

KANSAS TECHNICAL INSTITUTE



1974

Vol. 5

KTI

GENERAL BULLETIN

KANSAS TECHNICAL INSTITUTE

Salina, Kansas

GENERAL INFORMATION BULLETIN

Engineering and Science Technology

Volume 5

1974



DEAR FRIENDS:

The real spirit of any educational institution is made up of the student body, the faculty and the educational programs offered. Measured by these factors, Kansas Technical Institute has, in fact, a very real and lively spirit tuned to a modern day Kansas and world, and alert to the rapidly changing face of technology and society.

Our faculty is wise and experienced not only as measured by textbook and theory, but also as measured by years of on-the-job experience which insures that they understand today's world of work and which insures their teaching only current and valid processes and techniques.

Our educational programs are reviewed annually to insure that the programs we offer are, in fact, needed by today's and even tomorrow's employers. We are, and intend to remain, alert to changing educational needs as evidenced by the fact we have now developed and are offering programs in environmental protection.

Our student body is made up of young men and women just like you; I hope you use this bulletin as a guide to the campus and to measure what we can offer you. A real life education for the real world of work, with technology as a lifetime career, awaits you.

The best way to measure what you want as a career against what we offer in terms of an education for that career, is to visit the campus, talk with the faculty and meet the students. I invite you to come and meet the real spirit of Kansas Technical Institute.

JAMES O. THOMPSON, JR.
President

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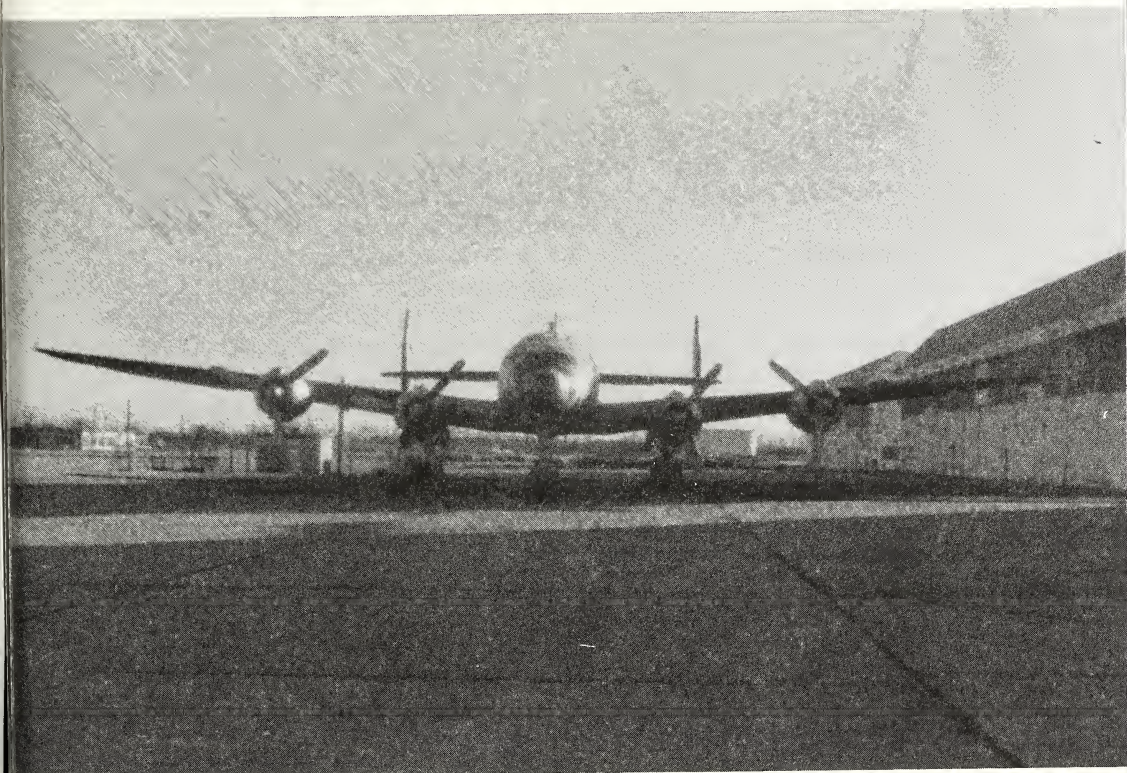
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Section 1

General Information



History of the Institute

The Kansas Technical Institute was created by the Kansas Legislature during the 1965 general session. At this 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 to the citizens of Kansas. Originally called Schilling Institute, it was located on property that was formerly a part of Schilling Air Force Base. The first student body enrolled in the fall of 1966, with the first graduates receiving their degrees in the spring of 1968.

The Institute currently offers two-year college-level programs in engineering and science technology. All programs (with the exception of the Airframe and Powerplant program which grants a certificate of completion) yield the Associate Degree in Technology, and are designed to be terminal programs. Graduates are considered job-ready upon successful completion of academic requirements in any given curriculum.

Goals of the Institute

The major goal of the Kansas Technical Institute is to provide two-year, college-level programs of applied science and technology which enable the student to become employable upon graduation.

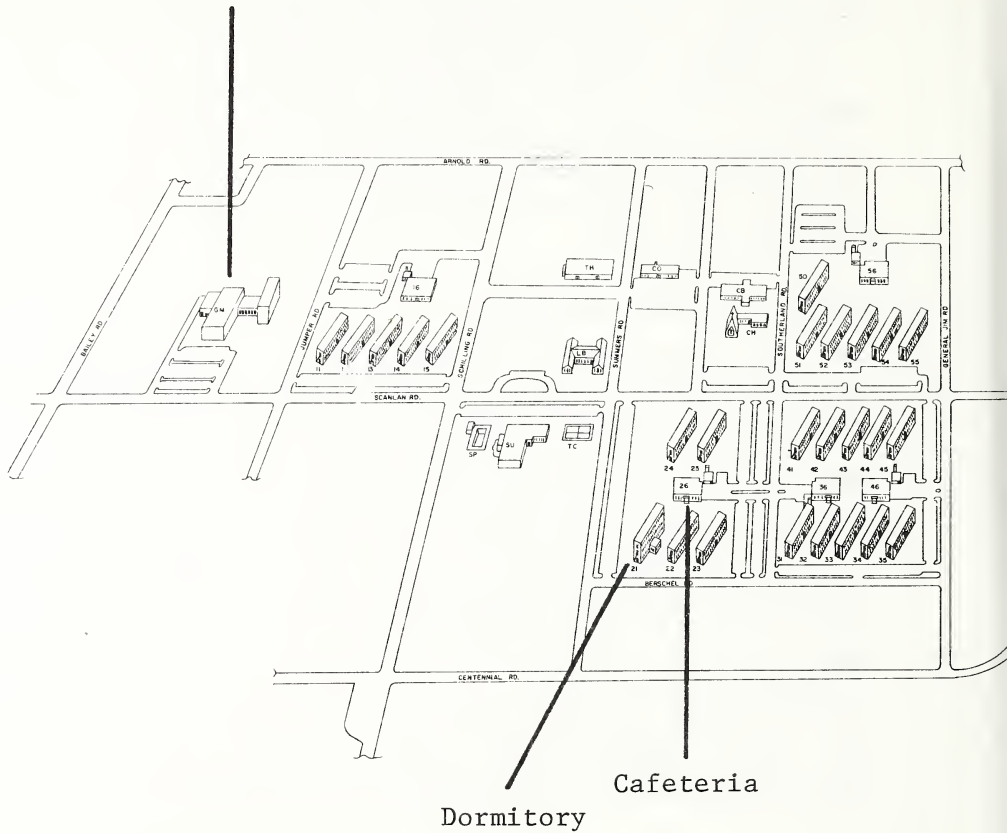
The second goal of the Institute is to provide a broad base of mathematics, physical science, communications, and technical specialty courses to enable the students to build upon and expand their knowledge and skills as they work in their areas of specialization.

The Institute's third goal is to provide a basis for understanding fundamental scientific and engineering principles to afford students the opportunity to pursue further academic study in a technical field.

Another goal of the Institute is to offer selected courses to the adult community of Kansas so that they may update their education, improve technical skills, or pursue self-improvement. For this purpose, the Office of Community Services has been established.



KTI Gymnasium



Campus

The Kansas Technical Institute campus is located in a suburb in the southwest edge of Salina. It is approximately one-fourth mile west and one-half mile north of the intersection of US 81 Highway and Schilling Road or three miles south of the I-70 and I-35W interchange.

Aeronautical
Technology
Lab

Electronic
Technology

Mechanical Technology
Lab

Aero Tech
Offices

Computer
Technology

Civil/Mechanical
Technologies

Library

Civil Technology
Lab

Centennial Road

Administration
Building

General
Technology

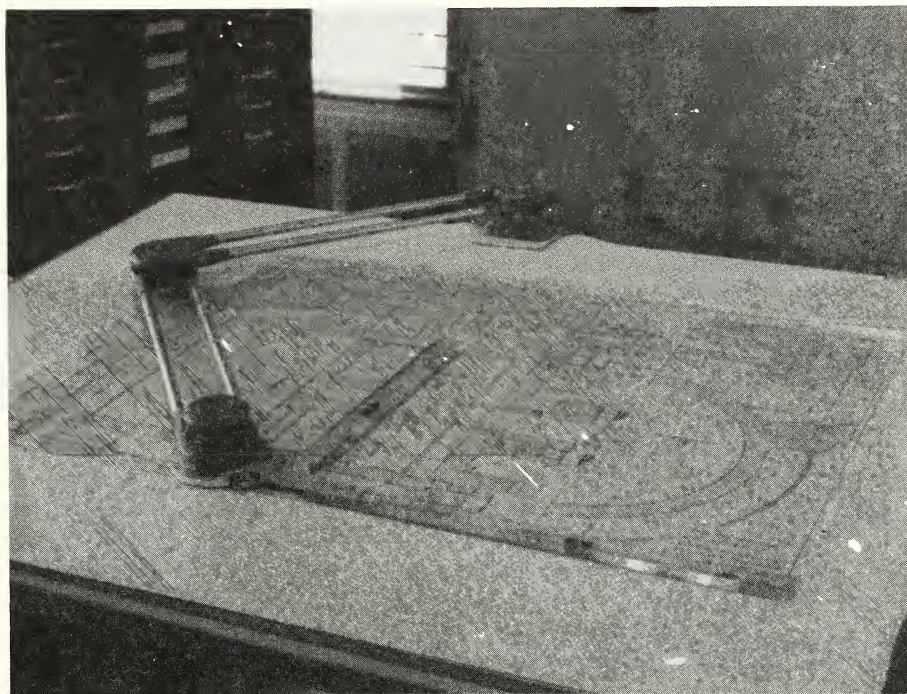
To U.S. Highway 81
Interstate I-35W:

Magnolia Road

The campus is divided into two major areas: the education complex on the north end consisting of classrooms, laboratory buildings, and aircraft hangars. The second area, approximately one-half mile south of the educational complex, is the residence and athletic area where the residence hall, cafeteria, and gymnasium are located.

Section 2

Admissions and Fees



Admission Procedures

Any person interested in attending Kansas Technical Institute should contact the Public Affairs Office to obtain an Application for Admission form. All applicants must either hold a diploma from an accredited high school or have passed the General Education Development (GED) test or apply for enrollment as a special student.

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

1. Submit to the Institute a completed Application for Admission with a \$10 application fee, which is not refundable.
2. Have sent directly to the Institute a transcript of high school work. If not a high school graduate, then an official copy of the scores attained on the General Education Development (GED) test should be provided.
3. Provide complete transcripts of all college level work completed. Each applicant will be notified by mail as to his status. The notification will also include the medical report form and additional information necessary for the enrollment process.

Applicants will be formally accepted as a student upon completion of the above entry criteria.

Admission as a Transfer Student

Applicants for admission as a transfer student 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 Director of Student Affairs by not later than thirty days prior to the Institute's enrollment date. All credits will be evaluated 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 submitted for approval. A Waiver of Credit form will be issued by the Director of Student Affairs to appropriate department heads for their approval. 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 an act of the Legislature (Sec. 76-2701, Kansas Statutes Annotated, Volume 6) which reads 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 six (6) 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 Director of Student Affairs 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.

American College Test (ACT)

All applicants for enrollment will be required to take the American College Testing (ACT) tests battery 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 Affairs Office at the Institute for test information on the American College Testing program. Residual testing is administered at KTI at the fall and spring 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.

Medical Examination

A complete medical examination 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 given to their family physician at the time they appear for a medical examination.

The medical report, filed with the Institute by the student's family doctor, 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 aid while enrolled 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	\$270
Books and Supplies	150
Room and Board (on campus)	840

Total Estimated Cost*	\$1260
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* Does not include expenditures for clothing, laundry, travel, social activities, weekend meals, and miscellaneous expenses.

Enrollment Fees

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

Regular Semester Fees

	Kansas Resident	Non-Kansas Resident
Incidental Fee	\$120	\$360
Student Activities	10 15	10 15
Student Union	57.50	57.50
	<u>\$185</u>	<u>\$375</u>
(Interterm cost included in semester fees.)	142.50	382.50

Regular Semester Fees

	Kansas Resident	Non-Kansas Resident
<i>Students Enrolled in Six Semester Credits or Less</i>		
Incidental Fees and Audit Fees (per semester credit)	\$8.50	\$25.50
Student Activities*	5.00	5.00
Student Union*	2.50	2.50

Summer Session Fees and Audit Fees

Incidental Fees (per semester credit)	\$8.50	\$25.50
Student Activities	5.00	5.00
Student Union	2.50	2.50

* 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, inter-collegiate athletics, and student dances.

Student Union Fees

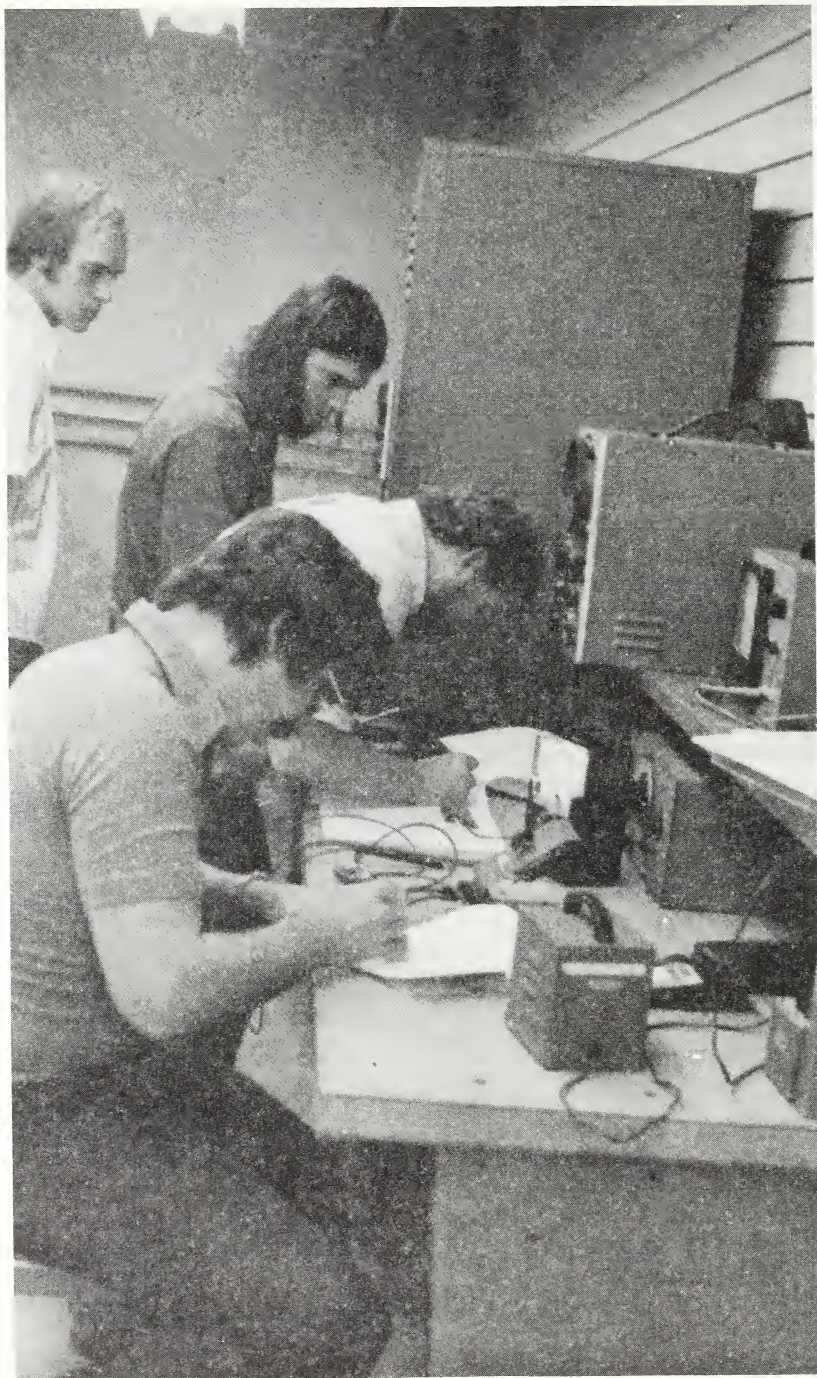
The Student Union Fees are used for the Student Union development and activities.

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. 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.

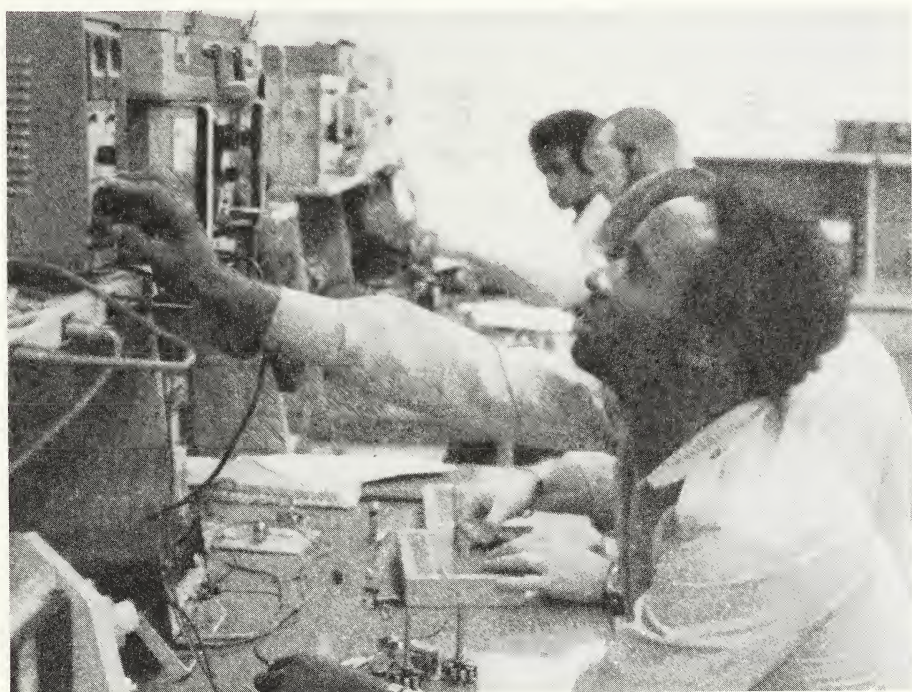
Refunds

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.



Section 3

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. Each student should consult his 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 Affairs Office one week prior to the enrollment date.

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

A student may enroll in any course for credit provided he has 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 requirement 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 person enrolling without a declared major is considered a special student. Although a degree objective is not necessary at the time of enrollment, a field of study should be selected as early as possible.

Although the high school diploma or equivalent is generally recognized as a basic requirement for admission, there are conditions which make it permissible to enroll without having the high school diploma or GED. Anyone who enrolls without the equivalent of a high school diploma will be classed as a special student even though he establishes a degree objective.

The educational objectives of each special student will be reviewed on a semester by semester basis in the Office of Academic Affairs. Special students may not apply for candidacy for a degree. However, they may receive a Certificate of Completion of certain specialized programs.

Special students will pay the same fees as regular students, whether for credit or audit. Any student may enroll in a given course provided he has completed necessary course prerequisites or has prerequisite requirements waived by the Director of Academic Affairs.

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 Director of Academic Affairs. Students 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 counselled to carry a reduced load. (See Reinstatement.)

Any student enrolled in 12 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 any 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 expected 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 Director of Academic Affairs 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

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 Academic Affairs 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 3.0 or better grade point average with no grade below a "C" will be listed on the President's Honor Roll for that semester.

Credit by Special Examination

Any student who feels that past education or experience has given him 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 requested through the Director of Student Affairs. Permission is actually granted by the department head of the department offering the particular course.

Upon successfully completing the special examination, the Director of Student Affairs will issue a Waiver of Credit form for all applicable departments to approve. The form will then become part of the student's permanent file and the particular courses noted on the student's transcript.

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

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 credit many of the CLEP examinations. In-

terested persons may contact the Student Affairs Office for specific details.

Withdrawal From Class

Each student is responsible for completing all courses in which he enrolls. He may withdraw from any course within the limits provided below. It is his responsibility to insure that all withdrawal procedures are completed.

A student may withdraw from any course at any time during the semester until two weeks prior to the start of the final examination period. A student who withdraws from a class after Friday (5 p. m.) of the seventh week of the regular semester shall receive a grade of "WD" (Withdrawn Passing) or "F" (Failing), depending on his class standing at the time of the withdrawal. A student withdrawing from a class prior to Friday (5 p. m.) of the seventh week of the regular semester will have no record of the class on his transcript. For summer session course drop dates consult the bulletin supplement available from the Student Affairs Office.

Instructors will make a notation on the withdrawal slip indicating that the student's performance in class is either passing or failing at the time of withdrawal.

A student wishing to withdraw from a class shall initiate such action with the department head of his major technology. The student will then be advised of the procedure he is to follow to complete the withdrawal action. Unless the withdrawal procedure is completed prior to Friday (5 p. m.) of the seventh week of the regular semester, the student will have a permanent grade posted to his transcript for the class.

Academic Probation and Dismissal

A student is expected to attend class regularly and maintain normal progress toward the completion of the program. Any student who earns less than a 1.8 grade point average in any semester (except his 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 six (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 State Board of Education is authorized by the Legislature to empower the President to grant the "Associate of Technology" Degree. Any student who plans to obtain the degree should be aware of the following criteria used by the faculty for recommending degree candidates to the President:

The candidate for the degree must:

1. successfully complete or obtain a waiver for each course in his program of study,
2. earn a 2.000 overall grade point average in all courses in his program of study which are taken at K. T. I., and
3. attend commencement exercises or obtain written permission for graduation in absentia.*

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

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

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.



Section 4

Student Welfare and Service



Student Services

The primary goal of Kansas Technical Institute is to prepare its students for 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 a 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 that 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 he may have. 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 or non-academic problems with personnel of the Student Affairs 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 Office is to assist prospective students who are in need of financial aid.

A student may receive aid from the following sources:

- College Work Study
- Educational Opportunity Grants
- Scholarships and Sponsorships
- United Student Aid Fund Loans
- Federally Insured Student Loans
- Emergency Student Loans

Scholarships and Sponsorships

A limited number of grants are available through the Kansas Technical Institute Endowment Association and other sources and vary in amounts of from \$100 to \$500 per year. These grants may continue for four regular semesters or until the student graduates, whichever comes first.

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. Generally, this is about 15 hours per week. 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.

Educational Opportunity Grants

A student may receive a non-obligatory federal grant based on exceptional financial need. These grants will range from \$200 to \$1000 per year and may be renewed as long as eligibility is maintained.

Student Loans

Federally Insured Student Loans (FISL)

Students attending Kansas Technical Institute at least half-time are eligible for a Federally Insured Student Loan from an authorized lending institution. The maximum per academic year is \$2,500, with repayment beginning 9 months after graduation. Payments depend on the total amount borrowed during a student's school years with a minimum payment of \$30 per month.

United Student Aid Funds (USAF)

Loans from an authorized lending institution and guaranteed by United Student Aid Funds may be obtained. This loan is similar to FISL loans in most respects.

Short-Term Emergency Loans

Kansas Technical Institute maintains a loan fund to help students meet emergency situations. Most loans are for 60 days and limited to \$50.00. Students are required to repay the loan during the semester within which the original loan was made.

Financial Aid Application Procedure

A person interested in obtaining financial aid must be enrolled or accepted for enrollment as a full-time student.

Applications for the fall semester should be submitted by the first of March. Students are notified of the financial aid offered around the first of May.

Application forms will be mailed to prospective students on request. The application packet consists of:

1. Application for Admission
2. Kansas Technical Institute Financial Aid Application
3. Family Financial Statement (ACT) (also available from most high school counselors)

The Financial Aid Office uses the ACT Family Financial Statement in determining the need of the student. The handling and processing of these statements is done in a most confidential and discreet manner.

After the student and his family complete the financial statement it is submitted to ACT along with a check in the amount charged for this service. The student may then send the statement directly to ACT at: Financial Aid Services, American College Testing Program, P. O. Box 1000, Iowa City, Iowa 62240. ACT will then send a detailed financial analysis to the institution. The analysis is done by a computer and will indicate the student's financial need. The Institute Financial Aid Office uses this analysis as an aid only.

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 Affairs Office.
 - b. Medical reasons, which require a doctor's certification.
 - c. Other similar situations.

All exceptions in this category require approval by the Director of Student and Public Affairs.

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 include weekly

linen service. Blankets, pillows, and other incidental room furnishings are 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 Affairs 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 Affairs Office for details and applications.

Military Draft Status

The United States government adopted a "lottery" type draft induction late in 1969 as a major revision in the draft selection process.

An all volunteer military service has been established by the Congress ending the draft officially. However, it is necessary for a young man to register between a time period of 30 days before his 18th birthday and 30 days after his 18th birthday. A lottery number will be assigned the following spring after registration. Under regular draft conditions a person could be inducted according to his lottery number. Now the system is a means of maintaining a knowledge of draft age men, and in order to return to an actual draft selection it would be necessary for Congress to act.

If you would desire additional information, contact the Selective Service Office in your community.

Veterans Affairs

Veterans are a large 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 a full time 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 in an attempt 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 at your Regional Veterans Administration Center or the KTI Veterans Affairs Office. Early application may result in a veteran obtaining his first check the first day of enrollment, as it will be sent to the Institute. Read your instructions carefully and answer all questions completely. Care must be taken to insure that all necessary documents are included with the application. These may be copies since they are not returned. The following documents must be provided:

1. DD-214—this is the separation from active duty form.
2. Marriage certificate—copy of a public or church record of the marriage.
3. Birth certificate—if any children are being claimed for dependency.
4. Statement of Dependency—if a father or mother is being claimed as dependent upon the applicant, a birth certificate, showing that the applicant is the child of the person being claimed, and a Statement of Dependency (VA 21-509) from the VA are needed.

Application and all necessary documents should be mailed or taken to your Regional Veterans Administration Center or Veterans Affairs Office at KTI prior to the time you plan to enroll. This will give them ample time to determine your eligibility and issue your Certificate of Eligibility.

II. Enrollment Procedures

When a veteran initially enrolls he should provide both copies of his Certificate of Eligibility to the Veterans Affairs Office. The Enrollment Certification which is on the back side of the Certificate of Eligibility will then be completed by the Veterans Affairs Officer. On all subsequent enrollments, the Veterans Affairs Officer will provide the VA with information concerning the veteran's course load, address, and other necessary details.

NOTE: When a veteran wishes to change his place or course of training, he should obtain a special VA form for requesting such a change. If the request is approved, a new Certificate of Eligibility will be issued to the veteran.

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. The date of receipt of his letter claiming a dependent establishes the effective date for payment of that dependent. If the veteran does not furnish proof of the dependent with his letter, he will 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		5 or less

Summer Semester

<i>Course Load</i>	<i>Semester Credits</i>
Full-time	6 or more
$\frac{3}{4}$ time	4, 5
$\frac{1}{2}$ time	3
less than $\frac{1}{2}$ time	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. Consult the Veterans Affairs Office for current benefit amounts.

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

Community Service Programs

The Community Service 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, Institute faculty members and experts in the course subject. 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. Community Services 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.

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 Affairs Office are available for added guidance and assistance.

The Placement Center does not limit its service to graduates of the Institute. Current files of part-time job opportunities is 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 Student Affairs Office. A student may obtain up to five copies of his transcript at no charge. Additional copies may be obtained at a charge of fifty cents per copy.

Library Services

A vital part of every technical educational 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 a vast source of authoritative, current, and relevant technical information; it provides supplementary reference books which help a student improve his understanding of a wide range of modern technological subject matter. The library at Kansas Technical Institute is attractive, well-lighted and provides a quiet atmosphere for relaxed study.

The collection of current volumes and technical periodicals provides a technical learning center of great value to the Institute.

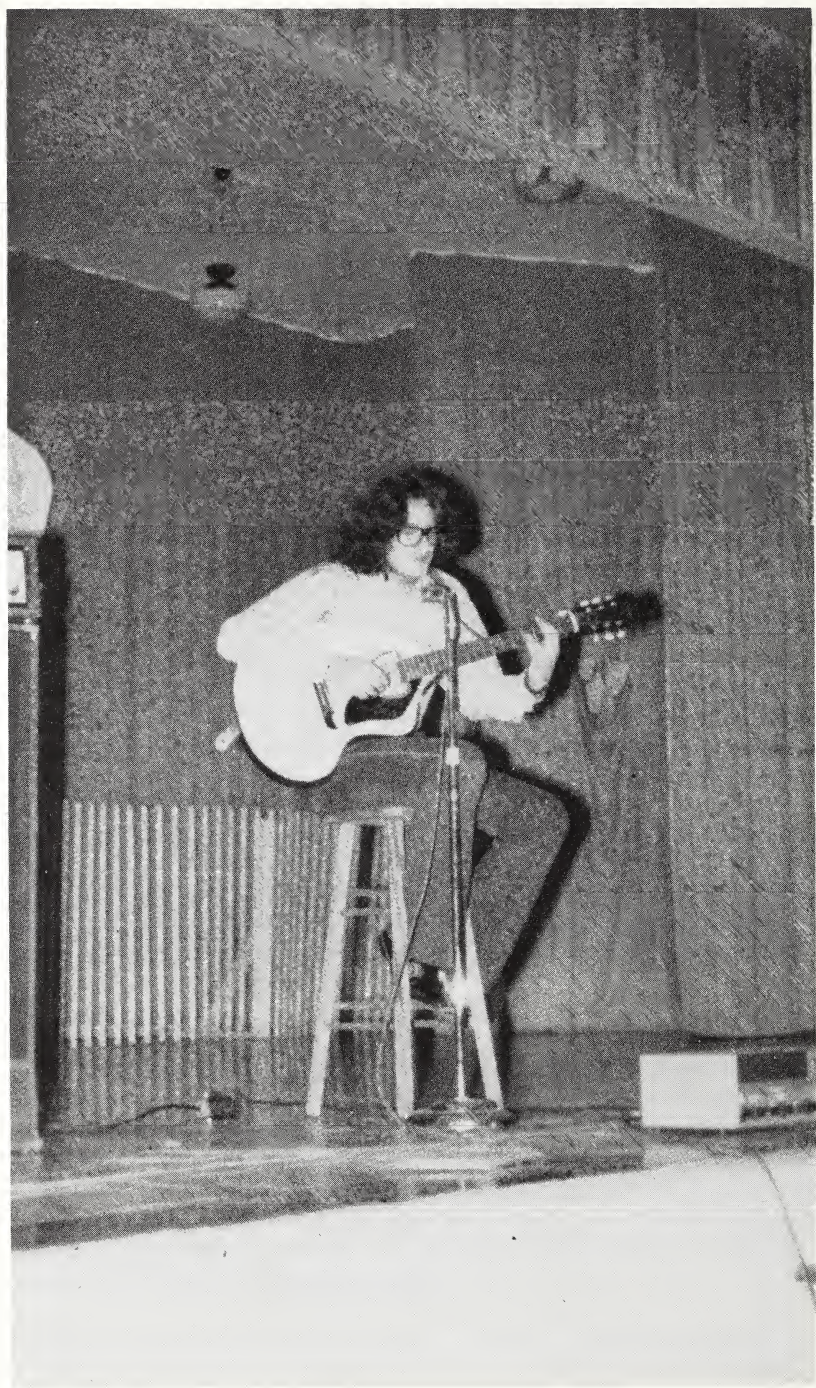
The library staff are specialists who are available to assist in a student's search for technical information and the general use of the library. There is a recognized correlation between academic success and effective use of the technical library.

Student Union

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

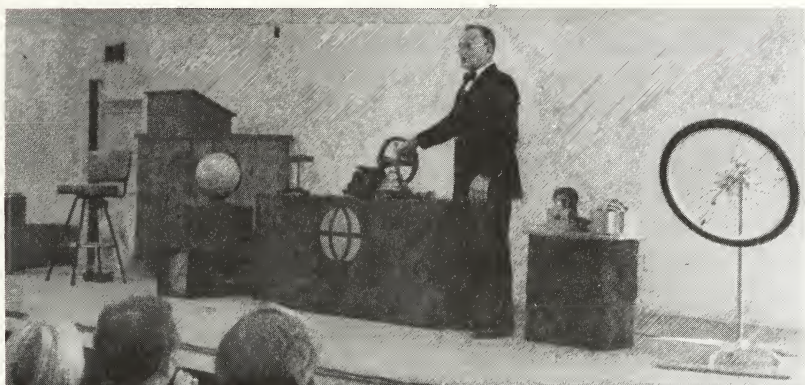
Some of the proposed functions of the Student Union are to provide recreational activities such as pool and ping-pong, a well-equipped snack bar, rooms for many of the campus organizations, and a music room with a comprehensive selection of recordings.

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



Section 5

Student Activities



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.

Veterans on Campus is quickly becoming one of the largest and most active groups on campus. Composed entirely of military veterans, this group is also represented on the KTI President's Advisory Council. The VOC Club has three primary objectives for its members:

1. It is a social organization;
2. It is a service organization;
3. It serves to communicate with other veterans who may be eligible for V. A. educational benefits but are not taking advantage of them.

Other campus activities include: photography club, student yearbook, student newspaper, ham radio 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.

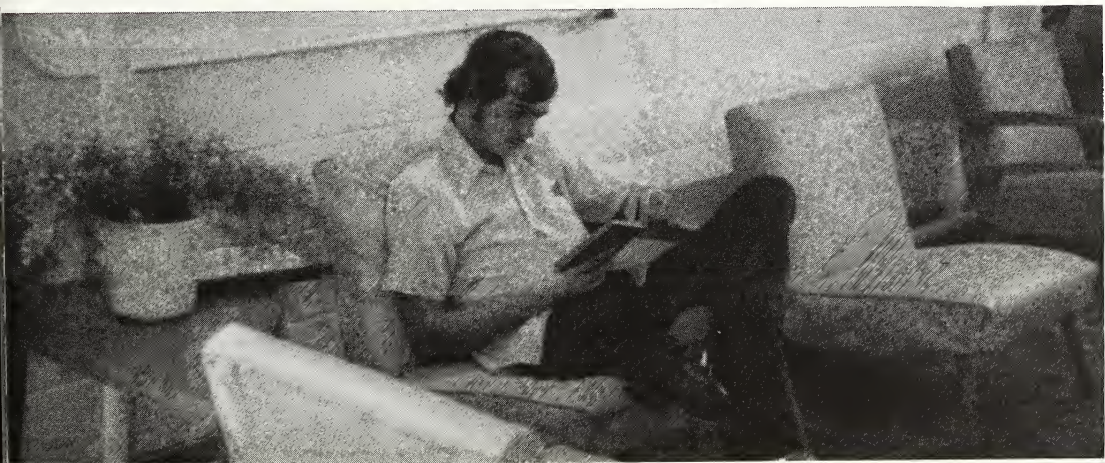
In addition to the intramural program, the Institute also has an intercollegiate soccer team that began competition in the fall of 1971. The soccer team participates against colleges in central Kansas thus not requiring extensive travel arrangements.

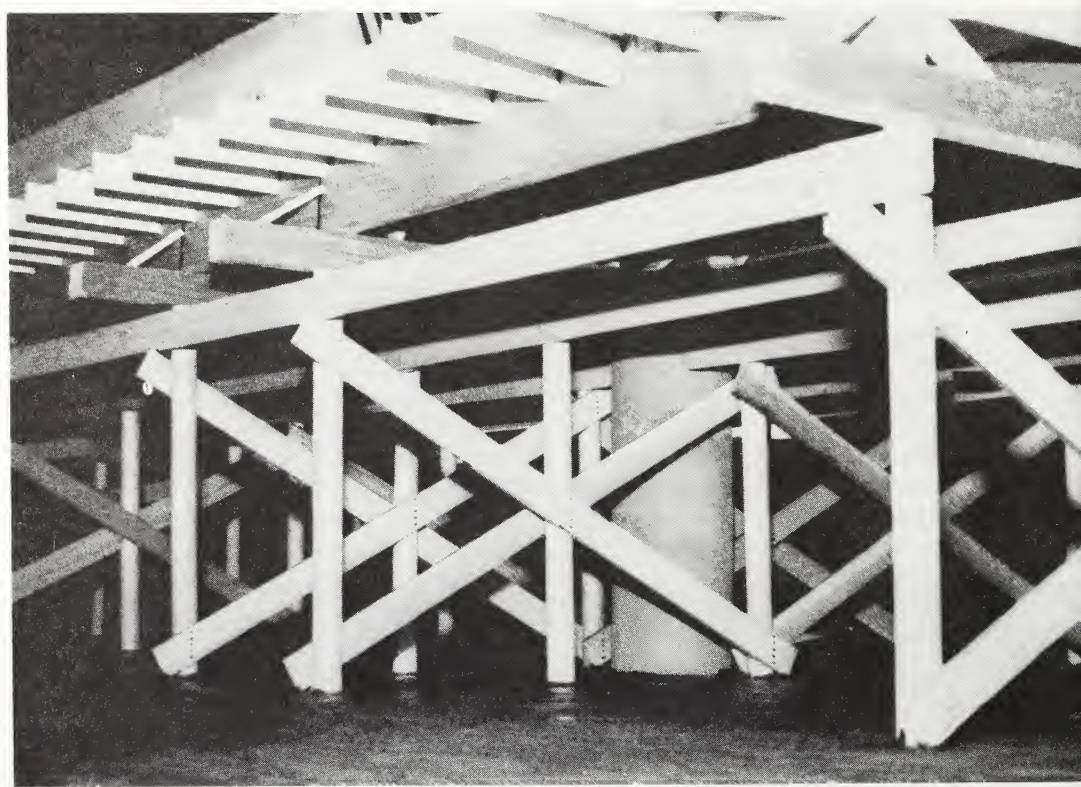
Participation

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

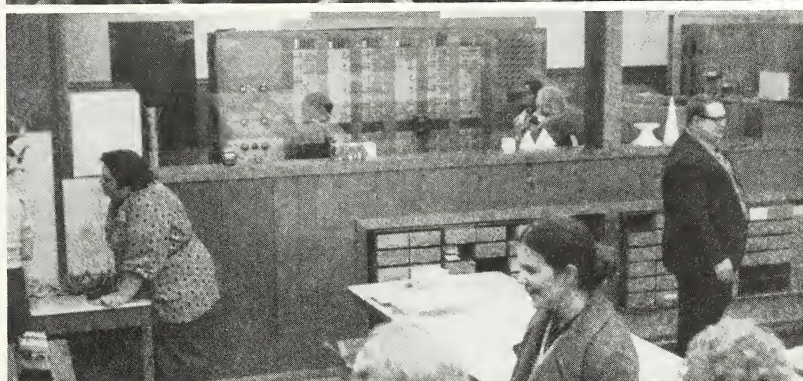
The graduate of the Institute is automatically eligible for membership in the KTI Alumni Association. The Association is organized to provide graduates a means of keeping in contact with each other and to keep informed of events at the Institute. The alumni provide the Institute personnel with much needed information concerning program strengths and weaknesses. Of course a strong alumni organization can provide funds for scholarship programs or other needed functions.





Section 6

Curricula



Consortium (KTI-KW)

The State Board of Education and the Board of Control of Kansas Wesleyan have authorized the presidents of Kansas Technical Institute and Kansas Wesleyan to enter into an agreement of consortia. This arrangement offers students the advantage of "two-institution" course offerings, allowing the greatest flexibility in choosing electives and in meeting specific curriculum requirements.

The consortia agreement also serves the KTI students by allowing access to the Kansas Wesleyan library. The KW library is a repository for all federal documents for this area of Kansas.

The location of both schools in the south part of Salina provides easy access to both campuses, making it possible for a student to benefit from coursework at both institutions in any given semester. Within the guidelines outlined below, a student may enroll in coursework at either institution without additional expense.

Additionally, the Institute and Kansas Wesleyan (KW) have a transfer agreement whereby a KTI graduate may transfer either Electronic or Computer Technology education to KW. In an additional two years the student may receive the Bachelor's Degree in Mathematics or Physical Science.

The following terms are agreed upon as guidelines for students taking advantage of the consortium arrangement between KTI and KW:

I. In relation to students:

- A. Each student will be responsible for his own transportation between campuses.
- B. A study of anticipated student involvement should be made following pre-registration. The registrars will work cooperatively to insure a reasonable balance of exchange of credit hours between the two institutions.
- C. Students involved in the cooperative programs shall be allowed a maximum combined academic load of seventeen semester hours. The screening of student loads shall be done by the Registrar's Office.
- D. Registration procedures, etc. shall be developed through a consensus of the Registrars.
- E. The academic rules affecting any student ought to be those of his home campus.
- F. There will be no exchange of funds.
- G. For purpose of being identified with a given campus, the student must be enrolled in at least 50 percent of the course work at said institution.

- H. A student in good standing at either of the two institutions may take a course at the other institution if the course is not available to him on his own campus and he has the necessary qualifications. The course must have a bearing on the educational plan arranged by the student and his advisor. Approvals of the student's advisor and the academic dean of the college (vice president of academics, director of academics, etc.) at the home institution are required.
- I. Guidelines will be established to cover the setting of quotas for exchange students in classes likely to be oversubscribed. The students on campus offering a course will have priority in registration.

II. In relation to faculty:

- A. Classes ought to be taught on the campus with the greater number of students enrolled except for classes requiring special equipment.
- B. Facilities of either institution are to be available to the other institution to use with its own faculty.

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 1966. 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 state-wide 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 Early Recognition Status

The following Engineering Technology curricula have been granted early recognition status of "Candidate for Accreditation" by the Engineering Technology Committee of the Engineers' Council for Professional Development. This status was originally granted in May, 1967, and is subject to annual review.

Aeronautical Technology

Civil Technology

Computer Technology

Electronic 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 Chairman 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 a fundamental working ability in math. Each student entering Kansas Technical Institute will be given a Mathematics Placement examination and will be given, if necessary, the special help needed to insure that he develops competence in mathematics. This will allow him to be successful in the mathematics sequence in the technology of his choosing. If he exhibits a competency in mathematics, he may move directly into the prescribed mathematics sequence without having to participate in the Mathematics Transition Program.

English Proficiency Program

Like the Mathematics Transition Program, the English Proficiency Program is designed to aid students whose level of competency in these areas may be below the normal college level.

An English Proficiency examination is administered at the beginning of a semester to help identify those students who need remedial work in English. The student may then enroll in Remedial English to prepare him for the more advanced work he will encounter in Written Communications, which may be taken concurrently.

Aeronautical Technology

The development of supersonic jet aircraft has added a new dimension to jet age transportation. Today an aircraft can fly from Washington to Paris in 3 hours 33 minutes, compared with subsonic jet time 7 hours 33 minutes. This may seem fantastic, but it is reality. Aircraft are being designed to fly faster, carry greater loads and the Federal Aviation Agency is demanding a greater margin of safety in the design, manufacture and maintenance of aircraft.

The 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. The facilities are the finest and most spacious in the midwest and the faculty selected to instruct in these programs are eminently qualified by academic preparation, years of professional experience and the proper certificates issued by the FAA.

Options in

. . . Aviation Maintenance

The aircraft maintenance program is fully certificated 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 examination. Upon passing the exam, the graduate will be a licensed A&P mechanic.

. . . Aeronautical Engineering Technology

A person interested in a career in design, development, testing and analysis of aircraft or aircraft components may consider a career as an Aeronautical Engineering Technician. A graduate of this program may receive the Associate of Technology degree and would be qualified to immediately assist Aeronautical Engineers in aircraft design and manufacture. Information on this option may be received from the Department Head, Aeronautical Technology.

. . . Aeronautical Technology

A person interested in a career in production control, quality control, manufacture supervision of aircraft and aircraft components may consider a career as an Aeronautical Technologist. 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.

. . . Aviation Maintenance Management

With ever-increasing restrictions on airport management, there is an increasing demand for graduates of a qualified management program to work in fixed-base operations and air carrier terminals in a variety of management oriented tasks.

The Aviation Maintenance Management option at KTI is designed to provide management education to persons who have already attained an intense Aeronautical Technology background. Mechanics may use their maintenance and flight training as a significant portion of the requirement for an Associate of Technology degree.

Aeronautical Technicians will find employment opportunities in any of the following fields:

1. Aircraft Manufacture
 - a. Airframe and powerplant maintenance inspection
 - b. Quality control
 - c. Design and production
 - d. Plant supervision
2. Major Airlines
 - a. Airframe and powerplant maintenance inspection
 - b. Plant supervision
 - c. Airframe modification
3. Fixed-Base Operations
 - a. Airframe and powerplant maintenance and inspection
 - b. Airport management
 - c. General aircraft modification

Aviation Maintenance

Airframe and Powerplant Certificate

Curriculum Outline

<i>General Section</i>	Semester Credits
GT 1213* College Algebra	3
AM 1212 Aircraft Drawings	2
AM 1115 Aircraft Science	5
AM 1112 Aircraft Standards	2
AM 1114 Basic Aircraft Electricity	4
	<hr/> 16
<i>Airframe Section</i>	
AM 1324† Airframe and Powerplant Electrical Systems	4
AM 1225 Airframe Systems	5
AM 1325 Airframe Structures & Repair	5
AM 1223 Aircraft Fluid Power	3
AM 2235 Aircraft Inspection & Assembly	5
AM 1222 Aircraft Welding	2
AM 2232 Aircraft Wood & Fabric	2
AM 2333 Navigation Aids & Communication Systems	3
	<hr/> 29
<i>Powerplant Section</i>	
AM 2434 Powerplant Fundamentals	4
AM 2433 Powerplant Induction & Fuel Systems	3
AM 2443 Powerplant Ignition Systems	3
AM 2442 Propellers	2
AM 2643 Powerplant Overhaul	3
AM 2543 Powerplant Operation & Troubleshooting	3
AM 2545 Gas Turbine Powerplants	5
	<hr/> 23
	<hr/> 68

Total semester credits required to complete certificate requirements... 68

Average time for program completion—two years.

* GT 0215 Basic Mathematics may be used to satisfy the mathematics requirements in the certificate program.

† AM 1324 Airframe and Powerplant Electrical Systems course content is one-half airframe electrical and one-half powerplant electrical systems.

Associate of Technology Degree

The aviation industry has advanced in a few short years from the embryo stage to a diversified industry. To keep aligned with this growth the Aero Department at KTI is offering an associate degree program that allows the student to study the sciences necessary for employment in the industry as a supervisor, inspector, quality control, etc. This program may be taken in conjunction with the aviation maintenance program which will give the graduate a good understanding of communications, mathematics, sciences, and an airframe and powerplant license.

Aeronautical Technology

Associate of Technology

Curriculum Outline

		Semester Credits
TECHNICAL SPECIALTY		
AM 1212	Aircraft Drawings	2
AM 1115	Aircraft Science	5
AM 1112	Aircraft Standards	2
AM 1114	Basic Aircraft Electricity	4
AM 1225	Airframe Systems	5
AM 1325	Airframe Structures & Repair	5
AM 1223	Aircraft Fluid Power	3
AM 2434	Powerplant Fundamentals	4
AM 2433	Powerplant Induction & Fuel Systems	3
AM 2543	Powerplant Operation & Troubleshooting	3
AM 2443	Powerplant Ignition Systems	3
AM 2545	Gas Turbine Powerplants	5
		<hr/> 44
MATHEMATICS		
GT 1213	College Algebra	3
GT 1212	Plane Trigonometry	2
GT 1222	Analytic Geometry & Calculus I	2
		<hr/> 7
PHYSICAL SCIENCE		
GT 1124	Technical Physics	4
COMMUNICATIONS		
GT 1712	Written Communications	2
GT 1721	Report Writing Lab	1
GT 1312	Oral Communications	2
GT 2713	Technical Writing	3
		<hr/> 8
TECHNOLOGY RELATED		
GT 1413	Industrial Relations	3
		<hr/> 66
Total semester credits required for Associate of Technology Degree		66

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 the 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 an advantage toward obtaining supervisory and management positions with commercial airlines, aircraft companies, corporate business aircraft operators, fixed-base operators, repair stations and governmental flight agencies.

Aviation Maintenance Management

Associate of Technology

Curriculum Outline

	Semester Credits
<i>Administration</i>	
43:112 * Principles of Management	4
43:214 * Principles of Accounting I	4
43:213 * Marketing	4
43:311 * Intermediate Accounting	4
GT 1423 Industrial Economics	3
	19
<i>Mathematics</i>	
GT 1213 College Algebra	3
<i>Communications (Written and Oral)</i>	
GT 1712 Written Communications	2
GT 1721 Report Writing Lab	1
GT 1312 Oral Communications	2
GT 1323 Technical Writing	3
	8
<i>Technically Related</i>	
Technical Electives **	4

Total semester credits required for Associate Degree 34

Average time for completion of degree requirements—one year.

* Kansas Wesleyan University.

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

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.

Civil Engineering Technology

The general field of Civil Engineering Technology is extremely broad in scope. The field is involved with the construction of highways, railroads, bridges, irrigation and reclamation projects, water power developments, city planning, and other projects ranging from small scale construction jobs to projects involving tremendous capital expenditures.

A Civil Engineering Technician, although highly specialized, must acquire a considerable store of technical knowledge of a variety of subjects. This program will provide the student with a general background in the consulting, construction and highway industries.

The program will include the study of construction materials and equipment, surveying principles and application, construction methods common to modern structural design, fabrication, industrial relations and economics.

Civil Engineering Technicians have many employment opportunities. Some of these are as follows:

1. Construction Industry
 - a. Cost estimator
 - b. Project layout technician
 - c. Instrument technician
 - d. Construction supervisor
 - e. Specification writer
2. Consulting Engineering
 - a. Instrument technician
 - b. Cost estimator
 - c. Crew chief (survey party)
 - d. Project supervisor
 - e. Specification writer
 - f. Inspection technician
3. Highway Design, Construction and Maintenance
 - a. Materials inspector and analyst
 - b. Photogrammatrist
 - c. Instrument technician
 - d. Cost estimator
 - e. Specifications writer and supervisor

Civil Engineering Technology

Associate of Technology

Curriculum Outline

<i>Technical Specialty</i>	Semester Credits
CL 1111 Surveying Instruments	1
MT 1113 Technical Drafting & Design I	3
CL 1123 Plane Surveying	3
CL 1221 Surveying Drafting	1
CL 1321 Materials Sampling & Testing	1
CL 1422 Hydraulics & Hydrology	2
CL 2134 Route & Construction Surveying	4
CL 2435 Statics & Strength of Materials	5
CL 2332 Soils & Foundations	2
CL 2532 Construction Methods & Estimating	2
CL 2242 Structural Drafting	2
CL 2443 Civil Design & Construction	3
CL 2444 Structural Design	4
CL 2542 Photogrammetry	2
CL 2930 Problems in Civil (Elective)	0
	<hr/> 35
 <i>Mathematics</i>	
GT 1212 Plane Trigonometry	2
GT 1213 College Algebra	3
GT 1222 Analytic Geometry & Calculus I	2
GT 2232 Analytic Geometry & Calculus II	2
	<hr/> 9
 <i>Communications (Written and Oral)</i>	
GT 1312 Oral Communications	2
GT 1712 Written Communications	2
GT 1721 Report Writing Lab	1
GT 2713 Technical Writing	3
	<hr/> 8
 <i>Physical Science</i>	
GT 1113 Applied Chemistry	3
GT 1124 Technical Physics	4
	<hr/> 7
 <i>Technology Related</i>	
GT 1413 Industrial Relations	3
GT 1423 Industrial Economics	3
MT 2611 Management & Human Development	1
	<hr/> 7
Total semester credits required for the Associate Degree	66
Average time for completion—two years.	

Computer Science Technology

Paralleling the rapid advance in technology in our society has been the development and recognition of the need for trained personnel to work with computer systems. As private industry, government agencies, and the military expand their use of computers, educational institutions must provide programs designed to meet the demands for specially trained personnel with skills and aptitude for careers in all phases of the computer industry.

The Computer Science Technology program at Kansas Technical Institute has been developed to provide students with the background necessary to qualify them for entrance into the computer field as programmers and system analysts.

To achieve these objectives, students in Computer Science Technology receive instruction in three areas:

1. They are given a sound background in mathematics and science. This provides them with both the skills and the vocabulary to communicate with the people who will require their services.
2. They receive extensive experience in writing and processing programs in a variety of computer languages (FORTRAN IV, COBOL, R. P. G., etc.).
3. They study in depth the computer system and peripheral equipment (IBM 1130 system).

The future of computer applications is difficult to predict. The most promising aspects of Computer Science Technology is the great number of new fields open to technicians.

Computer Science Technicians are needed in the following general fields:

1. Engineering
2. Education
3. Business
4. Medicine
5. Law
6. Computer/Data Processing

In all of the above fields, some typical employment opportunities are:

- a. Programmer
- b. Program analyst
- c. Systems analyst
- d. Systems engineer
- e. Systems supervisor
- f. Research assistant
- g. Sales representative

Computer Science Technology

Associate of Technology

Curriculum Outline

	Semester Credits
<i>Technical Speciality</i>	
CP 1112 Introduction to Machine Processing	2
CP 1113 FORTRAN IV	3
ET 1113 Direct Current Circuits	3
CP 1122 Boolean Algebra & Applied Logic	2
CP 1123 COBOL Programming	3
CP 1212 Computer Science Concepts	2
CP 2133 Numerical Methods	3
CP 2134 BAL for 1130 and 360	4
CP 2232 Computer Graphics	2
CP 2233 Statistics & Quality Control	3
CP 2444 Analog Computer Methods with Applied Differential Equations	4
Technical Electives (from list)	2
	<hr/> 36

Technical Elective List

CP 2122 PL/1 Programming	2
CP 2222 RPG Programming	2

Mathematics

GT 1212 Plane Trigonometry	2
GT 1213 College Algebra	3
GT 1222 Analytic Geometry & Calculus I	2
	<hr/> 9

GT 2232 Analytic Geometry & Calculus II	2
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Communications (Written and Oral)

GT 1312 Oral Communications	2
GT 1712 Written Communications	2
GT 1721 Report Writing Laboratory	1
GT 2713 Technical Writing	3
	<hr/> 8

Physical Science

GT 1113 Applied Chemistry	3
GT 1124 Technical Physics	4
	<hr/> 7

Technology Related

GT 1413 Industrial Relations	3
GT 1423 Industrial Economics	3
	<hr/> 6

Total semester credits required for the Associate Degree 66
Average time for completion—two years.

Electronic Data Processing Technology

It is the objective of the programs of study at KTI's Computer Technology Department to produce the personnel who can effectively utilize the computer as a tool to the fullest extent in the solution of problems and supplying the information needs of today and tomorrow for both the State of Kansas and private industries in Kansas. Scientific problems which formerly would have required many years for solution by manual methods may now be solved in a matter of seconds by the computer. Likewise, methods and techniques which were formerly impractical may now be applied to new and old problems to present more accurate results. This is the silent revolution of automatic data processing with its chief weapon being the electronic computer, an extraordinary device which places unique demands on the knowledge and skills of its partisans—professionals who can advance not only the science of computers, but the areas of application in which computers can operate.

There are two major fields of study in Computer work, each with its own wide range of job opportunities: Computer Science where emphasis including related subjects and applications are in the scientific field, and Electronic Data Processing where emphasis including related subjects and applications are in the business field. Some of the job titles available in these fields are as follows:

- A. Coding Clerk
- B. Keypunch/Verifier Operator
- C. Unit Record Equipment Operator
- D. Control Panel Technician
- E. D. P. Supervisor
- F. Computer Operator
- G. Computer Programmer
 - 1. Business Applications Programmer
 - 2. Scientific Applications Programmer
 - 3. Systems Programmer
- H. Systems Analysts
- I. Computer Operations Supervisor
- J. Programming Supervisor
- K. Systems Supervisor
- L. D. P. Manager
- M. Computer Center Director

At the present time, students at KTI receive training in most of the above fields but the primary emphasis of the training program is to produce competent personnel to be employed as Computer Programmers and Systems Analysts in the scientific field.

Electronic Data Processing Technology

Associate of Technology

Curriculum Outline

<i>Technical Specialty</i>	Semester Credits
CP 1112 Introduction to Machines	2
CP 1123 COBOL Programming	3
CP 2134 BAL for 1130 and 360	4
CP 2143 Computer Systems Seminar	3
CP 2233 Statistics & Quality Control	3
DP 2243 EDP Applications	3
43:216 * Business Law	4
43:214 * Principles of Accounting I	4
43:215 * Principles of Accounting II	4
Electives (from list)	6
	<hr/> 36
<i>Technical Electives</i>	
CP 2122 Programming Language/1 (PL/1)	2
CP 2222 Report Program Generator (RPG)	2
CP 1113 FORTRAN IV	3
CP 2232 Computer Graphics	2
CP 2133 Numerical Methods	3
43:213 * Marketing	4
CP 2930 Problems in Computer	1 to 6
<i>Other Electives</i>	
GT 1212 Plane Trigonometry	2
GT 1222 Analytic Geometry & Calculus I	2
GT 1113 Chemistry	3
<i>Mathematics</i>	
GT 1213 College Algebra	3
CP 1122 Boolean Algebra & Applied Logic	2
	<hr/> 5
<i>Science</i>	
68:125 * Physics	2
43:112 * Principles of Management Science	4
CP 1212 Computer Science Concepts	2
	<hr/> 8
<i>Communications (Written and Oral)</i>	
GT 1312 Oral Communications	2
GT 1712 Written Communications	2
GT 1721 Report Writing Laboratory	1
GT 2713 Technical Writing	3
	<hr/> 8
<i>Technology Related</i>	
GT 1423 Industrial Economics	3
Electives (from above list)	6
	<hr/> 9
	<hr/> 66

Total semester credits required for the Associate Degree

Average time for completion—two years.

* Indicates course available at Kansas Wesleyan.

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 Technicians will find career opportunities as follows:

1. Computer systems technicians
2. Missile electronics technicians
3. Communication technicians (LASER and MASER application and development)
4. Research assistants
5. Electronic engineering aide
6. Medical electronic assistant
7. Technical sales representative
8. Technical writing

Electronic Engineering Technology

Associate of Technology

Curriculum Outline

	Semester Credits
<i>Technical Specialty</i>	
ET 1011 Introduction to Technology	1
ET 1113 Direct Current Circuits	3
MT 1113 Technical Drafting & Design I	3
ET 1224 Alternating Current Circuits	4
ET 1324 Applied Electronics I	4
ET 2434 Electronic Measurements	4
ET 2535 Applied Electronics II	5
ET 2631 Electronic Seminar I	1
ET 2041 Electronic Seminar II	1
ET 2743 Pulse Circuits	3
ET 2843 Solid-State Applications	3
ET 2944 Applied Electronics III	4
ET 2930 Problems in Electronics (Elective)	0
	<hr/>
	36
<i>Mathematics</i>	
GT 1212 Plane Trigonometry	2
GT 1213 College Algebra	3
GT 1222 Analytic Geometry & Calculus I	2
GT 2232 Analytic Geometry & Calculus II	2
	<hr/>
	9
<i>Communications (Written and Oral)</i>	
GT 1312 Oral Communications	2
GT 1712 Written Communications	2
GT 1721 Report Writing Lab	1
GT 2713 Technical Writing	3
	<hr/>
	8
<i>Physical Science</i>	
GT 1113 Applied Chemistry	3
GT 1124 Technical Physics	4
	<hr/>
	7
<i>Technology Related</i>	
GT 1413 Industrial Relations	3
GT 1423 Industrial Economics	3
	<hr/>
	6
	<hr/>
Total semester credits required for the Associate Degree	66
Average time for completion—two years.	

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 now involved in a broad scale program of 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 and resource conservation. The extensive nature of environmental pollutants permit contributions by a wide spectrum of occupations. These occupations have skill levels ranging from entry level operation type jobs to the technician to the PhD levels.

A program in Environmental Protection Technology, closely tied to the Civil Engineering Technology program in existence at KTI, will train the Environmental Technicians necessary to provide the needed technical support for solving the problems of water protection. The Water Protection program is established on an option basis so that the student may select one of several career possibilities. He will be guided in the selection of his courses so that he will be able to perform in the occupational area of his choice.

Career Options and Employment

A Water Protection Technician performs functions in the areas of water systems design, laboratory technician, and environmental inspection. His purpose will be to protect and improve our water supplies. Treatment of the waste water sources is also a very important aspect of the Water Protection Technician and the graduate will have the knowledge of the broad field of water pollution and treatment and the design background necessary to perform a function needed by many agencies.

Employment for the *Water Protection Technician* will be with:

Federal and State Agencies—work as an inspector or monitor in the field of compliance control assuring that existing or newly legislated pollution standards are followed.

Local Agencies (cities, counties)—assist the engineer in establishing networks of facilities to handle water supplies, sanitary wastes, and storm runoff. Perform laboratory testing to assure compliance with pollution standards.

Consulting Engineers—assist the engineer in design, quantity calculations, and data collection for facilities involving water and waste water.

Laboratory Technician—perform chemical and biological tests on water and waste water to determine information relative to hardness, mineral content, Biochemical Oxygen Demand, and other factors that may affect the public health.

Resident Inspector—observing, checking, and performing tests on construction projects to insure compliance with job specifications and applicable codes.

Environmental Protection Technology

Associate of Technology

Curriculum Outline

<i>Technical Specialty</i>		Semester Credits
CL 1111	Surveying Instruments	1
MT 1113	Technical Drafting & Design I	3
CL 1123	Plane Surveying	3
CL 1422	Hydraulics and Hydrology (General)	2
EP 2133	Hydraulics (Pressure & Weir Flow)	3
	Technical Electives (from list)	22
<i>Technical Elective List</i>		
EP 2233	Microbiology of Water	3
EP 2332	Water Resources and Domestic Supply	2
EP 2333	Domestic Water Treatment	3
CL 2433	Civil Technology Design (Water Systems)	3
EP 2243	Microbiology of Sewage	3
EP 2343	Sewage Treatment Methods	3
CL 2643	Civil Technology Design (Sewage Collection and Treatment Systems)	3
CL 2332	Soils & Foundations	2
CL 2435	Statics and Strength of Materials	5
CL 2242	Structural Drafting	2
CL 2444	Structural Design (Concrete and Steel)	4
CL 2642	Civil Technology Design (Storm Sewers)	2
<i>Mathematics</i>		
GT 1212	Plane Trigonometry	2
GT 1213	College Algebra	3
GT 1222	Analytic Geometry & Calculus I	2
GT 2232	Analytic Geometry & Calculus II	2
		9
<i>Communications (Written and Oral)</i>		
GT 1312	Oral Communications	2
GT 1712	Written Communications I	2
GT 1721	Report Writing Lab	1
GT 2713	Technical Writing	3
		8
<i>Physical Science</i>		
GT 1111	Applied Chemistry Laboratory	1
GT 1113	Applied Chemistry	3
GT 1124	Technical Physics	4
		8
<i>Technology Related</i>		
GT 1413	Industrial Relations	3
GT 1423	Industrial Economics	3
MT 2611	Management & Human Development	1
		7

Total semester credits required for the Associated Degree

66

Average time for completion—two years.

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. He must have the ability to visualize objects and to make sketches and drawings. It requires that he 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. Upon graduation he should be qualified for the following job classifications:

Inspector
Estimator
Detail Draftsman
Test Technician
Customer Service Technician
Methods Technician

Production Planner
Technical Writer
Quality Control Inspector
Survey Party Chief
Parts Detailer

General Engineering Technology
Associate of Technology
Curriculum Outline

		Semester Credits
<i>Technical Specialty</i>		
ET 1113	Direct Current Circuits	3
MT 1113	Technical Drafting & Design I	3
MT 1222	Manufacturing Methods II	2
ET 1224	Alternating Current Circuits	4
GT 1633	Production and Quality Control	3
CL 2435	Statics & Strength of Materials	5
GT 1643	Electric Power & Devices	3
	Technical Electives (from list)	14
		<hr/> 37

Technical Electives List

CL 1111	Surveying Instruments	1
CP 1113	FORTRAN IV	3
CP 1122	Boolean Algebra & Logic	2
MT 1122	Technical Drafting & Design II	2
CL 1123	Plane Surveying	3
CP 1123	COBOL Programming	3
MT 1323	Properties of Materials	3
ET 1324	Applied Electronics I	4
MT 2132	Graphics in Design	2
CP 2134	BAL for 1130 & 360	4
CP 2232	Computer Graphics	2
CP 2233	Statistics & Quality Control	3
CL 2432	Construction Methods	2
MT 2433	Elements of Mechanisms	3
ET 2434	Electronic Measurements	4
CL 2435	Structural Design	5
ET 2535	Applied Electronics II	5
MT 2341	Materials Testing Procedures	1
MT 2443	Machine Design	3
ET 2743	Pulse Circuits	3
ET 2843	Solid State Applications	3
ET 2944	Applied Electronics III	4

Mathematics

GT 1212 Plane Trigonometry	2
GT 1213 College Algebra	3
GT 1222 Analytic Geometry & Calculus I	2
	<hr/>
	7

Communications (Written and Oral)

GT 1312 Oral Communications	2
GT 1712 Written Communications I	2
GT 1721 Report Writing Lab	1
GT 2713 Technical Writing	3
	<hr/>
	8

Physical Science

GT 1113 Applied Chemistry	3
GT 1124 Technical Physics	4
	<hr/>
	7

Technology Related

GT 1413 Industrial Relations	3
GT 1423 Industrial Economics	3
MT 2611 Management and Human Development	1
	<hr/>
	7

Total semester credits required for the Associate Degree 66

Average time for completion—two years.

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 power, mechanisms and design of mechanical elements.

The Mechanical department facilities are located in two buildings at the north end of campus. The offices, classrooms and drafting laboratories are in a two-story building and are shared with Civil Engineer Technology. The one-story building contains the laboratory facilities for foundry, machine shop and materials science.

The Mechanical Engineering Technician is concerned with the development, testing, evaluation, detailing and design of machinery, equipment, instruments and other mechanical devices along with selection and design of the tooling required to manufacture a 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. He may conduct performance and endurance tests on various mechanical devices and report the results of the test.

Mechanical Engineering Technicians will find career opportunities as follows:

1. Machine and tool designer
2. Special project designer
3. Evaluation and testing technician
4. Engineering assistant
5. Production and process planning technician
6. Research and development technician
7. Cost estimating and technical writing

Mechanical Engineering Technology

Associate of Technology

Curriculum Outline

	Semester Credits
<i>Technical Specialty</i>	
MT 1113 Technical Drafting & Design I	3
ET 1113 Direct Current Circuits	3
MT 1212 Manufacturing Methods I	2
MT 1122 Technical Drafting and Design II	2
MT 1222 Manufacturing Methods II	2
MT 1323 Properties of Materials	3
MT 2132 Graphics in Design	2
MT 2433 Elements of Mechanisms	3
CL 2435 Statics and Strength of Materials	5
MT 2533 Fluid Power	3
MT 2143 Mechanical Design Projects	3
MT 2341 Materials Testing Procedures	1
MT 2443 Machine Design	3
MT 2930 Problems in Mechanical (Elective)	0
	<hr/> 35
<i>Mathematics</i>	
GT 1212 Plane Trigonometry	2
GT 1213 College Algebra	3
GT 1222 Analytic Geometry & Calculus I	2
GT 2232 Analytic Geometry & Calculus II	2
	<hr/> 9
<i>Communications (Written and Oral)</i>	
GT 1312 Oral Communications	2
GT 1712 Written Communications I	2
GT 1721 Report Writing Lab	1
GT 2713 Technical Writing	3
	<hr/> 8
<i>Physical Science</i>	
GT 1113 Applied Chemistry	3
GT 1124 Technical Physics	4
	<hr/> 7
<i>Technology Related</i>	
GT 1413 Industrial Relations	3
GT 1423 Industrial Economics	3
MT 2611 Management and Human Development	1
	<hr/> 7
Total semester credits required for the Associate Degree	<hr/> 66
Average time for completion—two years.	

Welding Technical Specialist

(Option of Mechanical Engineering Technology)

The many recent improvements in production methods and materials handling have been the result of breakthroughs in new materials development, new production techniques and more effective quality control and inspection methods. Because of the changes, it is vital to develop a higher degree of technical competence in persons working in materials fabrication and production.

During the past 20 years great advances have been made in welding processes with new and more efficient welding equipment, a greater variety of alloys and a better understanding of the materials being welded. These changes have brought about a greater demand for qualified welders, metals technologists, test technicians and plant process and planning technicians.

Graduates of the area vocational school welding programs in Kansas should find ready employment as qualified welders within the state. Of equal importance, however, is the demand for persons who can serve as welding inspectors, welding and fabrication supervisors, metals analysts, testing lab technicians and field representatives for welding equipment suppliers.

The Welding Technical Specialist option at Kansas Technical Institute is designed to accept credits for successful area vocational school welding training. A student who has completed a one-year program in welding at an area vocational school can earn sufficient credits to obtain the Associate Degree at KTI in an additional three semesters.

Graduates of the *Welding Technical Specialist* curriculum will find employment opportunities as:

1. Welding inspectors
2. Metals analysts
3. Welding supervisors
4. Testing lab technicians
5. Field representatives for welding equipment manufacturers
6. Welding production and process planning technician
7. Specifications writer

The following curriculum outline is based on successful completion of a one-year welding program at a Kansas area vocational school. Persons who have less than this amount of vocational training in welding may obtain additional information on waiver of credit from the Chairman, Department of Mechanical Engineering Technology, Kansas Technical Institute.

Welding Technical Specialist

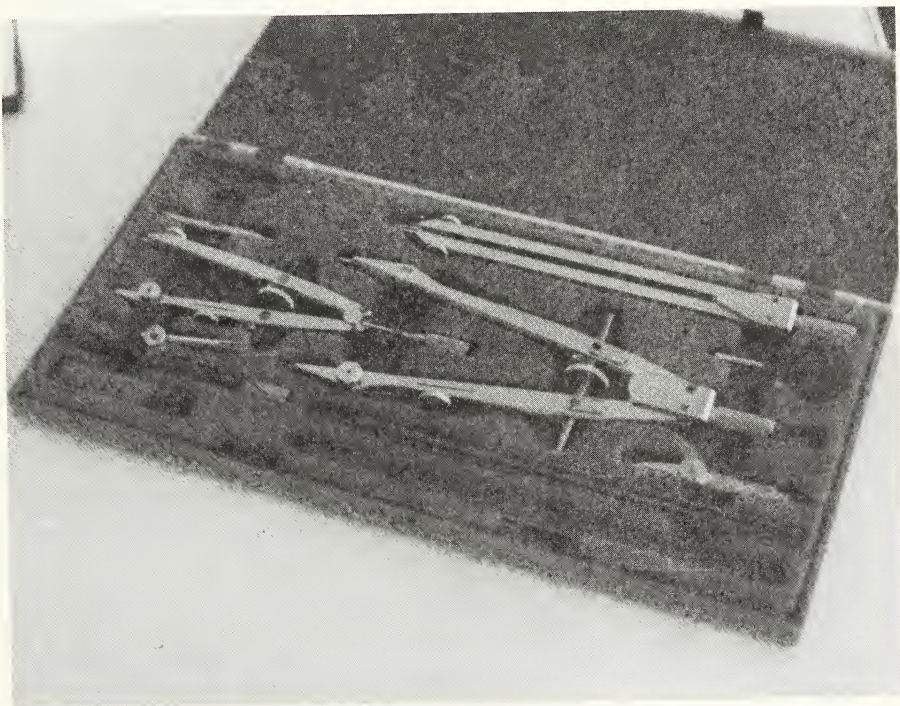
Associate of Technology

Curriculum Outline

	Semester Credits
<i>Waiver of Credit for Successful Completion of Post-Secondary Welding Training</i>	22
<i>Technical Specialty</i>	
MT 1212 Manufacturing Methods I	2
MT 1512 Welding Technology I	2
MT 1323 Properties of Materials	3
MT 1523 Welding Technology II	3
GT 1633 Production and Quality Control	3
CL 2435 Statics and Strength of Materials	5
MT 2341 Materials Testing Procedures	1
Approved Elective	2
	<hr/> 21
<i>Mathematics</i>	
GT 1212 Plane Trigonometry	2
GT 1213 College Algebra	3
	<hr/> 5
<i>Communications</i>	
GT 1312 Oral Communications	2
GT 1712 Written Communications I	2
GT 1721 Report Writing Lab	1
GT 2713 Technical Writing	3
	<hr/> 8
<i>Physical Science</i>	
GT 1113 Applied Chemistry	3
GT 1124 Technical Physics	4
	<hr/> 7
<i>Technology Related</i>	
GT 1413 Industrial Relations	3
	<hr/>
Total semester credits required for the Associate Degree	66
(Including 22 hours vocational credit)	
Average time for completion—three semesters in addition to welding program at area vocational school.	

Section 7

Course Descriptions



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 **concurrence**, where they may exist. The prerequisite courses must be taken before the course being described may be taken. Concurrence 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 0215 which means that before taking AM 1223 (Aircraft Fluid Power Systems), the student must have completed Aircraft Science (AM 1115) and Basic Mathematics (GT 0215)

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

Aeronautical Technology

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

AM 1114 Basic Aircraft Electricity

A basic concept of Direct Current and Alternating Current Circuits, basic laws relating to circuit analysis, and a study of measuring instruments. Concepts of relays, switches, and other basic devices encountered in circuit analysis, trouble shooting and repair. Also includes detailed study of electrical components and systems fundamental to a variety of aircraft active in general aviation. Attention will be devoted to low voltage electrical components of power plants as well as air frame electrical systems. (2-2-4) Prerequisite: None

AM 1115 Aircraft Science

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

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, and 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

AM 1222 Aircraft Welding

Application of physical and chemical principles to various welding techniques of aircraft construction and repair. Manipulative skill development in gas, electric arc and heli-arc welding. (1-1-2) Prerequisite: None

AM 1223 Aircraft Fluid Power Systems

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

AM 1225 Airframe Systems

A study of the airframe systems and components common to various types of general aviation aircraft. (3-2-5) Prerequisite: AM 1115

AM 1324 Airframe and Powerplant Electrical Systems

An advanced study of Direct Current and Alternating Current circuits laws relating to circuits analysis and a detailed study of measuring instruments. Advanced study of relays, switches, and other devices encountered in circuits analysis, trouble shooting and repair. Also includes a detailed study of electrical components and systems used in a variety of aircraft active in general aviation. Attention will be devoted to low voltage electrical components of airframe electrical systems. (2-2-4) Prerequisites: AM 1114, GT 1213

AM 1325 Aircraft 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 and plastics are stressed. (3-2-5) Prerequisite: AM 1115

AM 2232 Aircraft Wood & 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.

The course 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

AM 2235 Aircraft Inspection and Assembly

A study of the assembly, assembly procedures, manufacturing procedures, and inspection of aircraft components. The 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

AM 2333 Navigation Aids and Communication Systems

A survey study of the aids of 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

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

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

AM 2442 Propellers

A study of propeller theory, use, maintenance, and inspection of propellers and related control systems. (1-1-2) Concurrent: AM 2434

AM 2443 Powerplant Ignition Systems

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

AM 2543 Powerplant Operation and Trouble Shooting

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 operational phase of this course. (1-2-3) Prerequisite: AM 2434

AM 2545 Gas Turbine Powerplants

A study of the aircraft gas turbine engine and its operation. The course is designed to provide the student with a background of practical knowledge of gas turbine fundamentals, operation and maintenance. (2-3-5) Prerequisite: AM 2434

AM 2643 Powerplant Overhaul

Practical experience in overhauling a reciprocating engine. 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 process and assembly. (1-2-3) Prerequisite: AM 2434

Civil Engineering Technology

CL 1111 Surveying Instruments

An introductory course explaining the use and case of the instruments and tools most commonly used in surveying. This course is used to prepare students for CL 1123, Plane Surveying. (0-1-1) Prerequisite: None

CL 1123 Plane Surveying

A 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. (2-1-3) Prerequisite: CL 1111

CL 1221 Surveying 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; Prerequisite or concurrent: CL 1123

CL 1321 Materials Sampling and Testing

A study of basic construction materials including concrete and asphalt materials, sampling techniques, and methods of testing to conform with American Society for Testing Materials Specifications are emphasized in the course. (0-1-1) Prerequisite: None

CL 1422 Hydraulics and Hydrology

The principles of forces and pressures due to fluids are studied. The course also deals with the causes and effects of precipitation. Emphasis is placed on the effects of hydrology and hydraulics to drainage and drainage structures. (2-0-2) Prerequisite or concurrent: GT 1222

CL 2134 Route and Construction Surveying

The study of geometrics as they are applied to the design of highways. The laboratory concerns itself with surveys required for construction staking. (2-2-4) Prerequisites: CL 1123

CL 2332 Soils & 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 or concurrent: GT 1222

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

CL 2443 Civil Design and Construction

A study of the design and detailing of small structures and highway projects. General topics include drainage structures, flexible pavement and roadway alignment and plans. (2-1-3) Prerequisite or concurrent: CL 2134

CL 2444 Structural Design

A course combining the design of structures in reinforced concrete and structural steel. Basic calculations and design concepts are studied for use in either a design or inspection role. (4-0-4) Prerequisite: CL 2435

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: 3rd semester status

CL 2930 Problems in Civil

A course in which advance study is done in the specific area chosen by the student. (1 to 6) Prerequisite: Instructor's consent

CL 2242 Structural Drafting

This course emphasizes the methods of detailing reinforced concrete and structural steel in the preparation of construction plans. (0-2-2) Prerequisite or concurrent: CL 2444

CL 2542 Photogrammetry

An introduction to the principles, equipment, techniques, and applications of using aerial photographs for topographic and planimetric mapping, site location and highway design and construction. (0-2-2) Prerequisite: CL 1123

CL 2642 Civil Technology Design (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: CL 1422

CL 2643 Civil Technology 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 system. 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: EP 2133

CL 2433 Civil Technology Design (Water Systems)

A continuation of hydraulics in specific applications 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 or concurrent: EP 2133

Computer Science Technology

CP 1112 Introduction to Machine Processing

An introduction to data processing equipment including the use of the key-punch, the sorter, and wiring control panels for, and using, the reproducer. Hands-on experience with the above machines as well as some contact with the laboratory's computer system. Design of computer card layouts and output forms. (0-2-2) Prerequisite: None

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 1212, GT 1213

CP 1122 Boolean Algebra and Applied Logic

This course introduces the student to those fundamental algebraic, logical and combinatoric concepts from mathematics needed in subsequent computer science courses and shows the applications of these concepts to various areas of computer science. Also discusses the organization, logic design and components of digital computing systems. Basic digital circuits, Boolean Algebra and combinational logic, data representation and transfer, and digital arithmetic. Digital storage and accessing, control functions, input-output facilities, system organization, and reliability. Description and simulation techniques. (2-0-2) Prerequisite: None

CP 1123 COBOL Programming

The primary aim of this course is to introduce the student to the solution of business oriented problems through writing and execution of COBOL programs. Basic programming principles will be stressed, including flow-charting and program documentation. The use of mass storage media such as tape, disc, and drum storage is also discussed. (2-1-3) Prerequisite or concurrent: CP 1212

CP 1212 Computer Science Concepts

This course is designed to provide the student with the basic knowledge and experience necessary to use computers efficiently and 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

CP 2122 PL/1 Programming

This technical specialty course is designed to teach the student the fundamentals of PL/1 programming by writing and executing programs using it. The detailed structure of the compiler language PL/1 is discussed. Emphasis is placed on the language elements, grammars, and the adaption of the programming language to the solution of problems. One of two option courses that is available to either the scientific or business student. Particularly recommended for the scientific student. (1-1-2) Prerequisite: None

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 or concurrent: GT 2232

CP 2134 BAL for 1130 and 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 sub-routines 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, CP 1122

CP 2222 RPG Programming

This 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 and payable, inventory and material accounting, and other business oriented reports, through writing and execution of RPG programs. One of two option courses that is available to either scientific or business students. Particularly recommended for the business student. (1-1-2) Prerequisite: None

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 serves 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, interactive versus passive graphics, analog storage of images on microfilm, digitizing and digital storage, pattern recognition by features, syntax tables, random nets, the mathematics of three-dimensions, projections, and the hidden-line problem, "Graphical programs," computer aided design and instruction, and animated movies. (0-2-2) Prerequisite: CP 1113

CP 2233 Statistics and Quality Control

Introduction to elementary statistics with emphasis on the application of statistics and use of computers as statistical tools. Topics include description and representation of sample data, probability, theoretical distributions, sampling, estimating, correlation, regression, Critical Path Method (CPM), PERT, and computer statistical routines. Also includes graphical output on IBM 1627 Plotter. (2-1-3) Prerequisite: GT 1213

CP 2143 Computer Systems Seminar

Detailed study of computer systems currently on the market and their individual merits and drawbacks. Discussion of advanced computer techniques including computer graphics, time-sharing systems, multi-programming, linear programming, systems simulation using CPM, PERT, Monte Carlo techniques, management games and other techniques used in simulating systems. (2-1-3) Prerequisite or concurrent: CP 2134

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 systems simulation on the IBM 1130 system. Study of elementary mathematical models involving practical applications of differential equations and their solution on analog and digital computers. (3-1-4) Prerequisite: ET 1113; Prerequisite or concurrent: GT 2232

Electronic Data Processing Technology

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

Electronic Engineering Technology

ET 1011 Introduction to Technology

Seminars, field trips, and library assignments designed to project the student into the world of the technician and to give the student firsthand knowledge of the current need for technicians in industry. (1-0-1) Prerequisite: None

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. Special attention is given to the application of Thevenins and Norton's theorems and the use of the slide rule in this analysis. (2-1-3) Prerequisite: None

ET 1224 Alternating Current Circuits

The study of alternating current circuits. Analysis of impedance networks from power line through communication frequencies. Laboratory analysis and measurement of impedance networks, using the oscilloscope and other instruments. (2-2-4) Prerequisite: ET 1113

ET 1324 Applied Electronics I

An introduction to active electronic devices using both graphic and mathematical model analysis. Laboratory periods devoted to measurement of device parameters in basic circuit configurations. (2-2-4) Prerequisite: ET 1113

ET 2434 Electronic Measurements

A study of theory and operation of basic electronic instruments. Includes Direct Current and Alternating Current ammeters, voltmeters, impedance bridges, attenuators, filters, etc. Also includes a study of amplifiers as related to sensitive Alternating Current vtvm's, sensitive Direct Current vtvm's, oscilloscopes, etc. Laboratory exercises provides experience in the selection of proper equipment for making measurements in electrical and electronic systems as well as acoustical systems. (2-2-4) Prerequisites: ET 1224, ET 1324

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, frequency response and bode plots are studied. Principles of bias stabilization and characteristics of feedback circuits are included. 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, ET 1324

ET 2631 Electronic Seminar I

An industry-related course to prepare the student for his first position. The student designs electronic circuits to a set of specifications. A report is prepared describing the circuits, applications and testing methods. (0-1-1) Prerequisites: ET 1324, ET 1224

ET 2041 Electronic 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, instructions on use and application of the circuit. (0-1-1) Prerequisite: ET 2631

ET 2743 Pulse Circuits

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 hand on experience with both discrete and integrated circuit transistor logic.

ET 2843 Solid State Applications

A study of modern solid state devices to include bipolar transistors, field effect transistors, unijunction transistors, tunnel diodes, integrated circuits, etc. Coursework includes a study of various transistor equivalent circuit models. Frequency response and frequency compensation is included. Includes non-linear application of solid state devices in multivibrator circuits, blocking oscillators, etc. Laboratory exercises provide reinforcement of classroom work and hands-out experience in measurement or solid state circuit parameters. (2-1-3) Prerequisite: ET 2434, ET 2535

ET 2930 Problems in Electronics

A course in which advance study is done in the specific area chosen by the student. (1 to 6) Prerequisite: Instructor's consent

ET 2944 Applied Electronics III

Design and analysis of systems as they pertain to applications ranging from communications and broadcasting to radio navigation and weather satellites. Laboratory work involves design and measurement as well as field trips to representative sites. Review of electrostatic and electromagnetic propagation of energy through the use of working model antennae. Special array for VOR, DME and ADF systems, elementary use of Smith chart. (3-1-4) Prerequisites: ET 2434, ET 2535

Environmental Protection Technology

EP 2133 Hydraulics (Pressure and Weir Flow)

A continuation of hydraulics and hydrology in specific applications to water supply systems and sanitary facilities. The laboratory involves experiments with pipe and weir flow applicable to design needs. (2-1-3) Prerequisite: CL 1422

EP 2233 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 firsthand in the laboratory. (1-2-3) Prerequisite: GT 1111

EP 2332 Water Resources and Domestic Supply

A continuation of hydrology in the particular applications and developments relative to replenishing processes, storage capacity and natural losses. (2-0-2) Prerequisite: CL 1422

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 firsthand observations of facilities in operation. (2-1-3) Prerequisite: EP 2332

EP 2243 Microbiology of Sewage

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 firsthand in the laboratory. (1-2-3) Prerequisite: GT 1111

EP 2343 Sewage Treatment Methods

A study of the different treatment methods, objectives and the results that may be expected from each. The laboratory provides the vehicle for firsthand observations of facilities in operation. (2-1-3) Prerequisite: EP 2243

General Engineering Technology

GT 0215 Basic Mathematics

A non-credit course in basis 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 slide rule. (5-2-0) Prerequisite: None

GT 0713 Remedial English

Guided self-study in basic mechanical skills (*i.e.* elementary grammar, syntax, spelling, punctuation) through laboratory exercises for those students entering Kansas Technical Institute with serious deficiencies in their basic writing skills. (3-0-0) Prerequisite: None

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

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

GT 1212 Plane Trigonometry

The fundamentals of college trigonometry with emphasis on applications to engineering technology. (2-0-2) Prerequisite: None

GT 1213 College Algebra

The fundamentals of algebra as taught at the college level modified to emphasize applications and de-emphasize theoretical developments. (3-0-3) Prerequisite: None

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

GT 1413 Industrial Relations

Analysis of the relationship of technical growth and industrial development to the actions and coordination of various organizations including professional societies, industrial organizations, fraternal and social societies, cooperatives, labor relations groups, and political orders. The cooperation and lack of cooperation of such activities and the national trends in technical and industrial relations is the basis of study most vital to technicians. (3-0-3) Prerequisite: None

GT 1124 Technical Physics

A quantitative investigation into the fundamentals of mechanics, heat, and sound. 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 or concurrent: GT 1222

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, derivatives, integrals, definite integrals, conics, emphasizing the process of applying the process to technical problems. (2-0-2) Prerequisites: GT 1212, GT 1213

GT 1423 Industrial Economics

A quantitative study of economic concepts such as interest, depreciation, taxes and other costs involved in making choices in engineering situations. A brief review of the characteristics of the American economic structure is also presented. (3-0-3) Prerequisite: GT 1213

GT 1633 Production and Quality Control

An approach to production control functions, methods and procedures to include inventory control, master scheduling, estimating and statistical techniques used in control of quality. (2-1-3) Prerequisites: MT 1222, GT 1222, or Instructor's consent

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. (2-1-3) Prerequisite: ET 1224

GT 1712 Written Communications I

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

GT 1721 Report Writing Laboratory

The editing, evaluating, and correcting of each student's field, shop, and laboratory reports written for the 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) Prerequisite or concurrent: GT 1712

GT 2232 Analytic Geometry and Calculus II

A continuation of GT 1222, which includes the following: trigonometric derivatives, geometric application of derivatives, maxima and minima, differentials, trigonometric integrals, areas, volumes, centroids, integration techniques emphasizing solution of technical problems. (2-0-2) Prerequisite: GT 1222

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; Prerequisite or concurrent: GT 1721

Mechanical Engineering Technology

MT 1113 Technical Drafting and Design I

A beginning course in drafting. The ability to produce accurate and complete working drawings is developed with an appreciation of lettering, free-hand sketching and the proper use of equipment and instruments. Descriptive geometry is used early and frequently in the course. Dimensions, symbols, standards and specifications are studied and stressed. (0-3-3) Prerequisite: None

MT 1212 Manufacturing Methods I

A background of knowledge is provided for various manufacturing materials and fundamental types of manufacturing methods as employed in hot working processes. Practical experience is gained by the student in producing simple molds, cores, and castings, in performing simple arc and oxyacetylene welding operations, and basic processes with plastics in manufacturing. (1-1-2) Prerequisite: None

MT 1122 Technical Drafting and Design II

A continuation of MT 1113. As in MT 1113, interpretation, drafting practices and the use of handbooks are important parts of the subject. Emphasis is placed on design application and a more extensive background of principles. Elementary design problems such as machine parts and assemblies, fasteners and supporting devices, production drawings, structural detailing, intersections and developments and graphs and charts are used to prepare the student for instruction in the advanced design course. (0-2-2) Prerequisite: MT 1113

MT 1222 Manufacturing Methods II

Designed to cover the various present-day manufacturing methods as employed in cold working processes. Practical applications give the student opportunity to become familiar with various types of machine tools, tooling, measuring and inspection procedures. Information is presented to introduce numerical control for machine tools and the use of special machines in manufacturing. (0-2-2) Prerequisite: None

MT 1323 Properties of Materials

Study of physical materials and their adaptability to applications. Emphasis is placed on the study of ferrous and non-ferrous metals. Experience in heat treating, inspection and microscopic examination, and materials testing including both destructive and non-destructive methods are important topics in the course. Plastic deformation, corrosion of metals and wear are also topics of consideration as well as principles of powder metallurgy and the use of non-metallic materials. (2-1-3) Concurrent: GT 1113

MT 1512 Welding Technology I

A study of American Welding Society's Standards, welding symbols, and basic prints of industrial fabrication and manufacturing drawings in the welding industry. The course covers material handling, shop layout and planning, cost estimating for welding. (1-1-2) Prerequisite: Welding background or departmental approval.

MT 1523 Welding Technology II

A study of the types of ferrous and non-ferrous metals related to welding, metallurgical effects of welds, effects of alloying elements, heat treating, corrosion processes, and welding of dissimilar metals. Welding tests, inspection and design includes use of dye penetrants, x-ray, magniflux, zygló, macro-etching, microscopic inspection, destructive and non-destructive testing as prescribed by standard qualification test. (2-1-3) Prerequisite: Concurrent: MT 1323 or departmental approval

MT 2132 Graphics in Design

The applications of specific areas of drafting and design to include welding, tooling, gears, cam, and other mechanical components as well as applying graphic solutions to motion-linkage problems. Also, coverage of basic technical illustration techniques is included. (0-2-2) Prerequisite: MT 1122

MT 2433 Elements of Mechanisms

This application of machine design includes fundamentals of displacement and velocity and acceleration used in analysis and design. Both analytical and graphical methods of problem solving are applied to machine elements, linkages, gear trains, cams, pulleys, parts and combinations of such machine elements. (3-0-3) Prerequisite: GT 1124

MT 2533 Fluid Power

The fundamental study and laboratory experiences of the basic fundamentals of fluid mechanics as applied to fluid power system design, and to give a basic understanding of fluid power language and a knowledge of components available, their design, application, operation and maintenance. Fluid power systems involve both hydraulics and pneumatics applications. (2-1-3) Prerequisite or concurrent: GT 1124

MT 2930 Problems in Mechanical

Opportunity for advanced study and practical experience with specific problems of the student's choice in field of Mechanical Technology. (1 to 6) Prerequisite: Instructor's consent

MT 2143 Mechanical Design Projects

This final design course emphasizes the application of all previously learned design material. A student must analyze the problem, gather data, prepare preliminary sketches, perform all mathematical calculations, establish working drawings and specifications and prepare final checks to assure that his design is workable. Emphasis is placed upon the selection of specifications and the final check on his work. Proper procedure for preparing specifications and the development of design confidence are major objectives of this course. (1-2-3) Prerequisite: MT 1122. Prerequisite or concurrent: MT 2433

MT 2341 Materials Testing Procedures

The applications of various testing methods and instrumentation which are commonly used in the areas of mechanical testing. Provides experience in the testing of material properties and component loading conditions. (0-1-1)
Prerequisite or concurrent: CL 2435

MT 2443 Machine Design

An applications course in design including factors which influence the material used in design. The selection of materials and design of parts is based on the analysis of stresses, loading conditions, deformations, vibrations and finish of the completed design project. (3-0-3) Prerequisite: CL 2435. Prerequisite or concurrent: MT 2433

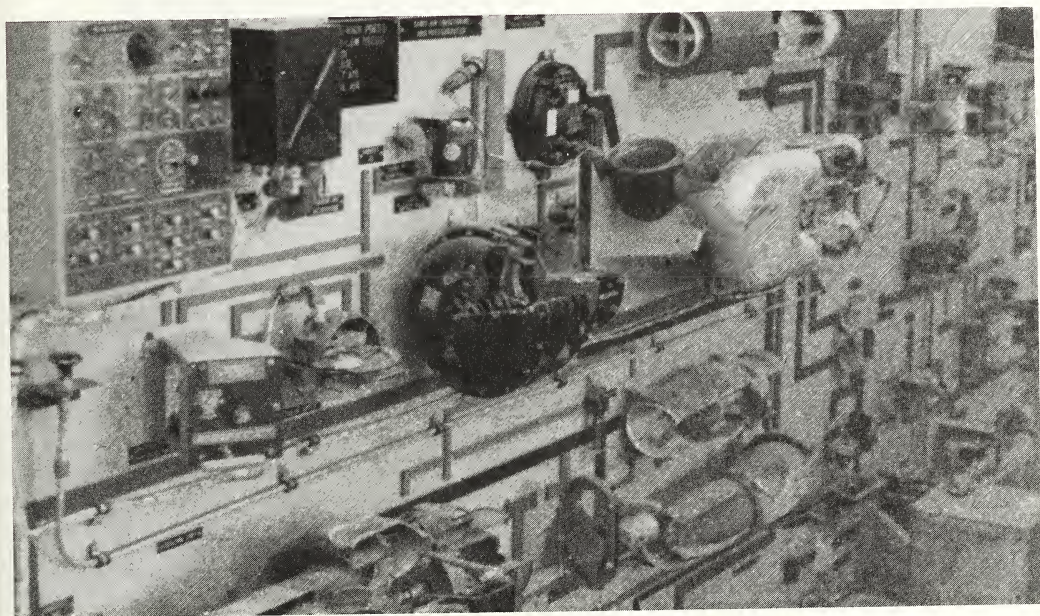
MT 2611 Management of Human Development

An extension of Industrial Relations, and will include the following areas of study: Management and environment, the beginning of modern management, the management functions, fundamentals of organizational behavior, and leadership and its development. Case studies will be introduced and discussed. (1-0-1) Prerequisite: GT 1413 and Senior standing.



Section 8

Control of the Institute



Board of Control

State Board of Education

The State Board of Education is charged with the responsibility of overall control of the Kansas Technical Institute. The members of the State Board of Education are:

- District 1—Paul Jones, Kansas City, Kansas
- District 2—Dorothy O. Ballard, Shawnee Mission
- District 3—John Frazier, Topeka (Chairman)
- District 4—Dorothy G. Groesbeck, Manhattan
- District 5—Harold H. Crist, Scott City (V. Chrm.)
- District 6—Thomas Pitner, Concordia
- District 7—Will T. Billingsley, Hutchinson
- District 8—Harry O. Lytle, Jr., Wichita
- District 9—Karl M. Wilson, Coffeyville
- District 10—Ervin E. Grant, El Dorado

The President of Kansas Technical Institute reports directly to the State Board of Education. The President is authorized to appoint faculty and staff as necessary to fulfill the purpose of the institute. The faculty at Kansas Technical Institute are responsible for the planning and conduct of all instruction. Academic Committees have been organized for the purpose of self governance in the areas of academic design and control.

Academic Committees

The academic committees, comprised of Kansas Technical Institute faculty, provide a variety of functions to perpetuate academic excellence and relevance. Standing committees and their specific services to the Institute and the State of Kansas are listed.

Academic Standards Committee

Responsibilities:

1. To consider and make recommendations to the administration relative to all events and activities which affect academic quality.
2. Serve as a reinstatement committee for those persons dismissed from the Institute for academic reasons.
3. To, on the committee's own recognizance, take up, discuss and make recommendations to the administration concerning any official school activity, or to cooperate with any other committee in study and recommendation, where academic standards are concerned.

Course and Curriculum Committee

Responsibilities:

The Committee recognizes the primacy of the Department Heads with respect to their individual departmental curricula and courses. Above this framework the area of responsibility of the Committee is viewed as including the following:

1. Study and investigation of new courses as proposed with a view toward best utilizing faculty and equipment.
2. Study and investigation of new curricula either as proposed by the Administration or the Committee with recommendations to be sent to the Administration.
3. Study and investigation of proposed changes of existing curricula.
4. Study and resolution of problems involved in interdisciplinary courses.

Class Scheduling Committee

Responsibilities:

1. To participate in the scheduling of all events and activities which are related to academic activities by considering and recommending to the administration such changes as would best serve the academic interests of the students and faculty.
2. To recommend adoption of specific dates for adding, dropping and withdrawing from class enrollment and all similar regularly-occurring dates on the academic calendar.
3. To study and recommend for adoption a policy concerning final exams given in courses offered at the Institute and to prepare a final examination schedule to be displayed publicly two weeks before the examination period is to begin.
4. To create, each term, a line schedule of classes to be offered the following term, such a schedule to be printed and ready for distribution two weeks prior to the enrollment date of the next term.
5. To cooperate and coordinate activities with the other academic committees where and when areas of responsibility overlap.
6. To, on the Committee's own recognizance, take up, discuss and make recommendations to the Administration concerning any official school activity's schedule or to cooperate with any other committee in study and recommendation where scheduling is a consideration.

Textbook and Library Committee

Responsibilities:

The Committee's responsibilities are as follows:

1. To study and recommend policies covering the selection, adoption, change or addition of textbooks or similar educational supplies required of the students as part of their preparation for class work. The committee takes full notice of and offers complete agreement with the basic idea that the academic department responsible for the class must have authority over the textbooks used if it is to meet its responsibility. The Committee in no way assumes authority concerning title selection as such. However, the Committee intends to study and adopt such policies as will best coordinate a department's needs with such related considerations as cooperation with the book vendor, avoidance of duplication of student expense, etc.
2. To study and make recommendations on all matters pertaining to textbook procurement, as these relate to the conduct of classes and the good of students or faculty.
3. To study and make recommendations concerning the lease or purchase of other educational materials such as films, filmstrips, projection sets, etc., by the Institute for use by the instructional departments, and to cooperate with the other committees in recommending educational equipment that would be compatible with such materials.
4. To study and recommend policies covering the selection of library books, periodicals and equipment as these things relate to academic endeavor. It is recognized by the Committee that final, particular judgment in library operation lies with the librarian. However, it is not the Committee's function to infringe on the librarian's necessary authority. Instead, it is assumed that the Committee should assist the librarian with both services and recommendations in stocking and operating a technical library.
5. To participate in the formulation of library operations policies so as to insure the requirements of students and faculty are best served.
6. To serve as a coordinating agency between the faculty and the local merchants who fill the school's needs for textbooks and supplies, particularly by providing the vendors with coordinated lists of text and supply requirements well in advance of the term in which they are needed.

Credit Waiver Committee

Responsibilities:

1. To review all documents submitted by the Director of Admissions for consideration of waiver of specific curriculum course requirements.
2. To rule on course waiver consistent with the policies of the committee as a whole.

Long-Range Curriculum Planning Committee

Responsibilities:

1. Serve as a focal point for input from all sources relating to new program development.
2. Evaluate, as time and funds permit, the need on a local or state basis for any new program development.
3. Co-ordinate with the Short Course and Seminar Committee and with the Course and Curriculum Committee concerning new program development.
4. Recommend to the President of Kansas Technical Institute concerning the development of any new programs of instruction.
5. Function as a review board for program relevance at K. T. I. and report annually to the President on the committee findings.
6. Maintain a file on the results of all needs studies.

President's Advisory Council

In addition to the Academic Committees listed, the President's Advisory Council exists with the following responsibilities:

1. To advise the President concerning establishment or modification of Institute policy matters.
2. As the senior Institute committee, to provide efficient and effective communications between the administration, faculty, staff and the student body. To provide input from the student body, a representative from both the Student Governing Association and Veterans on Campus have permanent status on the council.

Administration

James O. Thompson, Jr., B. S., M. S. President
Thomas F. Creech, B. S., M. S. Director of Academic Affairs
Charles P. Scott, B. S., M. S. Director of Student and
Public Affairs
Donald L. Buchwald, B. S., M. S., Director of Community Service
Alden K. Shields, B. A. Director of Operational Affairs

OFFICERS OF THE INSTITUTE

M. T. Baer, Teaching Technician, *Electronics Technology*. First Class Radio Telephone License, Associate of Technology, Kansas Technical Institute.

Robert D. Bingham, Instructor, *General Technology*. M. S. Technical Education, Oklahoma State University, B. S. Education, Northeast Missouri State University.

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