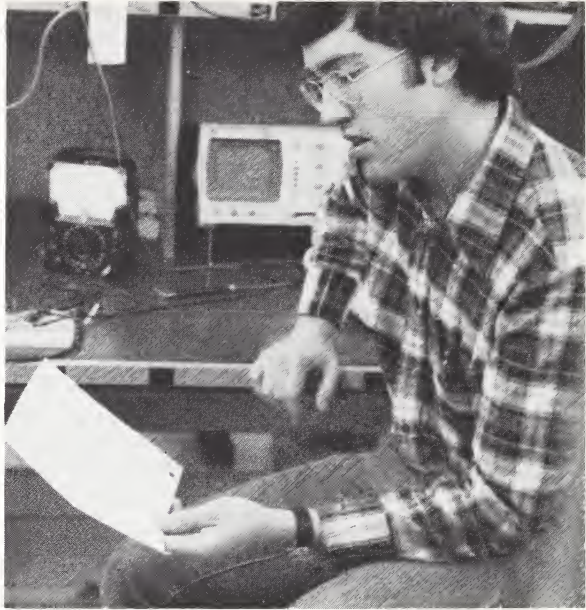
Opportunity for advanced study and practical experience with specific problems of the student's choice in the field of computer technology. (1 to 6) Prerequisite: Instructor's consent. *1 42 293 3 5103*

DP 2243 EDP Applications

The purpose of this course is to integrate the material learned in previous programming courses with emphasis placed on programming solutions to typical practical problems encountered in a business environment. Documentation practice and written reports are required. (1-2-3) Prerequisite: CP 1123 *1 42 214 1 5101*

E
L
E
C
T
R
O
N
I
C
E
N
G
I
N
E
E
R
I
N
G

T
E
C
H
N
O
L
O
G
Y



ELECTRONIC ENGINEERING TECHNOLOGY

Electronics is a rapidly growing science which offers unlimited opportunities for the individual choosing this field as a career. As technology advances, the uses of electronics are expanding into every major industry and are becoming a common part of the lives of every citizen of our nation. Advances in electronics have resulted in the creation of entirely new industries and have accelerated nearly every segment of our economy.

Electronic applications to the fields of medicine, geology, public safety, aeronautics, law enforcement, and automation, to name but a few, have merely scratched the surface of the ultimate potential of the use of electronics in these and other fields. Because of its many facets, the field of electronics needs technicians to perform a variety of jobs.

Technical education in the field of Electronics includes work in mathematics and basic science, study of basic electrical circuits, transistors, integrated circuits, electronic measurements, communication and computer circuits.

Although electronics is a relatively new science, it has become an industrial giant in commerce, industry and national defense.

Electronic Engineering Technology Curriculum

First Year—Fall Semester

Course No.	Course Name	Hours/Week ^o			Semester Credits
		R	L	S	
GT 1712	Written Communications	2	0	4	2
GT 1113	Applied Chemistry	3	0	6	3
GT 1213	College Algebra	3	0	6	3
GT 1212	Plane Trigonometry	2	0	4	2
ET 1011	Introduction to Electronics	1	0	2	1
ET 1113	D.C. Circuits	2	2	5	3
Total Credits					14

First Year—Spring Semester

GT 1124	Technical Physics	3	2	7	4
GT 1721	Report Writing Lab	0	2	1	1
GT 1222	Analytic Geometry & Calculus I	2	0	4	2
MT 1113	Technical Drafting	0	6	3	3
ET 1224	A.C. Circuits	2	4	6	4
ET 1324	Applied Electronics I	2	4	6	4
Total Credits					18

Second Year—Fall Semester

GT 2713	Technical Writing	3	0	6	3
GT 1423	Economics	3	0	6	3
GT 2232	Analytic Geometry & Calculus II	2	0	4	2
ET 2434	Electronic Measurements	2	4	6	4
ET 2535	Applied Electronics II	3	4	8	5
ET 2631	Electronic Seminar I	0	2	1	1
Total Credits					18

Second Year—Spring Semester

GT 1312	Oral Communications	2	0	4	2
GT 1413	Industrial Relations	3	0	6	3
ET 2743	Pulse Circuits	2	2	5	3
ET 2843	Solid-State Applications	2	2	5	3
ET 2944	Applied Electronics III	3	2	7	4
ET 2041	Electronic Seminar II	0	2	1	1
Total Credits					16
Total Semester Credits required for Associate of Technology Degree					66

* R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week

ELECTRONIC ENGINEERING TECHNOLOGY

ET 1011 Introduction to Electronics

Includes field trips to representative sites, selected topics of electronics related mathematics, a discussion of the technicians work environment and opportunities for placement. (1-0-1) Prerequisite: None *1 45 101 0 5310*

ET 1113 Direct Current Circuits

A beginning course in basic circuit theory. The concept of voltage, current, resistance, capacitance and inductance is applied to various direct current circuits to analyze their behavior. Attention is paid to the application of Thevenins and Nortons theorems, loop and nodal circuit analysis. (2-1-3) prerequisite: None *1 45 111 1 5310*

ET 1224 Alternating Current Circuits

The study of alternating current circuits. Analysis of impedance networks from power line through communications frequencies. Laboratory analysis and measurement of impedance networks, using the oscilloscope and other instruments. (2-2-4) Prerequisite: ET 1113 Concurrent: GT 1212 *1 45 122 1 5310*

ET 1324 Applied Electronics I

A survey of the family of active electronic devices. Analysis includes both graphical and mathematical models. Laboratory periods are devoted to measurement of device parameters in basic circuit configurations. (2-2-4) Prerequisite: ET 1113 *1 45 132 1 5310*

ET 2332 Introduction to Microwaves

An introduction to the use of microwaves in the communication industry. Topics include basic transmission theory, characteristic of Klystron, magnetrons, Gunn diodes, and traveling wave tubes. Also includes basic system measurements such as, frequency, power, attenuation, and standing wave ratio (SWR). Students are

introduced to use of Smith Chart. Prerequisites: ET 2434, ET 2535 or consent of inst. *1 45 233 1 9101*

ET 2434 Electronic Measurements

A study of theory and operation of basic electronic instruments. Includes DC and AC ammeters, voltmeters, impedance bridges, attenuators, filters, etc. Also includes a study of amplifiers as related to sensitive AC electronic voltmeters, sensitive DC electronic voltmeters, oscilloscopes, etc. Laboratory exercises provides experience in the selection of proper equipment for making measurements in electrical and electronic systems as well as interpretation of these measurements. (2-2-4) Prerequisites: ET 1224 and ET 1324 *1 45 243 1 5310*

ET 2535 Applied Electronics II

The application of electron devices to amplifiers. Emphasis is placed on analysis and design of RC-coupled, transformer coupled and direct coupled amplifiers. Load line analysis, equivalent circuit analysis and frequency response are studied. Principles of bias stabilization and characteristics of feedback circuits are included. Operational amplifiers and their applications are introduced. The family of feedback oscillators, tuned circuit coupling and power amplifiers are covered. Laboratory exercises emphasize principles of circuit operation. (3-2-5) Prerequisites: ET 1224 and ET 1324 *1 45 253 1 5310*

ET 2631 Electronic Seminar I

An industry related course to prepare the student for his first position. The student designs an electronic circuit to a set of specifications. Includes techniques of electronic chassis construction and printed circuit board techniques. A report is prepared describing the circuits, applications and testing methods. (0-1-1) Prerequisites: ET 1224 and ET 1324 *1 45 203 1 5310*

ET 2041 Electronics Seminar II

The report developed for ET 2631 is used by the student to develop the Electronic hardware to a finished model. The model is tested to the original specifications. A report is prepared showing test results, design changes, and instructions on the use of the equipment. (0-1-1) Prerequisite: ET 2631 *1 45 204 1 5310*

ET 2743 Digital Electronics

An overview of basic pulse circuit theory; includes binary and octal arithmetic, binary codes, Boolean algebra, DeMorgans theorems, arithmetic gates, adders, multivibrator circuits, converters, counters, shift registers, memory devices, etc. Laboratory exercises demonstrate concepts through hands on experience with integrated circuit transistor logic. (2-1-3) Prerequisite: ET 1324 *1 45 274 1 5310*

ET 2843 Solid State Applications

A study of the applications of solid state components including bipolar transistors, field effect transistors, unijunction transistors and thyristors. Also the application of various integrated circuit families, including those found in current literature. Includes an introduction to microprocessor applications. Laboratory exercises require application and analysis of circuits studied in the classroom. (2-1-3) Prerequisites: ET 2535 and ET 2434 *1 45 284 1 5310*

ET 2944 Applied Electronics III

A study of the design and analysis of systems, as they pertain to applications ranging from communications and broadcasting to navigation systems and radar. Laboratory work involves design and measurement, as well as field trips to representative sites. (3-1-4) Prerequisites: ET 2434 and ET 2535 *1 45 294 1 5310*

ET 2930 Problems in Electronics

A course in which advance study is done in a specific area chosen by the student. (1 to 6) Prerequisite: variable *1 45 293 3 5310*

Optional Interterm Courses

ET 1131 Electronic Construction Practices

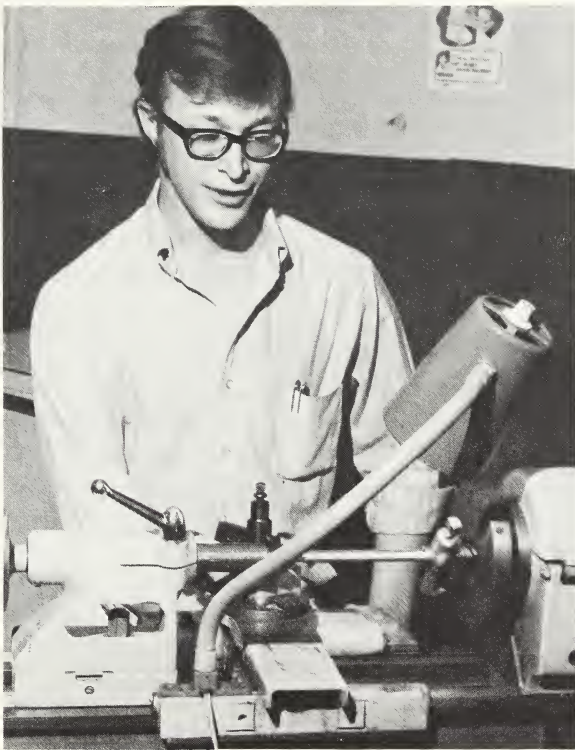
Use of basic hand and power tools as they relate to Electronic shop practice and construction techniques. Includes chassis layout, bending, drilling, punching, and cutting operations. Also printed circuit artwork, design, layout and component assembly techniques. Also printed circuit repair and soldering techniques; harness and cable fabrication techniques. (0-1-1) Prerequisite: Consent of department *1 45 113 1 5310*

ET 2332 Introduction to Microwaves

An introduction to the use of microwaves in the communication industry. Topics include basic transmission theory, characteristics of Klystron, magnetrons, Gunn diodes, and traveling wave tubes. Also includes basic system measurements such as frequency, power, attenuation and standing wave ratio (SWR). Students are introduced to use of the Smith Chart. (1-1-2) Prerequisites: ET 2434, ET 2535 or consent of the Department. *1 45 233 1 5310*

ET 2043 Electronic Communications

A survey of two-way communications and broadcast systems, beginning with a review of basic electronics. The material presented in the course is structured to aid individuals preparing to take F.C.C. Commercial Radio License examinations. General subject content is related to elements I, II, III, and IV of the F.C.C. examinations. (3-0-3) Prerequisite: concurrent with ET 2944 or consent of instructor. *1 45 204 0 5310*



GENERAL ENGINEERING TECHNOLOGY

GENERAL ENGINEERING TECHNOLOGY

Many small to medium size industries in Kansas have shown a need for a technician who is diverse in skills, since in many cases they are not large enough to fill their staff with specialists from the many areas they require. Jobs such as Inspector, Estimator, Detail Draftsman, Test Technician, Customer Service Technician, Production Planner, and several others, require a broad based education in several areas. Therefore, the General Engineering Technician program will provide the graduates who are broadly trained across the fields of Electronics, Civil, and Mechanical Engineering Technologies and can fill the needs of these industries.

The education of the technician is "things" oriented. They must have the ability to visualize objects and to make sketches and drawings. It requires that they have an aptitude in mathematics. Many jobs require some familiarity with one or more of the skilled trades, although not the ability to perform as a craftsman. Some jobs demand extensive knowledge of industrial machinery, tools, equipment, and processes. Some jobs held by these technicians are supervisory and require both technical knowledge and the ability to supervise people.

Technicians also work in jobs related to production. They usually work in close relationship with an engineer or scientist but are not under close supervision. They may aid in the various phases of production such as working out specifications for materials and methods of manufacture, devising tests to insure quality control of products, or making studies designed to improve the efficiency of a particular operation.

The graduate General Engineering Technician will be qualified to work in the engineering department of any small to large sized industry.

General Engineering Technology Curriculum

First Year—Fall Semester

Course No.	Course Name	Hours/Week*			Semester Credits
		R	L	S	
GT 1212	Plane Trigonometry	2	0	4	2
GT 1213	College Algebra	3	0	6	3
ET 1113	D.C. Circuits	2	2	5	3
MT 1113	Technical Drafting	0	6	3	3
GT 1113	Applied Chemistry	3	0	6	3
GT 1712	Written Communications	2	0	4	2
	Elective†				1
Total Credits					17

First Year—Spring Semester

GT 1721	Report Writing Laboratory	0	2	1	1
GT 1222	Analytic Geometry & Calculus I	2	0	4	2
GT 1124	Technical Physics	3	2	7	4
ET 1224	A.C. Circuits	2	4	6	4
MT 1222	Manufacturing Methods II	0	6	0	2
	Elective†				3
Total	Credits				<hr/> 16

Second Year—Fall Semester

GT 1312	Oral Communications	2	0	4	2
GT 1413	Industrial Relations	3	0	6	3
CL 2435	Statics & Strength of Materials	5	0	10	5
	Electives†				6
Total	Credits				<hr/> 16

Second Year—Spring Semester

GT 2713	Technical Writing	3	0	6	3
GT 1423	Economics	3	0	6	3
GT 1633	Production & Quality Control	3	0	6	3
GT 1643	Electric Power & Devices	3	0	6	3
MT 2631	Management & Human Development	1	0	2	1
	Elective†				4
Total	Credits				<hr/> 17
					<hr/> <hr/> 17

Total semester credits required for Associate of Technology Degrees 66

† Electives: CP 1113, CP 1122, CP 1123, CP 2134, CP 2232, CP 2233, MT 1122, MT 1323, MT 2432, MT 2433, MT 2341, MT 2444, CL 1124, CL 2532, CL 2445, ET 1324, ET 2434, ET 2535, ET 2743, ET 2843, ET 2944.

° R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week.

GENERAL ENGINEERING TECHNOLOGY

GT 1515 Mathematics

A course in basic mathematics for those students with a weak or non-existent high school mathematics background. A study of algebra and plane geometry taught at a high school level, but at a pace designed to cover the complete 2 or 3 years of high school work in one college semester. Course includes scientific notation, logarithms, and exponents & radicals. (5-0-5) 1 51 150 0 1701

GT 1532 Mathematics Laboratory

A laboratory course in problem solution for those students with low scores on Kansas Technical Institute Math placement examination. The student is grounded in basic mathematics principals by instructor supervised exercises from Basic Mathematics course or problems from other classes in the student's discipline. (0-2-2) 1 51 153 1 1701

GT 1522 Basic Mathematics Review

All students who enroll in the Basic Math class will be given an opportunity to transfer to College Algebra after the first 6 weeks. During this six week period, all Basic Math students will cover the same material now being covered by the five hour Basic Math course in its first six weeks. Three tests will be given during the length of the Basic Mathematics course, all students who show promise of being able to succeed in College Algebra will be given credit for this course and transferred to College Algebra. The other group of students will be transferred to the standard five hour Basic Mathematics course. (2-0-2) *1 51 152 0 1701*

GT 1513 Developmental English

Guided self-study in basic mechanical skills (i.e. elementary grammar, syntax, spelling, and punctuation) through laboratory exercises for those students entering Kansas Technical Institute with serious deficiencies in these basic writing skills. (3-0-3) *1 51 151 1 1501*

GT 1512 Reading Improvement Laboratory

Supervised self-study in reading skills for students who have special problems in reading, and for students who wish to achieve an above average proficiency in reading. A voluntary course earning two hours of credit. (0-2-2) *1 51 151 1 0830*

GT 1111 Applied Chemistry Laboratory

Principle of applied chemistry lab method with emphasis on inorganic tests and experiments, for students in Environmental Protection Technology. (0-1-1) Concurrent: GT 1113 *1 51 110 1 1905*

GT 1113 Applied Chemistry

A study of the arrangement of matter, the atomic structure, the concepts of chemistry as shown through problem solutions, and energy balances related to interaction of elements. Physical chemistry concepts are included along with an introduction to simplified laboratory procedure in chemical analysis. (3-0-3) Prerequisite: None *1 51 111 0 1905*

GT 1124 Technical Physics

A quantitative investigation into the fundamentals of mechanics and heat. The class work and the supportive laboratory are specifically designed to provide the student with an understanding of and a proficiency in measurement and calculation with these principles as they are applied to the solution of technical problems. (3-1-4) Prerequisite: GT 1212 and GT 1213. Concurrent: GT 1222 *1 51 112 1 1902*

GT 1212 Plane Trigonometry

The fundamentals of college trigonometry with emphasis on applications to engineering technology. Course content includes right and oblique triangle solutions, vectors, polar coordinates, angular velocities, use of trigonometry in surveying, tool and machine design, sine and cosine law uses, introduction to identity solutions. (2-0-2) Prerequisite: Entranced based on qualifying exam and/or proper high school background. *1 51 120 0 1701*

GT 1213 College Algebra

The fundamentals of algebra as taught at the college level modified to emphasize applications and de-emphasize theoretical developments. Course content includes symbols, factoring, roots and radicals, complex and imaginary numbers, math table use, linear equations up through multiple unknowns, graphing, and quadratics. (3-0-3) Prerequisite: Entrance based on qualifying exam or proper background. *1 51 121 0 1701*

GT 1222 Analytic Geometry and Calculus I

A study of functions and their properties including two and three dimensional functions. Definitions and applications will include the following: limits, differential, derivaties of Algebric and Trigonometric functions, conics and emphasizing the process to technical problems. (2-0-2) Prerequisites: GT 1212 and GT 1213 *1 51 122 0 1701*

GT 1312 Oral Communications

A review of oral forms of communicating. Presenting technical papers, giving oral instructions, oral reports and related topics necessary to develop proficiency in the oral presentation of technical material. (2-0-2) Prerequisite: None *1 51 131 0 1506*

GT 1413 Industrial Relations

Analysis of the nature of interpersonal relationships in various jobs/professions. Structures, problems and conflict in the work world are studied from the point of view of both management and the employee. (3-0-3) Prerequisite: None *1 51 141 0 0516*

GT 1423 Economics

A look at economics from the point of view of sociology and history that will tie this economic factor into a more all embracing view of human problems. It will serve as a bridge between the social sciences and the world of business for the technician. This will take the students into the study of concepts which will enable them to learn economic reasoning and to analyze systematically issues and conditions. (3-0-3) Prerequisite or concurrent: GT 1213 *1 51 142 0 0517*

GT 1633 Production and Quality Control

To develop technically trained persons who will be able to function as and be knowledgeable in production control and quality control. (3-0-0) Prerequisites: MT 1222 and GT 1222 or Instructor's Consent. *1 51 163 1 5301*

GT 1643 Electric Power and Devices

An approach to technical understanding of the concepts and uses of alternating current power in industry. Strong alternating current theory with emphasis on motor speed controls, phase shifts, control systems, simpler forms of logic switching circuits, process systems with self check, and servo loop principles. Various forms of transducers are examined. Field trips are made to study representative motors and load control systems. (3-0-0) Prerequisites: GT 1212 and ET 1224 *1 51 164 1 5301*

GT 1712 Written Communications

Study and practice of the expository skills of description, classification, comparison, contrast, definition, and analysis as these are employed in the world of business and industry today. (2-0-2) Prerequisite: None *1 51 171 0 1501*

GT 1721 Report Writing Laboratory

The editing, evaluating, and correcting of each student's field, shop, and laboratory reports written for courses in his area of specialization—from the point-of-view of their use of clear and correct English grammar and mechanics, and their demonstration of effective use of technical expository skills of description, classification, comparison and contrast, definition, and analysis where these forms are called for by the nature of the material. (0-1-1) Concurrent: GT 1712 None *1 51 172 1 1501*

GT 2232 Analytic Geometry and Calculus II

A continuation of GT 1222, which includes the following; application of trigonometric derivatives, derivatives of exponential and logarithmic functions, intergration, application of intergration, methods of intergration and introduction to partial derivatives and double integrals, a special emphasis is placed on solution of technical problems. (2-0-2) Prerequisite: GT 1212, GT 1213 and GT 1222 *1 51 223 0 1701*

GT 2713 Technical Writing

Study and practice of reports, proposals, business and "in house" correspondence writing as these are employed in contemporary business and industry. (3-0-3) Prerequisite: GT 1712 *1 51 271 0 1501*

GT 1813 Transportation, Tariffs and Traffic Management I

This course provides the technical background and a knowledge of fundamental procedures basic to all traffic for a junior traffic person and those preparing to enter the field. Both theory and practice are used to develop skills in the use of carrier freight tariffs. Includes general introduction to the transportation field; developments leading to national legislation and federal regulation; division of territories; factors in controlling traffic flow; freight classification rules; principles of freight rates and tariffs; elements of rate making; shipping documents and their application; and study in freight claims. (3-0-3) Prerequisites: None *1 51 181 0 5101*

GT 1823 Transportation, Tariffs and Traffic Management II

Concerned with the more advanced aspects of traffic practice, bringing to broader application the fundamental principles covered in the first course. The functions of the traffic department including tariff construction, tariff rules, switching, routing problems and procedures, demurrage and storage, reassignment, embargoes, and cost analysis, and industrial traffic department functions. (3-0-3) Prerequisites: None *1 51 182 0 5101*

GT 2833 Transportation, Tariffs and Traffic Management III

Explains the limits of liabilities in Common Carriage, methods of settling damage and loss claims and also claims for overcharges in freight rates, Committee procedures before the rate Committees of the I.C.C. both as applicant and protestant. A discussion of various types of import and export tariffs and procedures (including ocean, air service, parcel post and express). Also includes a continuation of tariff laboratory covered in the previous two installments (3-0-3) Prerequisites: GT 1823 *1 51 283 0 5101*

GT 2843 Transportation, Tariffs and Traffic Management IV

A study of the law of interstate transportation as the Traffic Manager must know and use it. Covers regulatory controls, Interstate Commerce Act, jurisdiction, operation authority, function, rules of practices and procedures. (3-0-3) Prerequisites: GT 1833 *1 51 284 0 5101*

43:112 Principles of Management

(Kansas Wesleyan Campus) A study using behavioral science and decision-making theory with well-established concepts about the work of managers. Areas of study include the role of managers in organizing, planning, leading, decisionmaking, measuring, and controlling a business enterprise. Human factors in organizing are given detailed treatment. (3-0-3) Prerequisites: None *1 70 112 1 0506*

43:216 Marketing

(Kansas Wesleyan Campus) A study of the institutions, organizations, and methods and their development involved in the distribution of goods and services. These activities are considered from the viewpoint of individual business and from the standpoint of the economy as a whole. (3-0-3) Prerequisites: None *1 70 213 1 0509*

43:216 Business Law

(Kansas Wesleyan Campus) A basic study on contracts, sales, commercial paper, business organizations, agency, and other areas of business law. Includes a study of the UCC in conjunction with these topics. (3-0-3) Prerequisites: None *1 70 216 1 0501*

46:101 Principles of Accounting I

(Kansas Wesleyan Campus) A study of accounting for the sole proprietorship. A problem approach is utilized to explain concepts and procedures. (3-0-3) Prerequisites: None *1 70 214 1 0502*

46:102 Principles of Accounting II

(Kansas Wesleyan Campus) A continuation of basic theory and an introduction to accounting for partnerships and corporations including costing, budgeting, forecasting, and data analysis. (3-0-3) Prerequisites: 46:101 *1 70 215 1 0502*

46:201 Intermediate Accounting I

(Kansas Wesleyan Campus) A further study of accounting including accounting theory, financial statements, the concept of future and present-value, temporary and longterm investments, inventory valuation, fixed and intangible assets. A problem approach is used. (3-0-3) Prerequisites: 46:102 *1 70 311 1 0502*

46:202 Intermediate Accounting II

(Kansas Wesleyan Campus) A continuation of 46:201 covering the following areas; current and longterm liabilities, bonds, pension and leases, corporate accounting, capitol and retained earnings, tax allocations, changes in accounting methods, working capitol analysis, comparative statements, and ratio analysis. A problem approach will be used. (3-0-3) Prerequisites: 46:102 *1 70 312 1 0502*



MECHANICAL
ENGINEERING
TECHNOLOGY

MECHANICAL ENGINEERING TECHNOLOGY

The Mechanical Engineering Technology program prepares the graduate for a position in mechanical and/or manufacturing industries. This program embraces the design, manufacture and production of mechanical products and the tools, machines and processes by which they are made. It deals as well with sales and maintenance of such products, tools and machines. The two year program is designed to develop the student's ability to proceed in an independent manner to use both trade and technical literature and to solve technical problems. The first year finds the mechanical technology student developing a strong base in the areas of mathematics, physical science, manufacturing processes and written and graphical communications. During the second year the student develops abilities in such areas as materials of industry, fluid mechanics, mechanisms and designs of mechanical elements.

Mechanical Technology, though not a new science, has continually been an exciting and rewarding field involved with development of products for today and tomorrow. New product ideas in energy, transportation, product manufacturing, and other areas involving mechanical devices indicate that rapid advances in the field are continually being made.

Options In:

Mechanical Engineering Technology

The Mechanical Engineering Technician is concerned with the development, testing, evaluation, detailing and design of machinery, equipment, instruments and other mechanical devices along with proposed product economically. The technician's duties may involve drafting, use of handbooks and tables, calculations of strength and reliability, selection of materials, and cost estimating for the development or modification of the design of components, and sub-assembly or assembly of almost any type of machine or mechanism. The student may conduct performance and endurance tests on various mechanical devices and report the results of the tests.

Because of the many facets of this field, Mechanical Engineering Technician graduates have found fine careers in many industries in Kansas as well as across the United States and are in high demand.

Mechanical Engineering Technology Curriculum

First Year—Fall Semester

<i>Course No.</i>	<i>Course Name</i>	<i>Hours/Week*</i>			<i>Semester Credits</i>
		<i>R</i>	<i>L</i>	<i>S</i>	
GT 1212	Plane Trigonometry	2	0	4	2
GT 1213	College Algebra	3	0	6	3
GT 1113	Applied Chemistry	3	0	6	3
MT 1113	Technical Drafting	0	6	3	3
MT 1212	Manufacturing Methods I	1	3	2	2
GT 1712	Written Communications	2	0	4	2
Total Credits					15

First Year—Spring Semester

GT 1222	Analytic Geometry & Calculus I	2	0	4	2
GT 1124	Technical Physics	3	2	7	4
MT 1323	Metallurgy	2	2	5	3
MT 1122	Mechanical Detailing	0	4	2	2
MT 1222	Manufacturing Methods II	0	6	0	2
GT 1721	Report Writing Lab	0	2	1	1
GT 1413	Industrial Relations	3	0	6	3
Total Credits					17

Second Year—Fall Semester

GT 2232	Analytic Geometry & Calculus II	2	0	4	2
CL 2435	Static & Strength of Materials	5	0	10	5
MT 2533	Fluid Mechanics	2	2	5	3
MT 2433	Elements of Mechanisms	3	0	6	3
MT 2432	Design Technology I	1	2	3	2
GT 1312	Oral Communications	2	0	4	2
Total Credits					17

Second Year—Spring Semester

GT 1423	Economics	3	0	6	3
MT 2341	Mechanical Testing Lab	0	2	1	1
MT 1722	Thermodynamics I	2	0	4	2
ET 1113	D.C. Circuits	2	2	5	3
MT 2444	Design Technology II	2	4	6	4
GT 2713	Technical Writing	3	0	6	3
MT 2631	Management & Human Development	1	0	2	1
Total Credits					17

Total semester credits required for Associate of Technology Degree 66

* R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week.

Solar Energy Utilization Technology

The Solar Energy Utilization Technology Program prepares the graduate for a position in the construction and/or manufacturing industries. This program embraces the design, manufacture, and installation of solar energy collection systems. It deals as well with the sales and maintenance of such systems. The two year

program is designed to develop the student's ability to proceed in an independent manner to use both trade and technical literature to solve technical problems. During the first year the student develops a strong base in the areas of mathematics, physical science, manufacturing processes and written and graphical communications. During the second year the student develops abilities in such areas as materials of industry, fluid mechanics, thermodynamics, mechanisms, and design of solar energy collection systems.

The concept of utilizing solar energy to perform useful tasks in our society is not new. However, the necessity of developing a strong and active technology in the area of alternate energy sources has been recently reemphasized by the realization that the traditional energy sources (oil, coal, hydroelectric, etc.) are being readily depleted and becoming more expensive. The student who enters the Solar Energy Utilization Technology field at this time will become a part of a rapidly expanding and constantly changing technology which will enhance his expertise as new products and uses are developed and incorporated into the industry.

The Solar Energy Utilization Technician is concerned with the development, testing, evaluation, design of equipment, and control systems of solar utilization systems. The technician's duties may involve drafting, use of handbooks and tables, calculations of strength and reliability, selection of materials, and cost estimating for the development or modification of the testing of various types of solar collection systems. The technician may also conduct performance and endurance type tests on prototype or development type systems and report the results of these tests.

Solar Energy Utilization Technology Curriculum

First Year—Fall Semester

<i>Course No.</i>	<i>Course Name</i>	<i>Hours/Week*</i>			<i>Semester Credits</i>
		<i>R</i>	<i>L</i>	<i>S</i>	
GT 1212	Plane Trigonometry	2	0	4	2
GT 1213	College Algebra	3	0	6	3
GT 1113	Applied Chemistry	3	0	6	3
MT 1113	Technical Drafting	0	6	3	3
MT 1212	Manufacturing Methods I	1	3	2	2
GT 1712	Written Communications	2	0	4	2
Total Credits					15

First Year—Spring Semester

GT 1124	Technical Physics	3	2	7	4
MT 1323	Metallurgy	2	2	5	3
MT 1122	Mechanical Detailing	0	4	2	2
MT 1222	Manufacturing Methods II	0	6	0	2
GT 1721	Report Writing Lab	0	2	1	1
GT 1413	Industrial Relations	3	0	6	3
MT 1722	Thermodynamics I	2	0	4	2
Total Credits					17

Second Year—Fall Semester

GT 1222	Analytic Geometry & Calculus I	2	0	4	2
CL 2435	Statics & Strength of Materials	5	0	10	5
MT 2533	Fluid Mechanics	2	2	5	3
MT 2433	Elements of Mechanisms	3	0	6	3
MT 2832	Solar Systems Design Technology I	1	2	3	2
GT 1312	Oral Communications	2	0	4	2
Total Credits					17

Second Year—Spring Semester

GT 1423	Economics	3	0	6	3
MT 2341	Mechanical Testing Lab	0	2	1	1
MT 2743	Thermodynamics II	2	2	5	3
ET 1113	D.C. Circuits	2	2	5	3
MT 2844	Solar Systems Design Technology II	2	4	6	4
GT 2713	Technical Writing	3	0	6	3
MT 2631	Management & Human Development	1	0	2	1
Total Credits					18

Total semester credits required for Associate of Technology Degree 67

* R—Number of recitation periods per week; L—Number of laboratory or drawing hours per week; S—Average hours of study per week.

MECHANICAL ENGINEERING TECHNOLOGY

MT 1113 Technical Drafting

Lettering, freehand sketching, use of drafting equipment. Theory and applications of orthographic projection and pictorial drawings. Descriptive geometry of bearing, slope, true length, and true size. Standards for symbols, section views, and dimensioning included. (0-3-3) Prerequisite: None 1 44 111 1 5315

MT 1122 Mechanical Detailing

Preparation of shop drawings for manufacturing, fabrication or assembly. Specifications of size, shape, material and manufacture. Specifications of standard fasteners including threads, rivets, keys, splines. Allowance specifications for mating parts and surface quality. Introduction to graphic illustration. (0-2-2) Prerequisite: NT 1113 1 44 112 1 5315

MT 1212 Manufacturing Methods I

Study and practice in gas, arc, TIG welding, spot weld, weld testing, cost estimation. Introduction to welding metallurgy and special welding processes. (1-1-2) Prerequisite: None 1 44 121 1 5315

MT 1222 Manufacturing Methods II

Laboratory practice in performing basic machine shop operations on lathes, milling machines, drill presses. Use of hand tools, metal cutting machines and grinders included. Laboratory ob-

servation of foundry, plastic and electric discharge machine operations. (0-2-2) Prerequisite: None *1 44 122 1 5315*

MT 1323 Metallurgy

Basic principles of physical metallurgy. Structure of metals and alloys. Phase transformations of ferrous and non-ferrous metals. Testing and microscopic examination of metals. (2-1-3) Prerequisite: Credit or classification in GT 1113 *1 44 132 1 5315*

MT 1722 Thermodynamics I

Thermodynamic laws and equations. Use of tables and charts for properties of important fluids. Applications to systems used for producing, transforming, and applying heat and mechanical energy. Brief introduction to heat transfer. (2-0-2) Prerequisite: GT 1113, second year standing *1 44 172 5315*

MT 2341 Mechanical Testing Laboratory

Principles of mechanical testing. Instrumentation and measurement in the areas of loads, stresses, deformations, heat flow, and other qualities. Preparation of written laboratory reports. (0-1-1) Prerequisites: CL 2435, credit or classification in MT 2732 *1 44 234 1 5315*

MT 2432 Design Technology I

A study of the design process. Use of handbooks and industrial catalogs to select components including belts, chains, gears, springs, clutches and bearings to satisfy design requirements. Introduction to the use of computers in solving design problems. (1-1-2) Prerequisite: Credit or classification in MT 2433 *1 44 223 1 5315*

MT 2433 Elements of Mechanisms

Fundamental motion concepts of displacement, velocity and acceleration. Analytical and graphical analysis and synthesis of linkages, gear trains, cams, pulleys and combinations of these elements. (3-0-3) Prerequisites: GT 1124 and MT 1113 *1 44 243 1 5315*

MT 2444 Design Technology II

Continued study of design process. Investigation of theories of failure, stress analysis, stress concentration, deflections, materials and costs relating to machine design. Group laboratory design projects requiring application of previously learned concepts and methods in detailing, manufacturing, mechanisms, and other courses relative to machine design. (2-2-4) Prerequisites: CL 2435 and MT 2432 *1 44 244 1 5315*

MT 2533 Fluid Mechanics

Fundamental concepts of fluid mechanics. Study of buoyancy, energy equation, viscosity, flow measurement. Selected applications of fluid mechanics to civil and mechanical fields. (2-1-3)
Prerequisites: GT 1212 and GT 1213 *1 44 253 1 5315*

MT 2631 Management and Human Development

A study of first line supervision techniques which includes the following areas of study: Management and environment, the beginning of modern management, the management functions, fundamentals of organizational behavior, leadership and its development. Case problems will be introduced and discussed. (1-0-1) Prerequisite: GT 1413 and Senior Standing *1 44 263 0 5315*

MT 2743 Thermodynamics II

Continued studies in Thermodynamics. Major emphasis in the area of heat transfer and application in Solar Energy. (2-2-5)
Prerequisite: MT 1722 and Senior Standing *1 44 274 1 5315*

MT 2832 Solar Systems Design Technology I

A study of the design process. Use of handbooks and industrial catalogs to select components, including pumps, manual valves, schematic valves, regulators, temperature sensing systems and instrumentation devices. Introduction to the use of computers in solving design problems. (1-2-3) Prerequisites: MT 2433 and MT 2533 *1 44 283 1 5315*

MT 2844 Solar Systems Design Technology II

Continued study of design process. Investigation of theories of failure, stress analysis, stress concentration, fatigue, materials and costs as related to system design. Group laboratory design projects requiring application of previously learned concepts and courses related to systems design. (2-4-6) Prerequisites: CL 2435 and MT 2832 *1 44 284 1 5315*

MT 2930 Problems in Mechanical

Opportunity for advanced study and practical experience with specific problems of the student's choice in the field of Mechanical Technology. (0-6) Prerequisite: Instructor's consent *1 44 293 3 5315*



Control of the Institute



BOARD OF CONTROL

Administration

The governing board of the Institute is the Kansas State Board of Regents. It consists of nine members appointed by the Governor. The board elects its own chairman. The Board of Regents appoints the President of the Institute, who is charged by statute with the general management of the Institute.

Board of Regents

James J. Basham, M.D., Fort Scott
E. Bernard Franklin, Kansas City
Jordan L. Haines, Wichita
Margaret A. Glades, Yates Center
Sandra L. McMullen, Hutchinson
Frank A. Lowman, Hays
Robert O'Neil, M.D., Topeka
Marshall P. Reeve, D.V.M., Garden City
Glee S. Smith, Jr., Larned

ADMINISTRATION

Thomas F. Creech, B.S., M.A. President
Gerald W. Finn, B.S., M.S. Acting Academic Dean
Herbert F. Petracek, B.S. Dean of Student Services
Donald L. Buchwald, B.S., M.S. Assistant Academic Dean
Frank Gray, L.L.B. Director of Operational Affairs

OFFICERS OF THE INSTITUTE

Madison H. Ashburn, Professor and Department Head, Mechanical Engineering Technology, B.S. Aeronautical Engineering, Auburn University. M.E. Engineering, Kansas University.

Maurice T. Baer, Assistant Professor, Electronic Engineering Technology. Associate of Technology, Electronic Engineering Technology, Kansas Technical Institute. First Class Radio Telephone License.

Kenneth W. Barnard, Assistant Professor and Acting Department Head, Aeronautical Technology, A.A. Liberal Arts, Riverside City College; Associate of Technology, Aeronautical Technology, Kansas Technical Institute; B.S. Education, Kansas State University.

Robert D. Bingham, Associate Professor, General Engineering Technology, B.S. Education, Northeast Missouri College. M.S. Physics and Education, St. Louis University. M.S. Technical Education, Oklahoma State University.

Leslie A. Blount, Instructor, Aeronautical Technology. Certificate of Completion of Airframe and Powerplant, Kansas Technical Institute.

Donald L. Buchwald, CET, Professor and Assistant Academic Dean, A.A. Technology, Cameron State. B.S. Technical Education, Oklahoma State University. M.S. Adult and Occupational Education, Kansas State University.

Thomas F. Creech, Professor and President. M.S. Applied Mechanics, Kansas State University. B.S. Mechanical Engineering, Kansas State University.

Lyle D. English, Assistant Dean of Admission. A.S. biology and Chemistry, Butler County Community College. B.A. Social Anthropology, Wichita State University.

Larry A. Farmer, Professor and Department Head, Electronics Engineering Technology. A.S. Electronics, Sayre Junior College. B.S. Education, Oklahoma State University. M.S. Adult and Occupational Education, Kansas State University.

Gerald W. Finn, P.E. Professor and Acting Academic Dean. B.S. Civil Engineering, University of Missouri. M.S. Civil Engineering, Kansas State University.

Frank Gray, Director of Operational Affairs. LLB, Wake Forest University, Winston Salem, North Carolina.

Donald L. Herman, Associate Professor, Environmental Protection Technology. B.S. Veterinary Medicine and Dairy Mfg., University of Missouri. M.S. Dairy Tech. and Microbiology, University of Missouri. Ph.D. Dairy Microbiology and Agriculture Engineering, Mississippi State University.

Jerome H. Hill, CDP, Associate Professor, Computer Technology. B.S. Electrical Engineering, Oklahoma State University.

Kearney H. J. Hill, SET, Professor and Department Head, Computer Science Technology. Technician Certificate Radio and Electronics, Oklahoma State University. A.S. Electrical Engi-

neering, Oklahoma State University. B.S. Technical Education, Oklahoma State University. M.S. Adult and Occupational Education, Kansas State University.

Robert D. Homolka, Associate Professor, General Engineering Technology. B.A. Mathematics, Iowa Northern University. M.Ed. Mathematics, New Mexico University.

Jane McKeown, Instructor, General Engineering Technology. B.A. Mathematics, Westhampton College; University of Richmond. MAT Education, Mathematics, Duke University.

Mills, Elaine, Assistant Dean of Public Affairs. A.A. Cloud County Community College. B.A. Journalism, Kansas State University.

D. Wayne Montgomery, Instructor, General Engineering Technology. B.A. Religion & Speech, Friends University. M.A. Religion & Speech, Emory University. Th.D. Old Testament, Iliff School of Theology.

Eleen M. Owen, Professor and Librarian. B.A. Music Education, Bethany College.

Herbert F. Petracek, Professor and Dean of Student Services, Admission, Public Affairs. B.S. Business Administration, Fort Hays Kansas State College.

Loren D. Phippen, Instructor, Aeronautical Technology. Certificate of Completion of Airframe and Powerplant, Kansas Technical Institute. Certificate of Automotive Technology, Alfred State Tech.

William B. Powell, P.E., Professor and Department Head, General Engineering Technology. B.S. Civil Engineering, Kansas State University. M.S. Technical Education, Oklahoma State University.

William H. Sanders, Professor, Mechanical Technology. B.S. Industrial Education, University of Oklahoma. M.S. Industrial Education, University of Oklahoma.

Reinhart Schwemmer, Assistant Professor, General Engineering Technology. B.A. Physics, Pittsburg State College.

Dennis D. Shreves, CET, Assistant Professor and Acting Department Head. Civil Engineering Technology. Associate of Technology, Civil Engineering Technology, Kansas Technical Institute. B.S. Civil Engineering Technology, Kansas State University.

Josephine Williams, Associate Professor, General Engineering Technology. A.B. Psychology, Kansas State University. M.S. Psychology, Kansas State University.

INDEX

	PAGE
Academic Departments	46
Academic Probation, Dismissal	27
ACT	17
Administration	97
Admission Procedures	16
Aeronautical Technology	50, 57
Aviation Maintenance	51
Aeronautical Technology	52
Aviation Maintenance Management	53
Alumni Association	43
Application Procedures	33
Athletics (See Student Activities)	42
Audit	22
Board of Control	97
Campus	12
Civil Engineering Technology	58, 67
Class Attendance	24
CLEP	26
Community Service	11
Computer Science Technology	68, 75
Counseling	32
Course Descriptions (See Related Technology)	51, 95
Course Identification Key	49
Credit by Special Examination	26
Credits (See Semester Credits)	24
Curricula	45
Dismissal	27
Dormitory	35
Electronic Data Processing Technology	70
Electronic Engineering Technology	76, 80
Engineers Council for Professional Development	46
English Proficiency Program	47
Enrolling	18
for Credit	22
for Audit	22
Environmental Protection Technology	60
Examinations	24
Expenses	18
Faculty (See Officers of the Institute)	97
Fees	18
Financial Aids	32
Food Service	36

	PAGE
Foreign Applicants	17
General Engineering Technology	81, 88
General Information	9
Goals of the Institute	11
Grading System	25
Graduation Requirements	28
Graduation with Honors	29
Health Service	38
History of the Institute	10
Honor Roll, President's	25
Housing, Married Students	36
Housing, Off-Campus	36
Intramurals	42
Library Services	39
Load, Student	24
Map	12
Mathematics Transition Program	47
Mechanical Engineering Technology	89, 95
Medical Examination	17
Officers of the Institute	97
Out-of-State Applicants	17
Participation, School Activities	43
Placement Service	38
Probation	27
Program Options	47
Recreation	42
Refunds	19
Tuition	19
Dormitory	35
Reinstatement	27
Repetition of Courses	27
SAT	17
Scheduling of Classes	22
Scholarships, Sponsorships	34
Scope of Programs	22
Semester Credits	24
Solar Energy Utilization Technology	91
Special Students	22
Student Activities	41
Student Services	32
Student Union	39
Student Welfare and Services	31
Surveying Technology	62
Table of Contents	5
Transcript	39
Transfer Students, Admission of	16

Veterans Affairs	PAGE 36
Withdrawal from Class	26

□
37-5289

