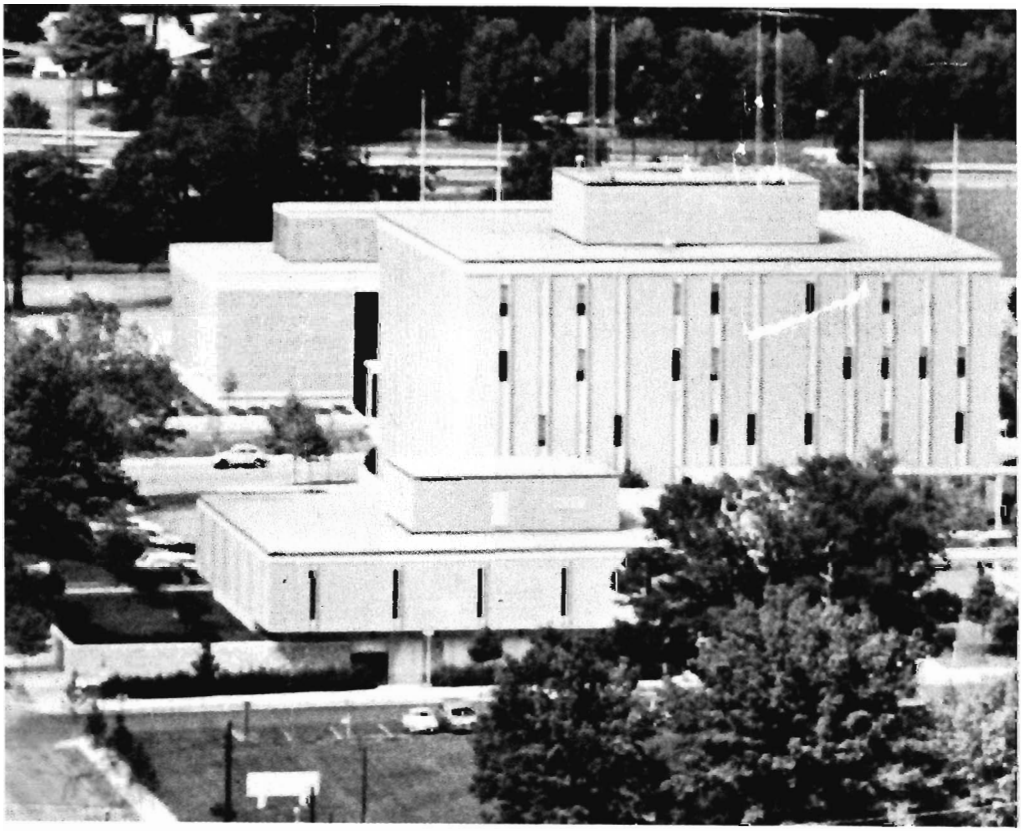
COLUMBUS TECHNICAL INSTITUTE

Two year Technical College



1974-1975

Columbus Tech

A State of Ohio Assisted Two-Year Technical College of Higher Education

Founded in 1963

550 EAST SPRING STREET
COLUMBUS, OHIO 43215
(614) 221-6743

1974-75 Bulletin

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Calendar

1974-75 Academic Years

AUTUMN QUARTER, 1974

September 30-December 13

CPP Test*
Placement Test*

August 26 . . . . . REGISTRATION ***
September 20 . . . . . Last day to pay fees without penalty
September 30 . . . . . CLASSES BEGIN
October 4 . . . . . Last day for full refund less $10 of fees
October 4 . . . . . Last day to add a course
October 11 . . . . . Last day for 50% refund of fees
October 25 . . . . . Last day for 25% refund of fees
November 1 . . . . . Petitions to graduate Winter Quarter due in Registration Office
November 8 . . . . . Last day to remove incompletes incurred during Summer Quarter
November 15 . . . . . Last day to withdraw from classes
November 28,29 . . . . . Thanksgiving Holidays**(no classes)
December 13 . . . . . Graduation
December 13 . . . . . QUARTER ENDS

WINTER QUARTER, 1975

January 2-March 14

CPP Test*
Placement Test*

November 25, 1974 . . . . . REGISTRATION***
December 20, 1974 . . . . . Last day to pay fees without penalty
January 2 . . . . . CLASSES BEGIN
January 8 . . . . . Last day for full refund less $10 of fees
January 8 . . . . . Last day to add a course
January 15 . . . . . Last day for 50% refund of fees
January 29 . . . . . Last day for 25% refund of fees
February 3 . . . . . Petitions to graduate Spring Quarter due in Registration Office
February 12 . . . . . Last day to remove incompletes incurred during Autumn Quarter
February 17 . . . . . President's Day**(no classes)
February 20 . . . . . Last day to withdraw from classes
March 14 . . . . . Graduation
March 14 . . . . . Quarter ends

*Contact Admissions Office for Dates—614/ 221-6743, Ext. 287
**No Classes
***Date Registration Begins

Calendar

SPRING QUARTER, 1975

March 31-June 13

CPP Test*
Placement Test*
February 24 . . . . . REGISTRATION***
March 21 . . . . . Last day to pay fees without penalty
March 31 . . . . . CLASSES BEGIN
April 4 . . . . . Last day for full refund less $10 of fees
April 4 . . . . . Last day to add a course
April 11 . . . . . Last day for 50% refund of fees
April 25 . . . . . Last day for 25% refund of fees
May 1 . . . . . Petitions to graduate Summer Quarter due in Registration Office
May 9 . . . . . Last day to remove incompletes incurred during Winter Quarter
May 16 . . . . . Last day to withdraw from classes
May 26 . . . . . Memorial Day**(no classes)
June 13 . . . . . Graduation
June 13 . . . . . Quarter ends

SUMMER QUARTER, 1975

"A" Term: June 30-August 5 . . . . . (First Term)
"B" Term: August 7-September 12 . . . . . (Second Term)
"C" Term: June 30-September 12 . . . . . (Full Term)

FIRST and FULL TERM

CPP Test*
Placement Test*
May 26 . . . . . REGISTRATION***
June 20 . . . . . Last day to pay fees without penalty ("A" and "C" Terms)
June 30 . . . . . CLASSES BEGIN ("A" and "C" Terms)
July 4 . . . . . Independence Day** (no classes)
July 7 . . . . . Last day for full refund less $10 of fees ("A" and "C" Terms)
July 7 . . . . . Last day to add a course ("A" and "C" Terms)
July 14 . . . . . Last day for 50% refund of fees ("A" and "C" Terms)

**Contact Admissions Office for Dates – 614/221-6743, Ext. 287*
***No Classes*
****Date Registration Begins*

Calendar

July 24 . . . . . Last day for 25% refund of fees ("A" Term only)
July 24 . . . . . Last day to withdraw from classes ("A" Term only)
July 25 . . . . . Last day to pay fees without penalty ("B" Term only)
July 28 . . . . . Last day for 25% refund of fees ("C" Term only)
August 1 . . . . . Petitions to graduate Autumn Quarter due in Registration Office
August 7 . . . . . "A" Term ends

SECOND and FULL TERM

August 7 . . . . . CLASSES BEGIN ("B" Term)
August 8 . . . . . Last day to remove incomplete incurred during Spring Quarter
August 13 . . . . . Last day for full refund less $10 of fees ("B" Term only)
August 13 . . . . . Last day to add a course
August 18 . . . . . Last day to withdraw from classes ("C" Term only)
August 20 . . . . . Last day for 50% refund of fees ("B" Term only)
August 25 . . . . . REGISTRATION***
September 1 . . . . . Labor Day**(no classes)
September 2 . . . . . Last day for 25% refund of fees
September 2 . . . . . Last day to withdraw from classes ("B" Term only)
September 12 . . . . . Graduation
September 12 . . . . . "B" & "C" Terms end

1974

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1975

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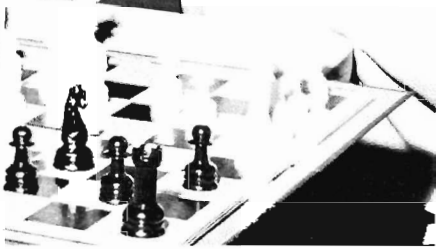
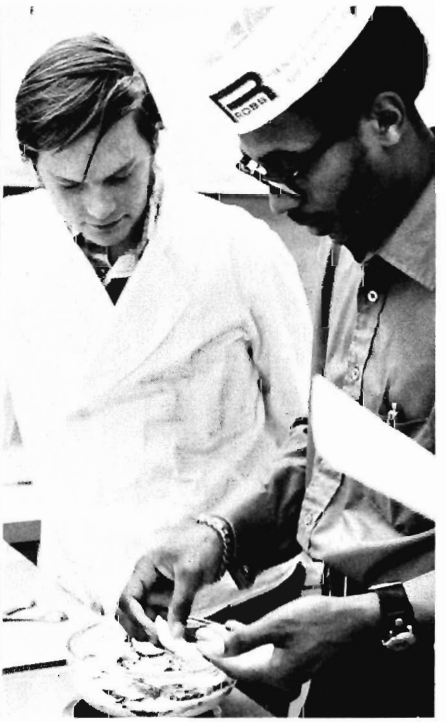


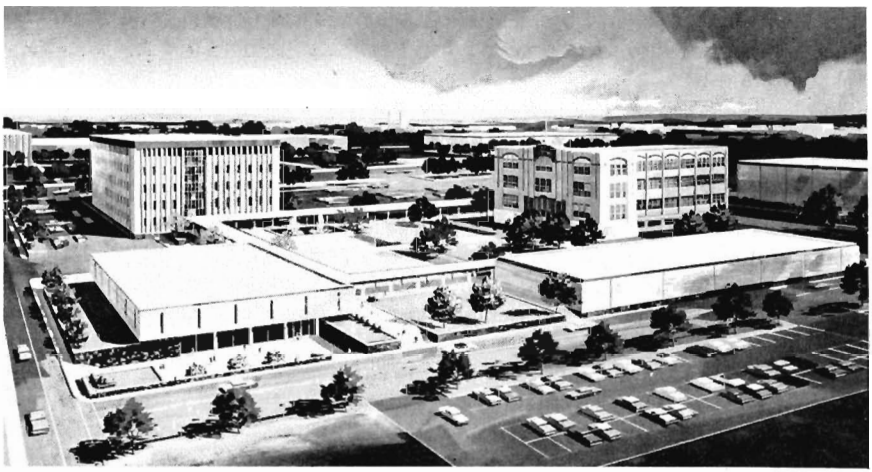
This college BULLETIN is designed to give the reader factual information about Columbus Tech's facilities and activities. It is also intended to be less formal and more personal. By being both factual and informal, it is hoped that you get a better description of what Columbus Tech is all about.

To become a prepared person is the most important resource of Columbus Tech.

The personnel and student body maintains that there must exist the highest quality of relationship and friendship in order to provide an atmosphere where each person can live and learn as he or she wishes.



Columbus Tech is a two-year technical college that is quite diversified. There are people of different races, of different creed, of different ages, with different backgrounds, preparing themselves for different career opportunities. But most important, there is a place for you.



Facts about Columbus Tech

Facts about Columbus Tech

COLUMBUS TECH is a state-assisted, two-year technical college, reporting to the Ohio Board of Regents. Its programs also are approved by the Ohio Department of Health, Education, and Welfare, the Ohio Department of Education, and many industries and businesses in Columbus and Central Ohio. Columbus Tech's programs also are approved for Veteran's training and for vocational rehabilitation.

Columbus Tech is fully accredited by the North Central Association of Colleges and Secondary Schools. The college is a member of the American Technical Education Association and Ohio College Association and an Institutional Member of The American Association of Junior Colleges.

A Board of Trustees directs the college's operation. Two members are appointed by the Governor of Ohio and five members are appointed by the Columbus Board of Education. Each technology is guided by an advisory committee consisting of engineers, technicians, or managers from related professional areas.

Columbus Tech was founded to provide an understanding of the fundamental principles of the sciences, engineering, business, health and public services; to provide development of the techniques and skills necessary for the application of those principles; to provide solutions to scientific, technological, and business problems; to provide an appreciation of the American technical heritage and an understanding of its relationship to the present so that the graduate may function effectively as a productive citizen.

Students come from different countries of the world, but the greatest concentration of students is from Franklin County. They account for 80 percent of the total enrollment and represent 33 schools in the county.

Most students come directly from high school; others are veterans or people who have worked for several years and are now returning to school to prepare for a better paying position. The students commute, and the college has no plans for dormitories.

Columbus Tech was founded in the basement of Central High School in 1963. Columbus Tech was established by the Columbus Board of Education in response to the needs of industry in Central Ohio for adequately trained technicians. Two years later Columbus Tech had outgrown its first home.

Facts about Columbus Tech

The school moved to its present campus on Spring Street to meet the needs of increased enrollment and an expanded selection of programs. The school took over the old Aquinas school and converted it to meet the needs of Columbus Tech.

In 1966 a Board of Trustees was appointed by State Legislation. A year later the school gained academic status under higher education when it came under the jurisdiction of the Ohio Board of Regents and became chartered as The Columbus Technical Institute.

Ground was broken the following year for Columbus Tech's first building program. The plan called for three buildings at a cost of three million dollars. Eight more technologies were added to the curriculum, and during the Spring Quarter evening classes were offered.

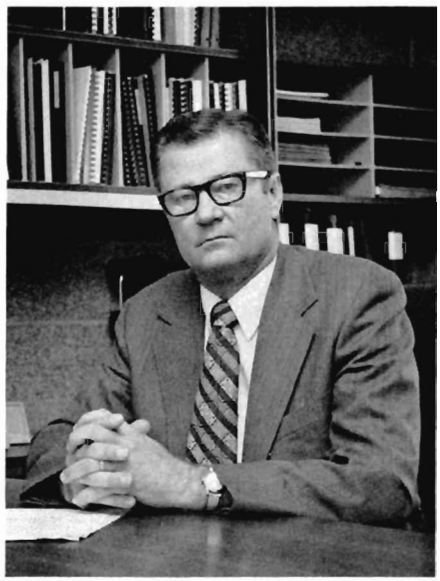
The year 1969 saw the completion and dedication of the administration building, the aviation building, and the laboratory building. Columbus Tech's new address became 550 East Spring Street.

Enrollment reached 2000 for the school year 1971—72 as 30 techologies were offered. For the school year 1972—73, student enrollment at Columbus Tech for both credit and non-credit students surpassed the 2500 mark. Ground was broken in January of 1972 for the Educational Resources Building, which was occupied in June of 1973. In the summer of 1973, ground was broken for the Health and Academic Building, which will be completed in the early part of 1975.

Realizing the need for an institute of its nature in the Central Ohio area, Columbus Tech announced a ten-year building program. The campus, as it is known now, will be a small part of the projected 35-acre campus with 22 buildings and an enrollment of 8000 to 10,000 students.

Ground will soon be broken for such buildings as a Campus Activities Center with a main auditorium and common lecture halls. The campus eventually will be bounded by I-71 on the north and east, by Spring Street on the south, and by Cleveland Avenue on the west. The distance can easily be covered in a six-minute walk. The campus will be unique because it will have no front or back.

Columbus Tech is still in the beginning stages of development, and the future of the two-year technical college is unlimited.



There is a great need for educational opportunities that prepare the individual student for initial employment or provides further development within existent employment, in many fields of professional support or related activities. Columbus Tech has accepted the challenge of providing these opportunities and has graduated many qualified technicians during the past 10 years.

Our highly qualified counseling, teaching and professional staff are dedicated to maintaining high professional standards and to keeping our programs functional and relevant.

We welcome you to Columbus Tech and sincerely desire to serve you in helping you achieve your educational objectives.

C.H. Schauer

Admissions and Registration Procedures

Admissions and Registration Procedures

Requirements for Admission

A prospective student to the Columbus Technical Institute should be a high school graduate or demonstrate appropriate evidence of high school graduation equivalency. In addition, certain high school courses are REQuired or RECommended for applicants in each technology as listed on the charts below. Prospective students lacking required courses are encouraged to enroll in the Pre-Tech Program. (See page 8 for details.)

REQUIRED AND RECOMMENDED HIGH SCHOOL COURSES

Technology for the Degree Associate in Applied Science	English 12	Algebra 1	Plane Geometry	Algebra II	Mechanical Drawing	Chemistry	Physics	Biology
Animal Health	REC	REQ				REC		REC
Architecture	REC	REQ	REC					
Aviation Administration	REC							
Aviation Maintenance	REC	REQ			REC		REC	
Civil Engineering	REC	REQ	REC	REC	REQ		REC	
Community Services	REC							
Dental Laboratory	REC	REQ	REC			REC		REC
Electronic Engineering	REC	REQ	REC	REC			REC	
Fire Science	REC	REQ						
Industrial	REC	REQ			REQ		REC	
Law Enforcement	REC	REC						
Mechanical Engineering	REC	REQ			REQ		REC	
Medical Laboratory	REC	REQ				REC		REQ
Mental Health and Retardation	REC	REC						REC
Nursing	REC	REC				REC		REQ
Respiratory Therapy	REC	REC				REC		REC

Technology for the Degree Associate in Applied Business	English 12	Algebra 1	Plane Geometry	Algebra 11	Chemistry	Book-keeping	Distributive Education	Typing	Short-hand
Accounting	REC	REC				REC			
Business Data Processing	REC	REQ	REC	REC					
Consumer Finance Mid-Management	REC	REC				REC	REC		
Food Service Mid-Management	REC	REC			REC				
General Business Management									
Graphic Communication Management	REC	REC				REC			
Retail Mid-Management	REC					REC	REC		
Sales Marketing	REC					REC	REC	REC	
Secretarial Science	REC	REC						REC	REC
Wholesale Mid-Management	REC					REC	REC	REC	

Test of General Educational Development

Applicants who are not high school graduates may demonstrate evidence of high school equivalency by submitting a score report of the Test of General Educational Development (GED). Information concerning the GED is available from the State Department of Education, Division of Guidance and Testing, 751 Northwest Blvd., Columbus, Ohio 43212. Phone 614/ 469-4590.

Admissions Procedures

Each prospective student to the Institute is responsible for the following:

A. Application for Admission
Complete and return the formal application for admission. A non-refundable matriculation fee of $35 ($85 for foreign students) must accompany the application. (Application form included in the back of this bulletin.)

B. High School Transcript
Fill in the High School Transcript Request form and submit it to the high school counselor or the high school administrative office. The Request form and the transcript should be returned to the Columbus Technical Institute Admissions Office by the high school sometime before the end of the first quarter of attendance. (High School Transcript Request form included in the back of this bulletin.)

C. College Transcript
An official college transcript is requested of applicants who have attended other colleges or universities and are requesting transfer credit.

D. Placement Tests
Communication Skills placement tests are prerequisites of all new students not having college transfer credit for composition. Math tests are prerequisites for placement in math courses for Business Data Processing, Nursing and all Engineering Technologies with the exception of Aviation Administration. Information concerning these tests will be mailed upon receipt of the application for admission.

E. Interviews
Pre-acceptance Interviews with Department Chairmen are recommended for all applicants. Interviews are required of all applicants for Health Technologies. These technologies are Animal Health, Dental Laboratory, Medical Laboratory, Mental Health and Mental Retardation, Nursing, and Respiratory Therapy.

F. Health Statement
Each student applying for a Health Division Technology, with the exception of Dental Laboratory, must submit a statement of health from his physician before attending classes. A health statement form will be mailed after receipt of the application for admission.

Career Planning Program Test (CPP) (Optional)

The Career Planning Program Test (CPP) is at the student's option. Testing dates are scheduled for various times by the Admissions Office. A fee of $5.00 is charged the student at the time of testing, and registration information can be

obtained from the Admissions Office 614/ 221-6743 ext. 286. American College Test (ACT) scores are accepted in lieu of the CPP; however, neither CPP nor ACT scores are *required* for admission.

Proficiency Testing

Proficiency tests are available in many departments. If experience or special course work qualifies a student in a particular course for which transfer credit (K credit) cannot be given, application may be made to the Department Chairman of the subject department to take a proficiency examination. Successful completion of the test will allow examination credit (X credit) to be given for the course. A fee of $10 is charged for each proficiency test.

Admission by Transfer

Any student from any other institution of higher education may apply for admission to the Columbus Technical Institute. The student must follow the application procedures outlined above. In addition, he must submit an official transcript from the previous school. Official evaluation for transfer credit is made when the transfer student files a completed Request for Transfer Credit form with the Admissions Office. Forms are available by contacting Student Services, 221-6743, ext. 200.

Transient Student Admission

A student desiring to take course work at Columbus Technical Institute for the sole purpose of transferring the credit to the school they are attending shall make application as a transient student. The applicant shall be in good standing at his parent institution. A Transient Student application must be requested from the Registration Officer each quarter the student plans to be in attendance. The completed form must be accompanied by a $10 application fee at the time it is submitted. (See Fee Section for Transient Student Fees)

Re-Admission

A student whose course work at the Columbus Technical Institute has been interrupted should write to the Registration Office at least two weeks prior to the beginning of the quarter for which re-admission is desired. He should file transcripts of any college work taken after separation from the Institute; and, if applicable, a petition for re-admission.

Pre-Tech Program

A Pre-Tech program is designed for entering students who do not meet the pre-tech requirements for their technologies. The program includes courses in mathematics, physics, chemistry, English grammar, biological and physical sciences, slide rule, reading, and drafting. To enroll in Pre-Tech courses, follow the same admissions and registration procedures as outlined above.

Scheduling

Scheduling will be done at a time designated by the Registration Officer. A few weeks prior to the start of each quarter students will be mailed scheduling materials and instructions. Technology Chairmen will be available during sched-

uling periods to assist students with scheduling problems. All changes in schedules after registration will be processed by the Registration Office in Student Services. Course additions or section changes after the first day of classes each quarter will be permitted only with the instructor's permission.

Change of Address

Changes of address must be reported to the Registration Officer at once. Each student is responsible for complying with any official communication sent to him at the last address reported to the Registration Officer. Forms for reporting an address change are available in Student Services.

Financial Aid

Financial assistance is provided based primarily on documented financial need, rather than scholarship considerations. A student may qualify for more than one of the programs listed below. Therefore, applications should be made for as many programs as possible.

Programs available at Columbus Technical Institute: (See *Shaking The Money Tree at Columbus Tech.)*

National Direct Student Loan (NDSL)

The student must be a citizen or a permanent resident of the United States and be enrolled in at least six (6) credit hours per quarter. If the student is a minor (under 18 years of age), a parent or guardian must act as a co-signer for the loan.

Supplemental Educational Opportunity Grant (SEOG)

The program is designed to assist a student whose family lacks the financial means for the student to enter or remain at Columbus Tech without financial assistance.

College Work-Study Program (CWSP)

CWSP is a program for a student of low or moderate means and is designed to supplement the student's resources. Wages begin at $2.00 per hour or the legal minimum wage whichever is higher.

Nursing Student Loans (NSL)

These loans are available to full-time nursing students that have demonstrated financial need. Uner certain conditions the loan can be canceled up to 85% after graduation.

Nursing Student Scholarship (NSS)

Nursing Scholarships are granted to students with exceptional financial need who would require this to attend a full or half-time nursing program.

Application

All applicants for any of the above programs must submit:

1. Parent's Confidential Statement (PCS) or Student's Financial Statement (SFS) (available from high school counselors or the Financial Aid Office.)

2. Columbus Technical Institute Application for Financial Assistance (enclosed in the back of this bulletin.) If you meet the conditions stated on the back of the Application for Financial Assistance, you are an *Independent Student.* An Independent Student must file a Student's Financial Statement. In addition, the Independent Student must have the Statement of Financial Independence notarized prior to returning the Application to Columbus Tech.

Ohio Instructional Grant

Application is made directly to the Ohio Board of Regents, 35 East Gay Street, Columbus, Ohio 43215. Forms are available from high school counselors and the Financial Aid Office. All students who apply for other forms of financial assistance are expected to apply for the OIG.

Basic Educational Opportunity Grants (BEOG) (Basic Grants)

The Basic Grant is an entitlement grant funded by the Federal Government. Information concerning this grant can be obtained from a high school counselor or by contacting the Financial Aid Office.

Guaranteed Loan Program (GLP or FISL)

Through this program students may borrow from their own local bank or credit union. Contact your bank, credit union or the Financial Aid Office for further details.

Scholarships

Columbus Tech administers a number of scholarships provided by business firms, professional groups and civic organizations. Information may be obtained from the Financial Aid Officer. Firms and organizations currently providing scholarships at Columbus Tech are listed below:

American Business Women
Columbus Technical Institute Faculty Wives Club
Data Processing Management Association
Dispatch Charities
Executive Secretaries Scholarship Fund
Food Service Executive Association
Independent Insurance Agents Association of Columbus
Mercator Club
National Secretaries Association
Neighborhood House
Northeastern Kiwanis
Ohio Central Credit Union
Suburban Sertoma
Women in Construction
Wallace Murray Education and Welfare Fund

Students are urged to investigate possible sources of funds in their home communities. High school counselors often have information about scholarships offered by local civic groups, businesses, industry and other local agencies.

Fees

Fees

Estimate of Quarterly Academic Expenses			(Resident Students)
Credit Hours	1-4	5-9	10 or more
Instructional Fee	$47.50	$95.00	$190.00
General Fee	6.75	13.50	27.00
Laboratory Fee (Varies)	3.00	5.00	7.00
Books and Supplies (Varies)	10.00	20.00	40.00
	$67.25	$133.50	$264.00

Other Fees

Matriculation	$35.00	(Foreign Students $85.00) Non-Refundable
Non-Resident	10.00	(Institute District) Quarterly
Out-of-State	250.00	Quarterly
Student Insurance	27.00	Yearly (Optional)
Parking	15.00	Yearly (Optional)

Matriculation Fee

A $35 (Foreign Students $85) non-refundable matriculation fee is charged at the time the application for admission is submitted for consideration. The matriculation fee covers the initial registration costs and confirms the student's intent to enroll. Applications will be held for 18 months; after that time, if registration has not been completed, they will be destroyed. If, at a later time, the prospective student wishes to enroll, he must submit another application and $35 matriculation fee.

Instructional Fee

The Instructional Fee shall be charged according to the number of credit hours taken per quarter, shown in the chart above.

General Fee

A general fee of $27 shall be charged each quarter to cover expenses incurred by the Institute in its admissions, registration, counseling, placement, graduation exercises, health services, and student activities; the fee will be prorated for part-time students as shown in chart above.

Lab Fees

Lab fees, varying with each laboratory course, are charged to cover the cost of consumable materials used by the student.

Resident, Non-Resident, and Out-of-State Status

The boundary of the Columbus Technical Institute District is identical to the boundary of the Columbus Public School District. A *Resident* student is defined as one whose legal residence has been within this area for the 12 month period prior to enrollment. A *Non-Resident* student is defined as one whose legal residence is within the state of Ohio but not within the boundaries of the Columbus Technical Institute District. A nominal fee of $10 per quarter, prorated for part-time students, is added to the regular fees of this student. A *Non-Resident* student may become a District *Resident* by meeting the following criteria:

1. Reside within the Columbus Technical Institute District for twelve months.
2. Vote only with the district.
3. Be free of parental financial support.
4. Not be claimed by parents or legal guardian as a dependent for federal income tax purposes for the past tax period.

The *Out-of-State* student shall be charged $250 per quarter in addition to his regular fees. In determing whether or not an enrolled student is an Ohio resident, the Institute shall make a determination of fact in accordance with these standards.

A dependent student shall be considered to be a resident of Ohio if his or her parents or legal guardian have resided in Ohio for 12 consecutive months or more immediately preceding enrollment, or if his or her parents reside in Ohio at the time of enrollment and at least one of his parents is gainfully employed on a full-time basis in Ohio.

A student shall be considered to be an Ohio resident regardless of the place of residence of the parents or guardian at the time of enrollment if the student resides in Ohio and has resided in the state for 12 consecutive months or more immediately preceding enrollment and if the student presents satisfactory evidence that the parents or legal guardian have not contributed to his or her support during the preceding 12 months and do not claim him or her as a dependent for federal government income tax purposes.

A student shall be considered to be an Ohio resident regardless of the place of residence of the parents or legal guardian at the time of enrollment if the student is gainfully employed on a full-time basis and resides in Ohio, and is pursuing a part-time program of instruction and if there is reason to believe that the student did not enter Ohio primarily for the purpose of enrolling in an Ohio institution of higher education.

The residency status of a married student shall be determined without regard to the residency of the student's spouse.

A person in military service or the dependent of a person in military service shall be considered to be a resident of Ohio during the period of time when the person is on active duty status in Ohio and has established a residence in Ohio.

A person who enters upon active duty status in the military service as a resident of Ohio, and the dependent children of such a person, shall be considered to be residents of Ohio if they provide proof of continued domicile in Ohio and of continued eligibility to vote in Ohio.

A student classified as a resident of Ohio whose parents or legal guardian move their residence to another state shall be considered to be a resident of Ohio until completion of the degree program in which the student is currently enrolled.

A student who at the time of enrollment enters the State of Ohio from another state for the primary purpose of enrolling in an Ohio institution of higher education shall be considered to be an Out-of-State student, and shall continue to be so considered during the period of continuous enrollment as a full-time student in an Ohio institution of higher education.

An alien student admitted to the United States on a student visa or other temporary visa shall be considered to be an Out-of-State student. An alien holding an immigrant visa may establish Ohio residency in the same manner as a citizen of the United States.

A student classified as Out-of-State may appeal the classification to an appropriate officer or administrative panel duly constituted by an institution of higher education and may be reclassified as a resident of Ohio if:

the dependent student presents conclusive evidence that his or her parents or legal guardian have established a residence in Ohio and at least one of the parents is gainfully employed on a full-time basis in Ohio;

the student, in addition to demonstrating financial independence from parents, presents clear and convincing evidence of exceptional circumstances justifying a change in classification because of having established a separate residence in Ohio for 12 months or more preceding the request for reclassification and because of having made a definite commitment to enter into gainful employment in Ohio upon completion of a degree program within the ensuing 12 months.

Fee Payment

At the time of scheduling, the student will be presented with a fee payment instruction sheet indicating his total fees due. Complete directions for fee payment by mail or in person and all deadlines for fee payment will be included in this instruction sheet.

Late Payment of Fees

Any student failing to pay fees before the established deadline shall be charged an additional $10 late fee. Fees will not be accepted after the 10th class day.

Student Insurance

Columbus Tech offers low cost group accident and sickness insurance. All full-time students are eligible for, and included in, the plan unless coverage has been specifically waived. Insurance protection become effective on September 15, 1974, and continues to September 15, 1975. Coverage is world-wide, 24 hours a day — at home, at school, or while traveling, including all vacations such as Christmas, Easter, and summer. The fee is $27.00 for the entire 12 month period. If the student leaves Columbus Technical Institute for any reason other than entrance into military service, his insurance remains in force for the entire policy term. For married students, the cost is $26.00 to cover spouse; and $38.50 to cover spouse and children. The plan covers hospital bills, nurses', physicians' and surgeons' fees, laboratory costs, x-rays and medicines, up to $1,000 for each accident. In addition, it provides protection for the expenses of the more costly illnesses requiring hospital care, surgical treatment, or physicians' services. The plan is broad in scope with few limitations. Insurance coverage may only be purchased prior to the student's first quarter of enrollment and on each anniversary thereafter. It is available to new and re-activated students prior to Autumn, Winter and Spring Quarters. For more details, request a Student Insurance Program brochure from the Business Office.

Parking Fees

Students driving automobiles are required to register their vehicles and pay a $15 parking fee. The auto registration fee is good for one academic year. There are reduced rates for students registering their autos after the Autumn Quarter, and temporary permits are available to special students. A $5.00 fee is charged for motorcycles.

Proficiency Examination Fee

A $10 fee per course is charged for each proficiency examination given.

Transient Student Fees

The transient student shall be charged only a $10 fee at the time of application. The regular instructional, general, lab, and residency fees shall be charged for courses taken during the quarter. Cumulative records are not kept on file for transient students.

Duplicate Fee Card

A fee of one dollar ($1.00) is charged for replacement of lost or mutilated fee cards.

Transcripts

A charge of one dollar ($1.00) is made for each official copy of a student's transcript. Graduates receive one official copy of their transcript without charge.

Refunds

Application, proficiency testing, and registration fees are returned only when a program is cancelled or closed and the student does not elect to enroll in

another program. The instructional and general fees are refundable in accordance with the following schedule:

First through fifth day of classes	– full fees less $10
Sixth through tenth day of classes	– 50 percent
Eleventh through twentieth day of classes	– 25 percent
Twenty-first day to the end of the quarter	– no refund

Laboratory and parking fees are refundable on a prorated basis. The amount of refund will be determined by prorating the full fee on the same basis as instructional and general fees.

Grading and Academic Program

Grading and Academic Program

Grade Reports

Grades are reported at the end of each quarter on an updated transcript form. The Registrar will hold the grades of any student who has not cleared all financial obligations to the Institute.

Transcripts

Additional copies of the grade transcript will be provided for a one dollar ($1.00) fee per copy.

Grade System

At the close of the quarter and upon the completion of a course, the instructor reports a letter grade indicating the quality of a student's work. Points for each quarter hour of credit earned are assigned according to the following system:

Quality	Grade	Points
Excellent	A	4
Good	B	3
Average	C	2
Poor	D	1
Failing	E	0
Satisfactory	S	0
Unsatisfactory	U	0
Incomplete	I	0
Transfer Credit	K	0
Examination	X	0
Audit	R	0
Progress	P	0
Non-Traditional	N	0

INCOMPLETE – When circumstances beyond the control of a student or an instructor prevent the completion of course requirements during a quarter, an I (Incomplete) is recorded until the final grade is established. The Incomplete is indicated only when the student has arranged with the instructor the specific

procedures for fulfilling the requirements. The work must be completed within six weeks after the beginning of the next quarter. Otherwise, a grade of E is recorded.

Transfer Credit

To receive credit for a course taken at another institution, a student must submit a petition requesting such credit to the Admissions Office. The petition must be presented before the beginning of the quarter in which the course is required. All petitions must be accompanied by a valid transcript showing a minimum grade of C and an official description of the course or courses for which transfer credit is desired.

Proficiency Examination

A student may, upon approval of a petition by the Department Chairman, be permitted to take a proficiency examination for credit. Permission is given only in exceptional cases when it is evident that previous experience or study warrants such privilege. A $10 fee shall be charged for each proficiency examination given.

Auditing a Course

An auditor is one who registers for informational instruction only but with the understanding that no credit may be earned or later claimed for the course audited. The course may be taken at a later date for credit; however, proficiency credit will not be given for a course that has been audited. The specific involvement in class shall be determined by the instructor. Any student wishing to enroll for a course on an audit basis shall be required to register for the course in the normal manner and pay regular fees. The instructor will record a grade of R on his grade sheet.

Withdrawal

From the first through the thirty-fifth class day of a quarter, a student may withdraw from a class or the Institute by completing the official withdrawal form in the Registration Office. (See the Fees section for the refund policy.) Withdrawal after the thirty-fifth class day of the quarter is not permitted. (Check the school calendar in the front of this bulletin for exact dates for each quarter.) If a student ceases to attend a course or courses without following the above procedure, a grade of "E" is recorded for each of those courses.

Grade Point Average

The basis for determining scholastic standing is the Grade Point Average. Obtain the Grade Point Average by first multiplying credit hours for each course by points earned for each course according to the chart above (credits X points = grade points) Then divide the total Grade Points by the total credits attempted (total grade points ÷ total credits = Grade Point Average.)

Grading and Academic Program

EXAMPLE

	Credit Hours		Grade-Points		Grade Points
Comm Skills	3	X	(B=3)	=	9
Basic Physics	3	X	(B=3)	=	9
Psychology	3	X	(C=2)	=	6
Hemetology I	5	X	(A=4)	=	20
Medical Tech II	2	X	(B=3)	=	6
Total Credits Attempted	16				50

Grade Point Average = 50 ÷ 16 = 3.125

Academic Standing

Each student's record is reviewed at the close of each quarter. If a student's cumulative record shows a Grade-Point Deficiency, he is subject to being placed on probation or dismissed from school. The grade point ratio is obtained by dividing the total number of grade points earned by the total hours attempted. The entire record, including each grade in each course attempted, is used to determine academic status. The extent to which a student's record is below a Grade Point Average of 2.0 (C) determines whether he will be dismissed, placed on probation or continued on probation. His deficiency is determined by multiplying the total number of credit hours attempted by two and subtracting from this all points earned. For example, if a student has attempted 40 credit hours and has earned 65 points, his deficiency is 15; 40 times 2.0 (the overall point-hour ratio required for graduation) equals 80; 80 minus 65 points earned equals a deficiency of 15 grade points.

Honors List

The Honors List of students earning a grade point average of 3.50 or above is published quarterly by the *Technigram*. Students completing their programs with a cumulative point average of 3.50 or higher graduate *With Honors.*

Academic Warning

WARNING is printed on a student's transcript when his technical (TECH) or non-technicial (NON-TECH) cumulative average drops below the minimum required for graduation.

Academic Probation

The academic standing of a first-year student is considered unsatisfactory and he is placed on *Academic Probation* when his cumulative record shows a grade-point deficiency from a C (2.0) average of more than 15 grade points. The academic standing of a second-year student is considered unsatisfactory and he is placed on academic probation when his cumulative record shows a grade-point deficiency from a 2.0 average of more than 10 grade points.

Academic Dismissal

A first-year student is dismissed from the Institute when his deficiency from a 2.0 average is greater than 25 grade-points. A second-year student is dismissed

from school when his deficiency from a 2.0 average is greater than 18 grade-points.

Petition to be Reinstated

A student dismissed because of low academic standing, may petition for reinstatement. The petition (available through the Student Services Office) must be submitted to the Registration Officer before the student begins his next quarter of enrollment. Evaluation of the petition shall be made by a counselor and the student's technology chairman.

Warning Notices

During the first quarter in school, a student doing unsatisfactory work in a course receives a mid-quarter warning notice from the instructor, who discusses the matter with the student. This procedure is followed only during the student's first quarter of full-time attendance.

Failed Courses

A student failing a course required by his technology for graduation must repeat that course and receive a passing grade in order to satisfactorily meet graduation requirements. the "E" received shall be removed from point hour computation and replaced with the passing grade. The "E" grade, however, shall be maintained as a part of the student's permanent record.

Repeating Courses

A student may, with Department Chairman approval, repeat a course for which he has received a passing grade. Only the repeated course grade received will be used to compute the overall Grade Point Average. However, both grades shall remain a part of the student's permanent record.

Second-Year Status

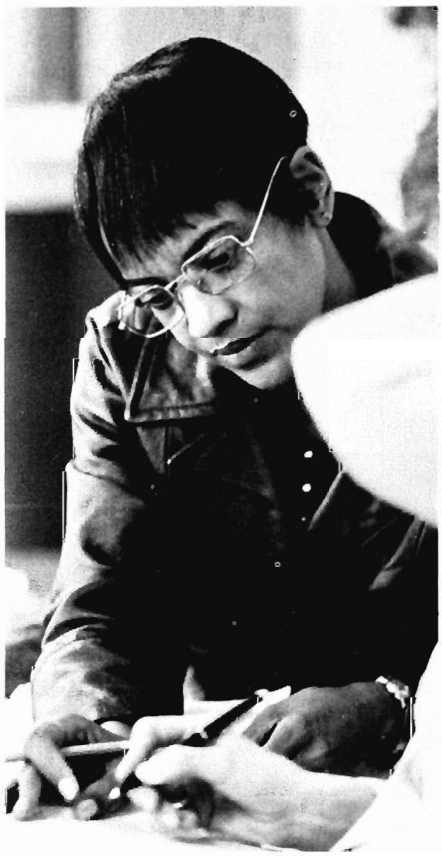
A student shall be considered second-year after he has satisfactorily completed 48 credit hours of course work.

Change of Technology

Students transferring from one technology to another shall not be required to carry the technical grade point average of the previous technical courses as a part of the technical grade point average of the new program. However, the point average of the previous program shall remain as part of the student's permanent record. Only those courses that are requirements of the student's new technology will be considered when figuring the grade point average and graduation requirements.

Graduation Requirements

To graduate, a student must have credit in all required courses, earning at least a 2.25 grade point average in the technical courses in his program and a 2.0 in all other required courses. Upon graduation, the student is awarded the Degree Associate in Applied Business or Associate in Applied Science. (See General Information section for graduation petition procedures.)



General Information

General Information

School Day

Full-time students spend approximately thirty hours per week in the classroom and laboratory with each class period 50 minutes in length. Classes are scheduled between the hours of 8:00 a.m. and 10:00 p.m. weekdays, and from 9:00 until noon on Saturdays.

Faculty Office Hours

Faculty of the Institute maintain posted office hours which permits them to confer with students. It is the responsibility of each student to consult instructors when the need arises and to complete work missed while absent.

Student Citizenship

The general policy of the Columbus Technical Institute favors as few rules and regulations as are necessary to be consistent with its educational purposes. Students are expected to act as responsible adults at all times. This expectation includes the honest performance of all work, regular class attendance, proper respect for others, prompt payment of debts, observance of law, and respect for property.

Class Attendance

Students are expected to attend all classes. If a student has excessive unexcused absences during the quarter, and has not officially withdrawn, he will receive an "E" in that course. (See Grading and Academic Policies section for withdrawal procedures.) Additional attendance policies may be defined by each technology chairman, department head, or instructor.

Disciplinary Action

Any student violating Columbus Technical Institute policies may be placed on disciplinary probation or dismissed. Disorderly, dishonest, and/or immoral conduct are grounds for probation or immediate dismissal. In technologies that include internship employment, good standing with the cooperating employer is expected and is essential to continuation in the programs.

General Information

Library

The Columbus Tech Educational Resources Center contains books and periodicals supplementary to all courses offered at the Institute. The ERC is open Monday through Thursday from 8:00 a.m. to 9:30 p.m. and on Friday from 8:00 a.m. until 4:30 p.m. Saturday 10:00 a.m. until 2:00 p.m.

Bookstore

All books and supplies for classroom and laboratory use are available at the "Bookshelf", the Columbus Technical Institute bookstore, located on the ground floor of Aquinas Hall.

Lounges and Snack Bar

Eating facilites located in the Administration Building student lounge provide short-order grill and coin-operated food machine menus. Beverages are available from machines in the Aquinas Hall student lounge.

Student Activities

Extracurricular activities for students are developed and organized by the Student Activities Committee. A varied schedule of activities and programs are sponsored each quarter throughout the year. These include theatre productions, movie programs, speakers and seminars, student trips, May Day activities, student parties, ticket sales for concerts and local events, exhibitions, special programs, and holiday events. Clubs, groups, and organizations may be started as interest warrants.

Intramural Sports Program

The Intramural Sports Program is an integral part of campus life. Intramurals provide opportunities for individuals to enjoy participation in their favorite sports against fair and equal competition. Both team and individual sports are offered to meet the interests and needs of all students, faculty and staff in their pursuit of leisure-time recreational opportunities. Intramural Sports include:

Air Hockey
Archery
Basketball
Bowling
Chess
Football
Foosball
Golf
Pool
Softball
Table Tennis
Tennis
Volleyball

All activities, dates, times, facilities and tournament brackets are announced at the beginning of each quarter.

Technigram

The *Technigram*, the official newspaper for the college, is a monthly publication written by students and printed in the Graphic Communications Management Technology. It presents items of interest including news articles, special events, editorials, human interest stories, and policy and fee changes. Once information has been printed in the *Technigram,* knowledge of its content becomes

the responsibility of each student. Student participation on the *Technigram* staff is encouraged.

Campus Quickies

A weekly student announcement sheet, "Campus Quickies," is distributed on campus at the beginning of each week. It is a potpourri of current and coming events, campus information, and group and organization announcements.

Evening Classes

Evening classes are available at the Institute. Courses offered are chosen from the day program and carry the same credit toward the Associate Degree. Entrance requirements, fees, and grading policies are the same for the day program. In addition to degree courses, many non-credit courses are offered in the evening. For information concerning evening courses call the Continuing Education Division Office 614/ 221-6743, etc. 244.

Graduation Procedures

Each student should file his "Petition to Graduate" during the quarter prior to the one in which he plans to graduate with the Registration Officer in Student Services. The Registration Officer will then evaluate all course work completed, cumulative grade point hour averages and courses registered for during the current quarter, to determine eligibility for graduation. The student will then be notified of his eligibility pending final grades. Formal graduation ceremonies are held each quarter in which there are enough graduates to warrant it. Caps and gowns, furnished by the college, are standard attire for this ceremony. Informal graduation ceremonies are held for all other quarters. All certified graduates are expected to be present at the ceremony.

Admissions Office

The Admissions Office is open Monday through Friday, 8:00 a.m. to 4:30 p.m. except holidays. An appointment may be scheduled or admissions questions answered by calling 614/ 221-6743 ext. 286.

Counselors

The counselor endeavors to help students determine the educational and vocational goals consistent with their aptitudes and interests. Assistance is available to students with personal, academic, or financial problems. Counselors are available to students Monday through Friday, 8:00 a.m. to 4:30 p.m. except holidays. An appointment to speak with a counselor may be made by calling 614/ 221-6743, etc. 200. Continuing Education counselors are available Monday through Friday, 8:00 a.m. to 9:00 p.m. and on Friday from 8:00 a.m. until 6:00 p.m.

Veterans

Students with V.A. entitlement may be certified to receive Veteran's benefits by registering with Columbus Tech's V.A. Coordinator in Student Services. The following are benefits received for full-time (12 credit hours) attendance:

1) Single Veterans . . . . . $220 per month

2) Married Veterans . . . . . $261 per month
3) Married Veterans with one dependent . . . . . $298 per month
4) and for each additional dependent . . . . . $ 18 per month

Benefits for three-quarter time (9, 10 and 11 credit hours) are 75% of full-time, and half-time benefits (6, 7 and 8 credit hours) are 50% of full-time. Students enrolling on a less than half-time basis are reimbursed for tuition and fees only. In order to avoid delays and receive benefits promptly upon enrollment, an eligible student should advise the V.A. Coordinator of his wish to receive ADVANCE PAYMENT approximately three months before the quarter begins. Other Veterans' groups are similarly entitled to the benefits outlined above, such as children of veterans, vocational rehabilitation veterans, servicemen, widows and war orphans.

Social Security

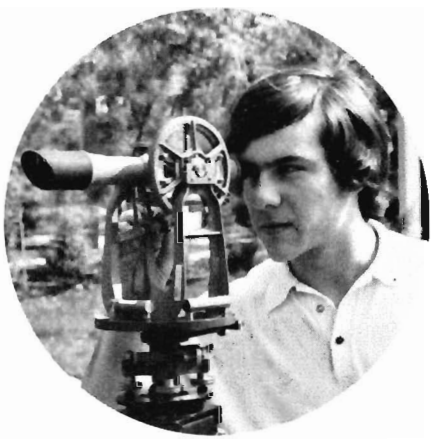
Columbus Tech accepts students under the Social Security Program as well as any other legitimate program covered by any state or federal government agency.

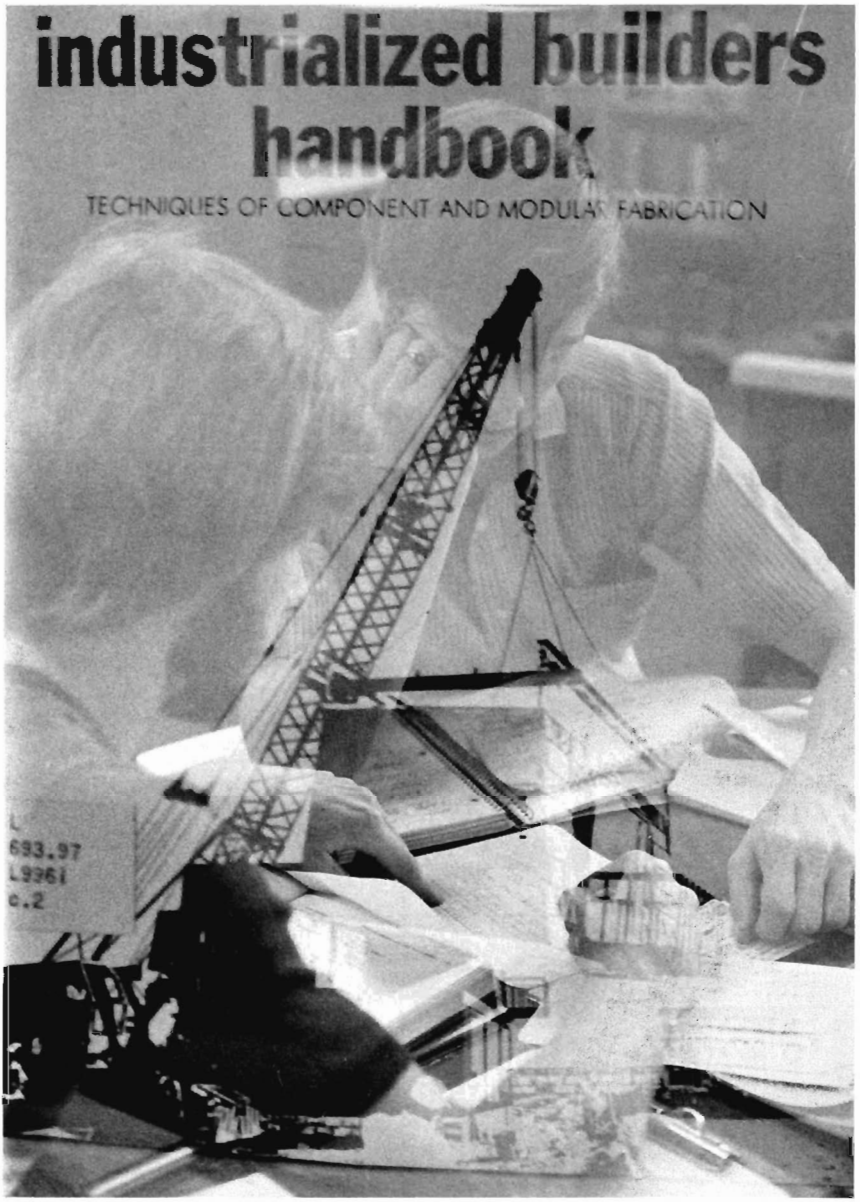
Health Services

The Institute provides a clinic, and a full-time Registered Nurse is on campus during the school day to advise students on health problems and to provide emergency care if necessary.

Housing

Housing for Columbus Tech students can be arranged through the Apartment Locator Service of Business Centers, Inc., Gallery of Homes. Apartment Locator Service will aid students in finding apartments and rooms in most areas of Columbus. The locator service is provided for Columbus Tech students without charge. For apartment or room locator information, call 486-4321 or 486-9693. The area code for Columbus is 614. The cost of housing will run between $50 and slightly over $100 per month for furnished rooms and apartments.





Technologies

Business Technologies

The course requirements for graduation and the required credit hours are included in the following Business Technologies:

TECHNOLOGY	GENERAL STUDIES	BASIC STUDIES	TECHNICAL STUDIES	TOTAL CREDITS
ACCOUNTING	22	24	61	107
BUSINESS DATA PROCESSING	22	23	61	106
BANKING/ FINANCE MID-MANAGEMENT	22	31	55	108
FOOD SERVICE MID-MANAGEMENT	22	22	53-58	97-102
GENERAL BUSINESS MANAGEMENT	22	29	57	108
GRAPHIC COMMUNICATION MANAGEMENT	22	26	58	106
RETAIL MID-MANAGEMENT	22	29	57	108
SALES MARKETING	22	32	52	106
SECRETARIAL SCIENCE	22	22	58	102
WHOLESALE MID-MANAGEMENT	22	29	57	108

Accounting Technology

ACCOUNTING is a subject demanding of its students both a high degree of technical skill and the broadest possible knowledge of the fundamentals of business in all of its phases. Economists, investors, business executives, labor leaders, bankers and government officials all rely upon financial statements and other reports prepared by accountants as fair and meaningful summaries of the multitude of financial transactions which comprise day-to-day economic history. The accountant and the theoretical principles he uses in his work within the areas of commercial and industrial, public practice, and government, stand at the very center of our financial and economic activities.

The true value of an accountant is measured in terms of his/her ability to develop and present intelligible and convincing analyses of financial position and results of operations that serve as a basis for business decision-making. The ability is limited only by the breadth of his viewpoint, the depth of his understanding of business problems, and his skill in the techniques of accounting.

Opportunities for Graduates

Any individual concerned about his/her opportunities upon graduation to find stimulating, secure, better-than-average salary positions in cost, finance, data processing, taxes, or property management, would do well to consult the employment section of his local newspapers. Approximately 60 percent of the positions listed (private and governmental) are indigenous to accounting.

Experience with all phases of business fundamentals and technical skill in general accounting, or any of its specialized areas, will allow the graduate to gain opportunities for acceptance in top management positions and to become junior accounts in established accounting firms. After careful review of this curriculum by the Accountancy Board of Ohio, the Institute has been advised that on completion of four years of public accounting experience, a graduate would qualify for admission to the CPA examination in Ohio.

Disciplined study and self-motivation will enable the graduate to attain a professional position within the community equivalent to that assumed by lawyers and medical practitioners.

Accounting Technology

Equipment Provided by the Institute:

Adding machines, rotary and printing calculators, electronic calculators, posting and accounting machines, unit record and computer laboratories.

Equipment to be Provided by the Student:

Textbooks, columnar paper and small supplies.

Professional Advisory Committee

Robert F. Durbin . . . . . Midwestern VW Corporation
Thomas H. Jacoby . . . . . Thomas H. Jacoby & Associates, Inc.
Felix P. Kollaritsch, Ph.D. . . . . The Ohio State University
Lewis H. Logenback . . . . . Columbia Gas of Ohio, Inc.
Elzy McCollough, Ph.D. . . . . The Ohio State University
Ed Reichart . . . . . Battelle Memorial Institute
C. Kenneth Smith . . . . . Ernst & Ernst
Herb Weyl . . . . . Herb Weyl, C.P.A.

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

FIRST YEAR

COURSE		LAB FEES	HOURS CLASS	HOURS LAB	CREDITS
First Quarter					
1141	Business Statistics		5	0	4
3802	Economics		5	0	4
3701	Principles of Accounting I	$ 2.00	4	4	5
3711	Basic Business Machines*	7.00	1	2	1
	Communication Skills Course**		–	–	3
					17
Second Quarter					
3821	Introduction to Business		4	0	3
3823	Business Law I		4	0	3
3702	Principles of Accounting II		4	4	5
3712	Accounting Machines*	$10.00	2	2	2
	Communication Skill Course**		–	–	3
	Behavioral Science Elective**		–	–	3
					19

*Technical Course ** As Approved by Advisor

COURSE		LAB FEES	HOURS CLASS	HOURS LAB	CREDITS
Third Quarter					
3824	Business Law II		4	0	3
3703	Intermediate Accounting I*		4	4	5
3713	Data Processing for Accountants*	$12.00	2	2	3
3726	Office Management and Procedures*	4.00	3	2	3
	Communication Skills Course**		—	—	3
					17
	SECOND YEAR				
Fourth Quarter					
3813	Management		3	0	2
3704	Intermediate Accounting II*	$3.00	4	4	5
3714	Cost Accounting*	4.00	6	2	5
3724	Systems Analysis*	2.00	3	2	3
	Communication Skills Course (Speech)		—	—	2
	Behavioral Science Elective **				3
					20
Fifth Quarter					
3705	Money and Banking*		3	0	2
3745	Advanced Accounting		6	2	5
3723	Business Finance*		3	2	3
3736	Taxation II*	3.00	5	2	4
	Behavioral Science Elective**		—	—	3
					17
Sixth Quarter					
3716	Auditing*	$3.00	4	3	4
3725	Financial Statement Analysis*		3	2	3
3735	Taxation I*	5.00	3	2	3
3746	Accounting Practice*	6.00	4	2	4
	General Education Elective **		—	—	3
					17

**Technical Course **As Approved by Advisor*

COURSE DESCRIPTIONS

3701—PRINCIPLES OF ACCOUNTING I

An introductory course in accounting including: the meaning and purpose of accounting: accounting statements: balance sheet, income statement, and statement of retained earnings; the theory of debits and credits, ledger accounts and the trial balance, journalizing and posting; statement preparation; accounting records; adjusting and closing entries; accounting for notes and interest; and accounting for prepaid, unearned, and accrued

items. Application of accounting principles to sole proprietorships and partnerships.
4 hours lec. 4 hours lab. 5 credits. $2.00 lab fee.

3702–PRINCIPLES OF ACCOUNTING II

A continuation of course no. 3701 including discussion of: valuation and cost allocation in accounting for a firm's investment in productive resources (inventories, plant and equipment and intangibles); accounting problems peculiar to corporations, focusing on long-term liabilities and stockholders' equity sections; and analysis of accounting data for planning and interpretation.
†3701. 4 hours lec. 4 hours lab. 5 credits.

3703–INTERMEDIATE ACCOUNTING*

A continuation of accounting theory. An in-depth study of the accounting process and accounting records; the nature and content of accounting statements: balance sheets, income statements, statements of retained earnings; analysis of working capital; analysis and methods of valuation and statement presentation of the following items: cash and temporary investments, receivables, and inventories.
†3702. 4 hours lec. 4 hours lab. 5 credits.

3704–INTERMEDIATE ACCOUNTING II*

A continuation of course no. 3703 including analysis and methods of valuation and statement presentation of the following items: current liabilities–contractual and contingent itmes; investments in plant, and equipment–their acquisition, use, retirement, depreciation and depletion, and reevaluation; intangible assets, deferred charges and long-term liabilities.
†3703. 4 hours lec. 4 hours lab. 5 credits. $3.00 lab fee.

3705–MONEY AND BANKING*

Analysis of our "present day" monetary system to include discussion of the roles played by the institutions of the money and banking system as they affect money supply; and monetary theory to discover the effect of money on economic growth and stability.
†1802. 3 hours lec. 2 credits.

3711–BASIC BUSINESS MACHINES*

Instruction and practice in operation of office machines, including rotary calculators, printing calculators, electronic calculators, 10-key and full keyboard adding-listing machines. Familiarization with the operation of office reproducing machines.
1 hours lec. 2 hours lab. 1 credit. $7.00 lab fee.

3712–ACCOUNTING MACHINES*

Systems Fundamentals: Areas of systems activity within an organization: the systems department, its personnel and its operation, charting, systems communications and instruction manuals. Machine indoctrinations:

punch cards, card-punch machines, card collators and reproducing machines and an introduction to computer hardware.
2 hours lec. 2 hours lab. 2 credits. $10.00 lab fee.

3713—DATA PROCESSING FOR ACCOUNTANTS*

A survey of computer systems, hardware and software systems. Extensive work is done on FORTRAN programming techniques and debugging methods. The use and application of terminals and computer service centers.
†3712. 2 hours lec. 2 hours lab. 3 credits. $12.00 lab fee.

3714—COST ACCOUNTING*

A study of the field of job order cost accounting; the cost cycle; methods of handling materials, labor costs, and manufacturing overhead expenditures (controllable and uncontrollable); process cost accounting; by-products and joint products; fundamental cost-volume-profit relationships (break-even analysis); flexible and standard costs.
†3703. 6 hours lec. 2 hours lab. 5 credits. $4.00 lab fee.

3716—AUDITING*

Independent and internal audits, professional ethics, legal liability, internal control, auditing standards and procedures. Evidential matter, auditors approach and techniques, reports, statistical sampling, management advisory services.
†3703. 4 hours lec. 3 hours lab. 4 credits. $3.00 lab fee.

3723—BUSINESS FINANCE*

Forms of business organization; corporate securities; financing through securities; sources and management of working capital; administration of income; expansion and combination, reorganization, receivership, and dissolution.
†3704. 3 hours lec. 2 hours lab. 3 credits.

3724—SYSTEMS ANALYSIS*

Developing, organizing, and using accounting data, analyzing and improving accounting systems, systems review, flow process charting, structural flow charting, internal check, internal control, forms and paper flow analysis.
†3713. 3 hours lec. 2 hours lab. 3 credits. $2.00 lab fee.

3725—FINANCIAL STATEMENT ANALYSIS*

Tools of analysis, percentages, comparisons—past performance, industry standards. Basic ratios—equity, current, quick, working capital, return on equity. Turnovers, inventories, receivables.
†3723. 3 hours lec. 2 hours lab. 3 credits.

3726—OFFICE MANAGEMENT AND PROCEDURES*

Organization of the office, managerial considerations, office furniture and equipment, office machines, working conditions, office layout, records

and reports, personnel and training, office manuals, budgets and costs.
†3712. 3 hours lec. 2 hours lab. 3 credits. $4.00 lab. fee.

3735—TAXATION I*

Payroll taxes, withholding and reports. Unemployment, industrial insurance contributions, workmen's relief funds. Franchise taxes. Personal property taxes. Classified and intangible taxes. City income taxes. Sales and use taxes. Real estate taxes. Vehicle and other taxes.
†3704. 3 hours lec. 2 hours lab. 3 credits. $5.00 lab fee.

3736—TAXATION II*

Individual income taxes: returns, income exemptions, deductions, gains and losses, rates, adjustments. Problems of proprietorship, partnerships, corporations—inventories, depreciation, accounting, installment and deferred sales treatment. Filing requirements, payments, refunds, claims. Tax planning techniques.
†3704. 5 hours lec. 2 hours lab. 4 credits. $3.00 lab fee.

3745—ADVANCED ACCOUNTING*

Problems peculiar to partnerships, receiverships, fiduciaries, installment sales, consignments, insurance, estates and trusts; compound interest applications; governmental accounting; branches, consolidations, mergers and foreign exchange.
†3714. 6 hours lec. 2 hours lab. 5 credits.

3746—ACCOUNTING PRACTICE*

A detailed study of accounting systems as applied to specific industries. Industries studied: retailing, construction, utilities, and government. Material from all previous courses applied. Accounts from local firms presented and problems discussed with the class.
†3704. 4 hours lec. 2 hours lab. 4 credits. $6.00 lab fee.

**Technical Course † Prerequisites $ Lab Fee*

Business Data Processing Technology

THERE ARE many forms of Data Processing that are common and necessary to the daily conduct of business. Computers of various sizes are an aid to the processing of data. At one time only the very large corporations used computers, but now medium size and small companies are finding it necessary to use computers to keep pace with their competition. And, of course, the many levels of government are more effectively operated through the use of computer installations.

The computer is an information (data) processor. The systems analyst takes ideas submitted by management and designs a workable project to be performed by the computer. The analyst will probably work with a group of programmers who will know the proper processes to be performed. The programmer then takes the processes and places them in a logical order that will accomplish the desired result. Since the computer is an extremely expensive piece of equipment, the programmer must see to it that the device is used in the most productive and efficient manner.

Opportunities for Graduates

Employers find that the Columbus Tech graduate has been trained in modern data processing techniques and possesses a well rounded background in the computer laboratory environment. These graduates are taught that programming is a method of proceeding through a problem that can be solved through the use of a variety of equipment -- and that the solution of a problem is not limited to a particular computer or to the equipment of a particular computer manufacturer. Therefore, the graduate finds he can easily adapt to computers which differ from those found in our laboratory. Through a constant updating of curriculum, the student is provided with the latest in data processing techniques. Therefore, since the Columbus Tech Data Processing Graduate is flexible, up-to-date, knowledgeable, and well trained, he normally will find employment as a programmer at the time he completes his education. After a few years of programming experience he may well advance to systems analyst.

Equipment Provided by Columbus Tech

The computer laboratory houses an IBM 370/135 data processing system with card reader, card punch, magnetic tape, magnetic disk, two printers, and video-screen terminals.

Business Data Processing Technology

The operating system provides a DOS/VS environment with multiprogramming and telecommunications. An optical mark reader and a computer terminal are available for student study. A unit record laboratory provides keypunches, an IBM 85 collator and an IBM 82 sorter.

Professional Advisory Committee

Kenneth Arnold . . . . . Columbus and Southern Ohio Electric Co.
R. D. Balathauser . . . . . .The State Department of Education
Charles A. Day . . . . . R. G. Barry Corporation
T. G. Hornung . . . . . Bell Telephone Laboratories, Inc.
Stanley Jone . . . . . Nationwide Insurance Companies
Paul Langdon . . . . . .Battelle Memorial Institute
Carroll Parry . . . . . North American Rockwell Corporation
Roy Reeves . . . . . The Ohio State University-Research Foundation
John Schumacher . . . . . Columbia Gas of Ohio, Inc.
Lou Wray . . . . . .Battelle Memorial Institute
William E. L. Young . . . . . Defense Construction Supply Center

Of Special Interest

BDP students may want to take course 1155 Computer Application to Mathematics. This course could satisfy a General Education elective.

If a student has time available, the BDP Department suggests the student consider taking 3331 Personal Typing early in the first year. The ability to use a typewriter will be a great assistance in both course work and keypunching. This is only a suggestion and not a department requirement.

COURSES REQUIRED FOR GRADUATION

GENERAL EDUCATION REQUIREMENTS	CREDITS
Communication Skills Department	10
Behavioral Science Elective	9
General Education Elective	3

FIRST YEAR

COURSE		LAB FEES	CLASS HOURS	LAB	CREDITS
First Quarter – Fall					
1101	Mathematics for BDP I		5	0	4
2729	Principles of Data Processing*	$12.50	5	5	5
3841	Accounting		5	0	4
1002	Beginning Composition		5	0	3
	Behavioral Science Elective		–	–	3
					19

* *Technical Course*

Second Quarter – Winter

1102	Mathematics for BDP II	5	0	4
2731	Introduction to Programming I* $25.00	5	5	5
2712	Systems Analysis I*	2	0	2
2744	Cost Accounting*	2	0	1
1003	Essay and Research	5	0	3
	Behavioral Science Elective	–	–	3
				18

Third Quarter – Spring

1003	Mathematics for BDP III	5	0	4
2732	Introduction to Programming II* $25.00	5	5	5
2713	Systems Analysis II*	2	0	2
2723	Source Document Machines*	2	0	1
1024	Speech	3	0	2
	Behavioral Science Elective	–	–	3
				17

SECOND YEAR

Fourth Quarter – Fall

1104	Mathematics for BDP IV*	5	0	4
2715	COBOL Programming* $12.50	3	2	4
2724	Data Systems I*	3	0	2
2734	Programming I* 25.00	5	5	5
3823	Business Law I	4	0	3
				18

Fifth Quarter – Winter

1105	Calculus for BDP*	5	0	4
2725	Data Systems II*	3	0	2
2735	Programming II* $12.50	5	5	5
2755	Computer Applications Laboratory 12.50	2	4	3
1004	Technical Writing	3	0	2
3813	Management	3	0	2
				18

Sixth Quarter – Spring

2716	Compiler Languages* $12.50	5	2	6
2757	Final Project* 12.50	5	2	5
3832	Personnel Management*	3	0	2
	General Education Elective			3
				16

COURSE DESCRIPTIONS

2712–SYSTEMS ANALYSIS I* (W)

Preparation of program narrative, flow chart, record layout, and printer spacing chart. The use and relationship of these tools in creating the computer program.

2 hours lec. 2 credit.

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* *Technical Course*

Business Data Processing Technology

2713–SYSTEMS ANALYSIS II* (SP)

Preparation of a systems manual comprised of a narrative, flow chart, file layouts, printer spacing charts, run procedures, controls, and keypunch specifications.

†1712. 2 hours lec. 2 credit.

2715–COBOL PROGRAMMING* (A)

Extensive work on COBOL programming techniques and debugging methods. Lab problem used in conjunction with lectures.

†1732. 3 hours lec. 2 hours lab. 4 credits. $12.50 lab fee.

2716–COMPILER LANGUAGES* (SP)

Theories and techniques of advanced COBOL programming, FORTRAN, RPG, and PL/1 examined in lectures and lab programs.

†1715. 5 hours lec. 2 hours. lab. 6 credits. $12.50 lab fee.

2723–SOURCE DOCUMENT MACHINES* (SP)

Survey course on the uses and costs of data entry devices plus lectures on telecommunications and data transmission. Specific machines used in lab demonstrations in these areas.

2 hours lec. 1 credit.

2724–DATA SYSTEMS I* (A)

Advanced systems topics such as collection of information, feasibility studies, cost analysis, systems controls, and management information systems.

†1713. 3 hours lec. 2 credits.

2725–DATA SYSTEMS II* (W)

Students given a system to analyze and design. Result is presented in the form of a systems manual and a user's manual.

†1724. 3 hours lec. 2 credits.

2729–PRINCIPLES OF DATA PROCESSING* (A)

Four basic steps of data processing, history and evaluation of computers. Hollerith Code, design and function of a computer, binary and hexadecimal numbering systems, concepts of computer addressing, machine language coding, source language coding. Laboratory exercises on unit record and computer equipment.

5 hours lec. 5 hours lab. 5 credits. $12.50 lab fee.

2731–INTRODUCTION TO PROGRAMMING I* (W)

Computer theories and Assembler Language Coding introduced and lab exercises completed on the computer.

†1729. 5 hours lec. 5 hours lab. 5 credits. $25.00 lab fee.

2732–INTRODUCTION TO PROGRAMMING II* (SP)

Methods of data organization and file processing presented in lectures and aided by lab programs.

†1731. 5 hours lec. 5 hours lab. 5 credits. $25.00 lab fee.

2734—PROGRAMMING I* (A)

Utilities, sort/merge, magnetic tape, and index sequential access method characteristics are presented. This information is reinforced by the use of lab problems.

†1732. 5 hours lec. 5 hours lab. 5 credits. $25.00 lab fee.

2735—PROGRAMMING II* (W)

Advanced programming topics such as libraries, physical IOCS, conditional assembly language, direct access method, and multiprogramming discussed. Labs are associated with each topic.

†1734. 5 hours lec. 5 hours lab. 5 credits. $12.50 lab fee.

2744—COST ACCOUNTING* (W)

The nature and purpose of cost accounting. Accounting for materials and labor. Factory overhead expenses. The job cost system, process cost, and standard cost accounting. Other costing problems.

†1841. 2 hours lec. 1 credit.

2755—COMPUTER APPLICATIONS LABORATORY* (W)

A laboratory course supplementing 1735. Practice in programming techniques and symbolic coding on a computer installed in the technical institute.

†1734. 2 hours lec. 4 hours lab. 3 credits. $12.50 lab fee.

2757—FINAL PROJECT* (SP)

System design and program coding of a challenging project of the student's choice with approval of the Department.

5 hours lec. 2 hours lab. 5 credits. $12.50 lab fee.

2781—SURVEY OF BUSINESS DATA PROCESSING (A,W,SP,SU)

Introduction to data processing terminology, equipment, and business applications. NOTE: NOT FOR BDP MAJORS.

2 hours lec. 1 hour lab. 2 credits. $3.00 lab fee.

** Technical Course † Prerequisites $ Lab Fee*

Banking/Finance Mid-Management Technology

THE BANKING/FINANCE Technology provides one of the most versatile areas of business study. American corporate economics, and the American standard of living require finance to be the nucleus of all business. Mass production and distribution the world over, have raised increased demands for vast consciousness in financing goods and services to individuals and companies.

The finance student is trained to perform mid-management functions: supervising people, providing customer services and instituting managements policies and procedures.

There is a continuing need for personnel with sufficient interest, ability, and motivation to prepare for careers in consumer finance and related careers in industry. An employee in this field must enjoy meeting people and be able to deal with them in a professional manner. He must be a student of the economy and of customer values.

Opportunities for Graduates

Graduates are prepared to enter into business to perform consumer finance activities, and similar functions in most corporations. They are prepared for evaluating and granting credit, financial counseling, making collections and adjustments hiring and training new employees, and soliciting new business. By virtue of its importance the finance student will be trained to perform roles in purchasing, quality standards, time and study, accounting and production control. Graduates are qualified for management positions in financial organizations.

Professional Advisory Committee

Ray Allen . . . . . Public Finance Corporation
Roger Downing . . . . . The Ohio Consumer Loan Association
Ray McCafferty . . . . . City Loan and Savings Company
Darrell Saunders . . . . . Ohio State Bank
George Schoonover . . . . . City Loan and Savings Company
Steve Simmons . . . . . Capital Finance Corporation
Sam Smith . . . . . The Modern Finance Company
Henry A. Stough . . . . . Capital Finance Corporation
Mack Wells . . . . . American Plan Corporation

Banking/Finance Mid-Management Technology

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Sciences Department	9
General Education Division	3

FIRST YEAR

During the 1st, 2nd, and 3rd quarter, the student must complete the following core coures. All of these courses are given each quarter of Autum, Winter, and Spring.

		CLASS HOURS	LAB	CREDITS
1002	Beginning Composition	5	0	3
1003	Essay and Research***	5	0	3
1024	Speech	3	0	2
1131	Business Mathematics	5	0	4
1522	Psychology	3	0	3
1781	Survey of Data Processing	2	1	2
3801	Marketing	5	0	5
3802	Economics	5	0	4
3811	Personal Selling	3	0	2
3813	Management	3	0	2
3814	Non-Personal Selling	3	0	2
3821	Introduction to Business	4	0	3
3841	Accounting	5	0	4
2801	Introduction to Consumer Credit*	4	0	3
2901	Introduction to Retailing*	5	0	3
3002	Wholesaling Principles*	5	0	3
3111	Technical Selling*	4	0	2
	Behavioral Science Elective***	3	0	3
				53

SECOND YEAR

During the 4th, 5th, 6th, 7th, and 8th Quarter the student must complete the following courses. The letter designations in parenthesis indicate the quarter in which these courses will be taught. This does not preclude their being taught during other quarters. Nor does it guarantee their being offered if enrollment is not adequate. "A" indicates the course will be offered Autumn Quarter. "W" indicates the course will be offered Winter Quarter. "SP" indicates the course will be offered Spring Quarter.

		CLASS HOURS	LAB	CREDITS
1014	Business Communication (A,W,SP,SU)	3	0	2
3812	Government and Business	3	0	2
3823	Business Law I (A,W,SP)	4	0	3
3832	Personnel Management* (A,W,SP)	3	0	2
3835	Industrial Relations* (W,SP)	3	0	2

** Technical Course ** As Approved by Advisor *** Not required for Intership*

Banking/Finance Mid-Management Technology

2803	Money and Banking* (A,SP)	5	0	3
2807	Operation of a Consumer Credit Institution* (SP)	3	0	2
2813	Credit Administration* (A)	5	0	3
2814	Personal Financial Management* (A)	3	0	2
2823	Corporation Finance* (SP)	5	0	3
2824	Consumer Finance Seminar* (SP)	2	0	1
	Behavioral Science Elective**	3	0	3
	General Education Elective**	3	0	3
	Total Credits for Graduation			31

During the second year, the student also elects one of the following sequences of courses.

Option I

		CREDIT HOURS
2881	Consumer Finance Internship I (A,SP,SU)	6
2882	Consumer Finance Internship II (A, W,SP,SU)	6
2883	Consumer Finance Internship III (A,W,SP,SU)	6
2885	Special Problems in Consumer Finance I (A,SP,SU)	2
2886	Special Problems in Consumer Finance II (A,W,SP,SU)	2
2887	Special Problems in Consumer Finance III (W,SP,SU)	2

Option II

			CLASS HOURS	LAB	CREDITS
3151	Real Estate Principles and Practices I	(A)	3	0	3
3145	Real Estate Finance	(W)	3	0	3
3127	Insurance I	(A)	6	0	6
	Electives from American Institute of Banking offerings or other courses		19	0	12

COURSE DESCRIPTIONS

2801—INTRODUCTION TO CONSUMER CREDIT*

A study of the history of consumer credit and social institutions, social aspects of consumer credit, institutions of consumer credit, customer relations in consumer credit, and operational aspects of consumer credit. 4 hours lec. 3 credits.

2803—MONEY AND BANKING*

Control and operation of banking and monetary systems with emphasis on supply and demand and governmental control.
†1802, 1841. 5 hours lec. 3 credits.

2807—OPERATION OF A CONSUMER CREDIT INSTITUTION*

Family credit counseling. The "informative" contribution to sound credit. Restrictive and regulatory obstacles to consumer credit. Regulations of finance charges on consumer installment credit.
3 hours lec. 2 credits.

2813–CREDIT ADMINISTRATION*

An analytical study of credit control, and management of collections. Topics include: management and analysis of consumer and commercial credit, business credit, government credit, and foreign credit.
†1802, 1841, 1813. 5 hours lec. 3 credits.

2814–PERSONAL FINANCIAL MANAGEMENT*

Methods of counseling the financially over-extended client, and recognizing danger signals in granting credit. Credit, borrowing, budgeting, relationships with financial institutions, savings, insurance, real estate and taxation.
†1802, 1841, 1813. 3 hours lec. 2 credits.

2823–CORPORATION FINANCE*

A study of business organization. Means of financing, financial management of working capital, administration of income, expansion and merger, reorganization, receivership, and dissolution.
†1802, 1841. 5 hours lec. 3 credits.

2824–CONSUMER FINANCE SEMINAR*

Preparation of the student for taking his place in the profession. Seminars covering the following topics: ethics, supervisory responsibilities, continuing education, human relations, and business promotions.
†2882, 2886. 1 credit. 2 hours lec.

2881–INTERNSHIP I

Supervised on-the-job application of knowledge and skills acquired in the classroom.
6 credits.

2882–A CONTINUATION OF 2881

†2881. 6 credits.

2883–A CONTINUATION OF 2882

†2882. 6 credits.

2885–SPECIAL PROBLEMS IN CONSUMER FINANCE I*

The first of three courses taken concurrently with the work experience. Selection of a particular problem or area of the job to be studied and reported on.
2 credits.

2886–SPECIAL PROBLEMS IN CONSUMER FINANCE II*

A continuation of 2885.
†2885. 2 credits.

2887–SPECIAL PROBLEMS IN CONSUMER FINANCE III*

A continuation of 2886.
†2886. 2 credits.

Banking/Finance Mid-Management Technology

Food Service Mid-Management Technology

ALREADY one of the largest industries in the number of people employed, food service is expanding as the demands of the population increase. The competitive nature of this industry and the increased emphasis of our society on leisure time; higher living standards; more people in schools, hospitals, and other institutions; and an increase in luxury spending makes a comprehensive and thorough training in the disciplines of modern food service operation necessary for the manager.

The Food Service Mid-Management Technology program provides the guidelines, standards and techniques necessary for success in all phases of the food service business today.

The graduate takes a place in supervision or management. He applies his skills to directing, supervising and controlling personnel; increasing food sales; decreasing costs of preparation; promoting customer good will; improving the food product; and to the solving of first level management problems. In addition, the dietetic technician in the health care institution must possess a knowledge of nutrition and modified diets.

Opportunities for Graduates

The technician is responsible for adherence to all legal regulations governing the preparation and service of food. His work includes instruction and supervision of food service employees; maintaining high standards of sanitation, housekeeping, and safety; supervision of the operation and care of equipment; menu planning and food purchasing; direction of food production; record keeping and cost control; and public relations.

The outlook for employment is excellent. Technicians are needed in hospitals, nursing and retirements homes, child care centers, schools and universities, industrial food services, and in the vast numbers of commercial restaurants. Jobs available in commercial food services include those in hotels, motels, public and private dining rooms, clubs, resorts, cafeterias, buffets, retail department stores, drive-ins, catering halls, ocean-going vessels, and in airline and rail terminals throughout the world. Both men and women graduates will find opportunity for beginning employment as dining room supervisors, food production supervisors, assistant restaurant managers or dietetic technicians. Advancement to higher

level supervisory positions comes with experience as responsibilities are increased to cover supervision of large areas and more complex functions.

Equipment Provided by Columbus Tech:

Small-quantity food preparation laboratory, large-quantity food preparation laboratory, and facilities of local food service organizations with which students affiliate for cooperate experience.

Professional Advisory Committee

Ronald Aselton . . . . . Burger King
Nolan Begien . . . . . Food Service Executives Association
Aldo Paoletti . . . . . Ohio State Restaurant Association
Sonia Cole . . . . . The State Department of Education
Annabelle Cruise . . . . . Consultant
Ann Gernes . . . . . Riverside Methodist Hospital
Robert L. Henry . . . . . Ohio State Restaurant Association
Rachel Hubbard . . . . . The Ohio State University
Jean Jones . . . . . Columbus Health Department
Eloise Keefe . . . . . Grant Hospital
Robert Knapp . . . . . The Gas Light
Larry Newberry . . . . . Spirit of '76

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

The student should complete the following courses to meet the requirements for graduation.
Letter designation following each course title indicates the quarter(s) it is offered.

FIRST YEAR

		HOURS		
		CLASS	LAB	CREDITS
First, Second, and Third Quarters				
1002	Beginning Composition (A, W, SP)	5	0	3
1003	Essay and Research (A, W, SP)	5	0	3
1131	Business Mathematics (A, W, SP)	5	0	4
3802	Economics (A, W, SP)	5	0	4
3813	Management (A, W, SP)	3	0	2
2201	Survey of Food Service Industry* (A)	3	0	2

*Technical Course **As Approved by Advisor

Food Service Mid-Management Technology

		LAB FEES	HOURS CLASS	HOURS LAB	CREDITS
2202	Food Service Equipment* (W)	$ 5.00	5	2	5
2211	Food Preparation I* (A)	15.00	6	3	5
2212	Food Preparation II* (W)	25.00	3	6	5
2222	Sanitation and Safety* (A)		3	2	3
2223	Purchasing* (SP)	5.00	3	2	3
2253	Nutrition (SP)		5	2	5
	Behavioral Science Elective**		–	–	3
	General Education Elective**		–	–	3
					50

A student without previous food service work experience may also elect:

2282	Introduction to Food Service Employment* (W, SP)		0	15	3

SECOND YEAR

Fourth, Fifth, Sixth Quarter

1014	Business Communication (A, W, SP)	3	0	2
1024	Speech (A, W, SP)	3	0	2
3841	Accounting (A, W, SP)	5	0	4
2205	Records and Cost Control* (A)	3	4	3
2224	Management of Food Service Establishments*(A)	4	0	3
2225 or 2264	– Menu Planning* (W)	4	0	3
2236	Food Service Systems Management* (W)	3	4	5
2274	Food Service and Distribution*(A)	3	2	3
	Behavioral Science Elective**	–	–	6
	Electives from Basic Science and Business Management Department	–	–	3
	[1]Electives from any technical course offering**	–	–	18 or 13 if Internship is elected
				52 or 47

[1]Food Service Technology electives recommended and the quarter they are offered:

2203	Bar Management and Wine Technology*(A)	$10.00	5	2	4
2214	Gourmet Cooking* (SP)	$25.00	3	6	5
2226	Restaurant Public Relations*(W)		3	0	2
2275	Diet Therapy*(A)	5.00	5	2	4
2281	Internship* (Time Arranged)		–	40	6
2285	Special Problems*(Time Arranged)		–	–	3

Technical Courses offered in other technologies may also be selected**

**Technical Course **As Approved by Advisor*

Food Service Mid-Management Technology

COURSE DESCRIPTIONS

2201—SURVEY OF FOOD SERVICE INDUSTRY* (A)

Introduction to management of restaurants and of institution food services. An overview of the food industry with the following food services studied: restaurant, vending, hospital, nursing home, school and college, business and industrial. Field trips provide a general background of the organization, operation, and management.

3 hours lec. 2 credits.

2202—FOOD SERVICE EQUIPMENT* (W)

A study of the equipment vital to the successful operation of a restaurant facility. Mechanical equipment: food preparation machines and cleaning equipment. Counter, hot and cold food equipment, refrigeration equipment.

5 hours lec. 2 hours lab. 5 credits. $5.00 lab fee.

2203—BAR MANAGEMENT AND WINE TECHNOLOGY* (A)

Classification, history, and control of wines and spirits. The Ohio laws and regulations of alcohol control. The art of mixology.

3 hours lec. 4 hours lab. 4 credits. $10.00 lab fee.

2205—RECORDS AND COST CONTROL* (A)

Recordkeeping and controls needed in food service operations. Consideration given to: preparation of budgets, determination of selling prices of operations, ratio analysis of existing operation's income statements and balance sheets, scheduling employees and maintaining prescribed labor and food cost percentages.

3 hours lec. 4 hours lab. 3 credits.

2211—FOOD PREPARATION I* (A)

A laboratory course in basic food preparation including: basic chemistry and physics of foods, definitions and terminology of food preparation, use of standardized recipies, detailed study of protein foods: egg, milk and dairy products, meats, seafoods and poultry, and fats. Preparation of small quantities of a variety of foods in order to master basic skills required for all types of food preparation.

6 hours lec. 3 hours lab. 5 credits. $15.00 lab fee.

2212—FOOD PREPARATION II* (W)

A laboratory course in quantity food preparation. Detailed study of fruits, vegetables, starches, baked goods and desserts; use of equipment required for quantity food production; preparation and evaluation of quality of standardized quantity recipies; estimation of raw material needs and management of the lab.

†2211. 3 hours lec. 6 hours lab. 5 credits. $25.00 lab fee.

Food Service Mid-Management Technology

2214—GOURMET COOKING* (SP)

The principle and preparation of gourmet foods and classical cuisine. International specialties.

3 hours lec. 6 hours lab. 5 credits. $25.00 lab fee.

2222—SANITATION AND SAFETY* (A)

Detailed study of the control of bacteria in the food service industry. Good practices in housekeeping, sanitary food handling, and personal cleanliness. Practical problems concerned with protection of health and with prevention of food spoilage and contamination. Importance of safety and accident prevention.

3 hours lec. 2 hours lab. 3 credits.

2223—FOOD PURCHASING AND SPECIFICATIONS* (SP)

USDA codes, grading, regulations, and classifications of meats, produce, and dry-goods. The development of uniform specifications of food and supplies for individual operations. Discussion of the restaurant supply industry. Guest speakers and field trips. Methods of receiving and storing foodstuffs.

3 hours lec. 2 hours lab. 3 credits. $5.00 lab fee.

2224—MANAGEMENT OF FOOD SERVICE ESTABLISHMENTS* (A)

Supervisory techniques applied to restaurant management. Job descriptions, job procedures, reports, schedules, oral and written directions. Recruitment and interviewing techniques. Communication with employees, and employee training.

4 hours lec. 3 credits.

2225—RESTAURANT MENU PLANNING* (W)

Historical background of menus. Principles of menu making. Sample menus. Merchandising the menu. Food, labor, and overhead costs in determining prices. Customer market in pricing.

4 hours lec. 3 credits.

2226—RESTAURANT PUBLIC RELATIONS* (W)

Selection of an advertising media to convey a particular message to a selected market. Preparation of advertisments (layout and copy). Market analysis and consumer surveys. Customer relations.

3 hours lec. 2 credits.

2236—FOOD SERVICES SYSTEMS MANAGEMENT* (W)

Food service layout, planning and analysis. Space requirements. Layout flow line charts. Receiving and storage facilities. Selection of materials for floors, walls and ventilation systems. Time and motion studies. Consideration given to convenience food production.

†2202. 3 hours lec. 4 hours lab. 5 credits.

**Technical Course † Prerequisites $ Lab Fee*

Food Service Mid-Management Technology

2241—HOTEL-MOTEL MANAGEMENT SURVEY (W)

Covers the history of the lodging industry and club management. Internal operations, housekeeping and management skills are studied, thus enlarging the individual's employment capacity.
4 hours lec. 3 credits.

2252—BASIC NUTRITION (SP)

Sufficient nutrition information to enable the student to screen for nutritional adequacy in a household situation. General needs, food money budgeting, cultural food practices, and mealtime feeding behavior as well as obvious signs of nutritional deficiency. Instruction in the feeding of the infant and the young child.
3 hours lec. 3 credits.

2253—NUTRITION (SP)

A study of normal nutrition and its role in promoting good health. Includes composition and functions of foods, nutritional needs throughout the life cycle, and contemporary concerns.
5 hours lec. 2 hours lab. 5 credits.

2264—MENU PLANNING* (W)

Principles and practices of menu planning related to schools and industries, hospitals and health care institutions. Consideration of costs, utilization of employees, equipment, purchasing, inventory, and storage.
†2275. 4 hours lec. 3 credits.

2274—FOOD SERVICE AND DISTRIBUTION* (A)

Determination of the type of service best suited for an operation. Legal regulations and managerial decision making considered. New trends discussed. Table service training and table top place settings.
3 hours lec. 2 hours lab. 3 credits.

2275—DIET THERAPY* (A)

Ways in which variations in caloric content, consistency and nutrient composition may be employed to meet individual dietary requirements. Rationale for dietary modifications and related medical terminology. Special diet meals prepared and tasted.
†2253. 5 hours lec. 2 hours lab. 4 credits. $5.00 lab fee.

2281—FOOD SERVICE INTERNSHIP* (Quarter Arranged)

Participation in actual working situations requiring 40 hours per week on varying shifts in affiliated restaurant, hotel, motel, hospital food service for patients and personnel, public school, college, nursing home, retirement center, industrial cafeteria or other food facility. Practical application of principles learned in the classroom. Student performance rated

jointly by the supervisor at the affiliated institution and by the Institute coordinator. Student will register for 2285 concurrently.
40 hours per week. 6 credits.

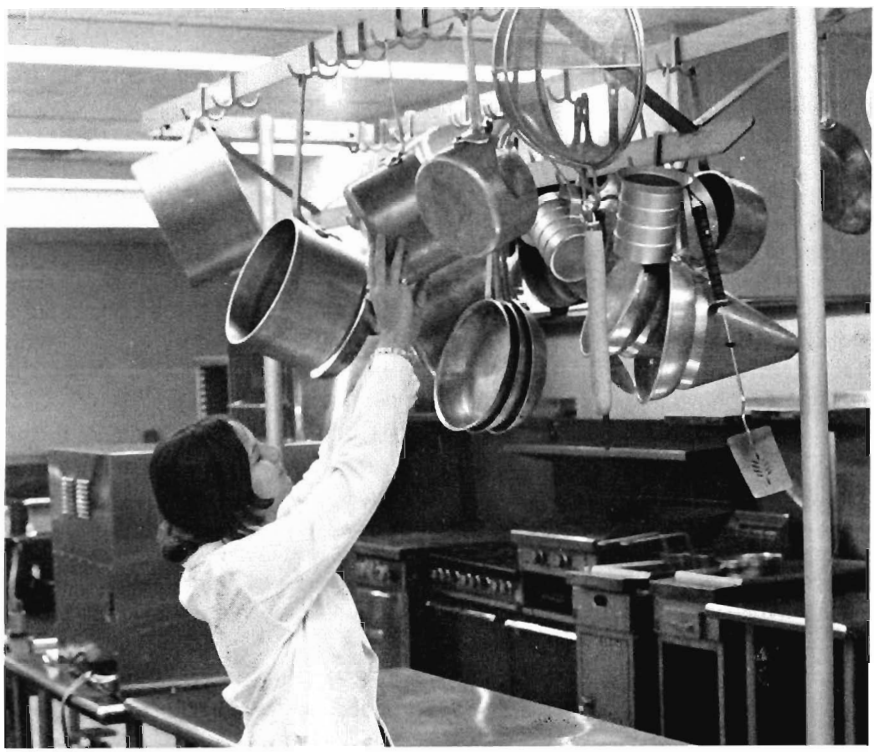
2282—INTRODUCTION TO FOOD SERVICE EMPLOYMENT* (W, SP)

Open only to the second or third quarter student with no previous food service work experience and upon the advice of his advisor. The student will be employed in an approved food service facility fifteen hours per week for the purpose of being exposed to the industry and to learn basic skills. Periodic written reports will be submitted to the advisor. A pass or fail grade will be given based upon evaluation by the advisor and the job supervisor.
15 hours per week. 3 credits.

2285—SPECIAL PROBLEMS IN FOOD SERVICE ADMINISTRATION*
(Quarter Arranged)

A problem of special interest to the student, requiring library and/or on-the-job study selected and reported by the student with advice from a faculty member.
3 credits.

**Technical Course † Prerequisites $ Lab Fee*



General Business Management Technology

MANY STUDENTS entering Columbus Tech recognize that their futures will be devoted to a business career, but are not certain as to the area of business. Business management careers in all business is dependent upon competencies which are relevant to all of the business management technologies. This core is taught in the first three quarters of the General Business Technology. As the student completes this core of courses, he is able to make more meaningful career choices. At that time, then he is asked to decide which of five directions he should take: (1) Banking/Finance Mid-Management, (2) Retail Mid-Management, (3) Sales-Marketing, (4) Wholesale Mid-Management, (5) General Business Management.

The student who elects to complete his Associate Degree program in the specialized fields of consumer finance, retailing, sales-marketing, or wholesaling, will be required to complete eight quarters of work. Those who elect to complete their degree programs in the general business management area will be required to complete six quarters of work. Those in the specialized programs will spend two or three quarters of the last five in an internship. They will be employed by a cooperating employer for the equivalent of a full-time job while completing the internship. The employer will be involved with work directly related to the specialized area of concentration. The intern is still considered a student and is supervised, not only by his employer, but also by his Columbus Tech faculty member. Through the internship, the student is able to see the business first-hand and learn the business under formal guidance.

(1) BANKING/FINANCE MID-MANAGEMENT TECHNOLOGY. In this technology area, the student is trained to supervise people, provide customer service, and carry out policies and procedures. His duties in his work after graduation may include financial counseling, evaluation and granting of credit, effective collections, hiring and training of new employees and solicitation of new business. The student will be trained for positions of branch representatives and assistant managers. He will work with loan companies, banks, and other financial institutions.

(2) RETAIL MID-MANAGEMENT TECHNOLOGY. Retailing is the last link in the chain that reaches from the producer to the consumer. The middle

manager provides an outlet for merchandise and customer services. The middle manager in retailing identifies with both top management and non-supervisory employees. He interprets one to the other. He recognizes developing problems, changes in customer responses, and all other trends that affect profit. He understands the merchandise, its procurement, storage, promotion, and sale. He may be involved with buying, stock control, marketing, accounting, or personnel management.

(3) SALES-MARKETING TECHNOLOGY. A well-trained person with a working knowledge of marketing will have no problem in finding a career in business or industry. Nothing happens in our economy until someone sells something. Sales-Marketing Technology is designed to give the graduate a background in general education, general business, and the techniques of selling. The student will be equipped to sell either a product or a service. With some additional study, the graduate will be able to pass the state board of examinations in real estate and insurance. The graduate will also be prepared to assume non-selling functions in a marketing oriented company.

(4) WHOLESALE MID-MANAGEMENT TECHNOLOGY. Wholesaling is concerned with the selling of products to anyone other than the ultimate consumer. People occupying middle-management positions in wholesaling need a broad business background which includes a knowledge of marketing, personnel management, law and accounting. The wholesaler must be able to communicate with and relate to all types of people. He will have to perform services for his suppliers, customers, and society as a whole. While many of the graduates will be employed as wholesale salesmen, others may be involved with inventory control, purchasing, credit, or the many other activities performed in the industry.

(5) GENERAL BUSINESS MANAGEMENT. This technology is directed at satisfying the needs of two types of people.

First, this technology serves the needs of those who are not able to make a clean career choice. For them the approach is to make them generalists. The generalist is one who is not specialized in a particular segment of business. His opportunities will come in all fields of business. Although he may not have depth of technical competence in a specialized field, he will have a greater degree of career flexibility. His knowledge of the business community will allow him to fill middle-management positions in a wide variety of companies.

Second, this technology serves the needs of those for whom the specialized technologies are not appropriate. There are many people whose needs require specialized programs which can be individually arranged for them through the correct combinations of courses from a variety of technical programs at Columbus Tech. The General Business Management Technology, has the method of achieving these goals through the great number of elective courses.

General Business Management Technology

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

FIRST YEAR

During these quarters the student must complete the following courses in order for him to be able to graduate after completion of six quarters of work. All of these courses are offered each quarter of Autumn, Winter and Spring.

COURSE		CLASS HOURS	LAB	CREDITS
First, Second, Third Quarters				
1002	Beginning Composition	5	0	3
1003	Essay and Research	5	0	3
1024	Speech ($1.00)	3	0	2
1131	Business Mathematics	5	0	4
1522	Psychology	3	0	3
1781	Survey of Business Data Processing	2	1	2
3801	Marketing	5	0	5
3802	Economics	5	0	4
3811	Personal Selling	3	0	2
3813	Management	3	0	2
3814	Non-Personal Selling	3	0	2
3821	Introduction to Business	4	0	3
3841	Accounting	5	0	4
2801	Introduction to Consumer Credit*	4	0	3
2901	Introduction to Retailing*	5	0	3
3002	Wholesaling Principles*	5	0	3
3111	Technical Selling*	3	0	2
	Behavioral Science Elective*	3	0	3
	Total Credits Needed to Graduate			53
3331	Beginning Typing (A) Recommended Elective	3	2	2

SECOND YEAR

During these quarters the student must complete the following courses in order to enable him to graduate after completion of six quarters of work. The letter designations in parenthesis indicate the quarter in which these courses will be taught. This does not preclude their being taught during other quarters. Nor does it guarantee their being offered if enrollment is not adequate. "A" indicates the course will be offered Autumn Quarter. "W" indicates the course will be offered Winter Quarter. "SP" indicates the course will be offered Spring Quarter.

Fourth, Fifth, Sixth Quarters				
1014	Business Communication (A, W, SP)	3	0	2
3803	Personal Finance* (A, SP)	3	0	2
3823	Business Law I (A, W, SP)	4	0	3
3832	Personnel Management* (A, W, SP)	3	0	2
3835	Industrial Relations* (W, SP)	3	0	2

*Technical Course **As Approved by Advisor

General Business Management Technology

COURSE		HOURS CLASS	HOURS LAB	CREDIT
2803	Money and Banking* (A, SP)	5	0	4
	Courses elected from any technical course offering**	–	–	15
	Behavioral Science Elective**	–	–	3
	General Education Elective**	–	–	3
	Non-classified Electives**	–	–	17
				53
	Total Credits Needed to Graduate			108

COURSE DESCRIPTIONS

3800–SMALL BUSINESS SYSTEMS

An overview of business management. How a business operates. Factors of production. Financial considerations. Personal supervision. 3 cred

3801–MARKETING (W, W, SP)

A study of marketing fundamentals, consumption and consumer behavior, retailing and wholesaling structures. The functions performed in marketing, marketing policies, and a critical appraisal of the field of marketing.

5 hours lec. 5 credits.

3802–ECONOMICS (A, W, SP)

Concepts basic to an understanding of business economics. Scarcity, specialization, competition, monetary and fiscal operations, employment, international trade, comparative economic societies, stabilization of the economy, economic growth, and economic distribution.

5 hours lec. 4 credits.

3803–PERSONAL FINANCE * (A, SP)

The organization and function of our modern economic society with emphasis on personal investing, insurance programs, capital requirements for business, and return on invested capital.

3 hours lec. 2 credits.

3810–SALESMANSHIP – CUSTOMER RELATIONS

Sales as they relate to service industries. Customer relations with customer in the home and shop. Course for people in home service fields working directly with selling as they service products.

5 hours lec. 3 credits.

3811–PERSONAL SELLING (A, W, SP)

A study of selling, including preparation for selling, sales processes, and an introduction to sales management.

3 hours lec. 2 credits.

** Technical Course ** As Approved by Advisor † Prerequisites $ Lab Fee*

General Business Management Technology

3812–GOVERNMENT AND BUSINESS (A, SP)
A study of various government legislation and regulations and how they effect business, the consumer, and society as a whole.
3 hours lec. 2 credits.

3813–MANAGEMENT (A, W, SP)
A study of the principles and practices of management.
3 hours lec. 2 credits.

3814–NON-PERSONAL SELLING (A, W, SP)
Advertising and sales promotion as it applies to retail, industrial, and other types of business establishments. Market research as applied to promotional activities.
3 hours lec. 2 credits.

3821–INTRODUCTION TO BUSINESS (A, W, SP)
A general introduction to business activities, the capitalistic system, and business terminology. Personnel, finance, managerial controls, law, regulated industries, and taxation.
4 hours lec. 3 credits.

3823–BUSINESS LAW I (A, W, SP)
A survey of the legal framework of business, including contracts, agency, sales, negotiable instruments, bankruptcy, partnerships, and corporation law.
4 hours lec. 3 credits.

3824–BUSINESS LAW II (W, SP)
A continuation of Business Law I, covering government regulations, trust, and insurance.
4 hours lec. 3 credits

3832–PERSONNEL MANAGEMENT* (A, W, SP)
The philosophy, principles, and methods of personnel management: organizational structure, areas of responsibility and authority, policy making, procurement and placement, training, evaluation, wage and salary administration, and benefit programs.
3 hours lec. 2 credits.

3835–INDUSTRIAL RELATIONS* (SP)
A survey of industrial relations, including the history of the labor movement, labor legislation, collective bargaining, daily contract administration, and grievance procedures.
5 hours lec. 2 credits.

3841–ACCOUNTING (A, W, SP)
Basic bookkeeping principles. Interpretation and use of accounting data and financial reports for managerial decisions and administrative control.

Methods of evaluating alternative courses of action, planning for the future, and controlling current operations. Application of the data card system concept.
5 hours lec. 4 credits.

3851–PRINCIPLES OF TRANSPORTATION
Introduction to modes of transportation as related to the economy and to culture. Adaptability of various types of transportation. Possible growth and development. Ecological implications.
4 hours lec. 3 credits.

3885–SPECIAL PROBLEMS IN BUSINESS I* (A, W, SP)
An individualized research problem in the area of business which is of primary concern of the student. Research is to be approved by and under the guidance of the student's advisor.
2 credits.

3886–SPECIAL PROBLEMS IN BUSINESS II* (A, W, SP)
An individualized research problem in the area of business which is of primary concern of the student. Research is to be approved by and under the guidance of student's advisor.
†1885. 2 credits.

**Technical Course † Prerequisites $ Lab Fee*

Graphic Communications Management Technology

COMMUNICATION is the transmission of ideas, concepts, and information from one person to another. Graphic communication is the transference of such information by word, picture, or symbol.

New materials, techniques, and processes are continually being developed, making graphic communications an ever-expanding, challenging technology. Demands for the end product of advertising, printing, publishing, and packaging have made the graphic communication industry fifth ranked in total payroll and employment opportunities.

Opportunities for Graduates

The number one problem in the industry is the shortage of qualified personnel in production, sales, and management. There are unlimited opportunities for men and women who are able to combine a mastery of modern managerial technique with a thorough understanding of graphic communications.

The graphic communications industry offers a vast array of specializations from which to choose. A thorough comprehension of the basic skills of camera operation, stripping, plate processing, and press techniques is necessary for proper performance in any of these highly paid areas of production. When this understanding is combined with business courses in estimating, personnel supervision, and plant management, and then coupled with experience, the background essential for consideration for promotion is provided, making graphic communications a field of almost unlimited opportunities.

Graphic communications is a high wage industry that is not affected by recession or layoffs and it is an industry that offers careers to young men and women of all talents and interests.

Graphic Communications Management Technology

Equipment Provided by Columbus Tech:

A 19 x 25 inch offset press, 10 x 15-inch letterpress; folding, binding, and cutting machines, a camera, an enlarger, and development equipment for offset plate making; layout and paste-up facilities.

Professional Advisory Committee

Lloyd Brown . . . . . American Education Publications
Steward Collins . . . . . The Columbus Bank Note Company
George Fox . . . . . The Warner P. Simpson Company
Richard Schick . . . . . The Spahr and Glenn Company
W.L. Stickney . . . . . Printing Industry of Central Ohio
R.Reid Vance . . . . . Printing Industry of Central Ohio
John Walker . . . . . West-Camp Press, Inc.
James Wyatt . . . . . Columbus Blank Book Company

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES COURSES	CREDITS
Communication Skills Department	10
Behavioral Sciences Department**	9
General Education Division**	3

FIRST YEAR

		LAB FEES	CLASS	HOURS LAB	CREDITS
First Quarter					
1131	Business Mathematics		5	0	4
1802	Economics		5	0	4
2401	Introduction to the Graphic Communications Industry*		3	0	3
2411	Printing Processes 1*	$5.00	2	5	4
	Communication Skills Course**		—	—	3
					18
Second Quarter					
1821	Introduction to Business		5	0	3
1811	Personal Selling		5	0	3
2417	Printing Processes II*	$10.00	2	5	4
2412	Copy Preparation*	5.00	2	5	4
	Communication Skills Course**		—	—	3
					17
Third Quarter					
1522	Psychology		3	0	3
1813	Management		3	0	2
2403	Production Operations*	$10.00	2	5	4
2413	Layout & Design*	5.00	2	5	4
2423	Printing Papers*		3	0	2
	Communication Skills Course**		—	—	3
					18

**Technical Course **As Approved by Advisor*

Graphic Communications Management Technology

SECOND YEAR

		LAB FEES	HOURS CLASS	HOURS LAB	CREDITS
Fourth Quarter					
1841	Accounting		3	4	4
2404	Printing Production Management*	$10.00	2	5	4
2407	Estimating & Costing*	10.00	2	5	4
2435	Techniques of Production I*	5.00	2	5	4
	Communication Skills Course**		—	—	3
					19
Fifth Quarter					
1801	Marketing		5	0	5
1823	Business Law I		4	0	3
2436	Techniques of Production II*	$15.00	2	5	4
2426	Printing Personnel Training & Supervision*		3	0	3
2445	Seminar on Production*		3	0	1
2135	Fine Arts, Freehand Drawing I***		2	1	1
	Communication Skills Course**		—	—	2
					19
Sixth Quarter					
1514	Sociology		3	0	3
1515	Human Behavior		2	0	2
1835	Industrial Relations		3	0	2
2406	Production Planning*	$10.00	2	5	4
2416	Printing Management Education*		3	0	3
2446	Seminar on Management*		3	0	1
					15

**Technical Course **As Approved by Advisor ***Recommended, but not a required course.*

COURSE DESCRIPTIONS

2401—INTRODUCTION TO THE GRAPHIC COMMUNICATIONS INDUSTRY*

A comprehensive study of the development of the printing industry to include present production processes, advertising agencies, art studios and the various supply firms and specialty operations, and the makeup of the graphic arts industry.

3 hours lec. 3 credits.

2403—PRODUCTION OPERATIONS*

A detailed study of the individual operation and processes required in the production of printed material.

2 hours lec. 5 hours lab. 4 credits. $10.00 lab fee.

Graphic Communications Management Technology

2404—PRINTING PRODUCTION MANAGEMENT*

A comprehensive study of printing management, practices and procedures. An analysis of job components, from layout to bindery and shipping department. Practical application of above by work in the laboratory.

2 hours lec. 5 hours lab. 4 credits. $10.00 lab fee.

2406—PRODUCTION PLANNING*

An analysis of the principles of efficient production control systems. The theory and practice of production and scheduling, material and service purchasing, and material handling.

2 hours lec. 5 hours lab. 4 credits. $10.00 lab fee.

2407—ESTIMATING & COSTING*

Principles of estimating and pricing printing. Analysis of specifications, determination of material and the use of production data for assigning time to personnel and machines. Theory and practice of cost determination in the graphic arts industry.

2 hours lec. 5 hours lab. 4 credits. $10.00 lab fee.

2411—PRINTING PROCESSES I*

A basic study of the technique of the various operations and processes of printing and duplication and their application and impact in the graphic communication industry.

2 hours lec. 5 hours lab. 4 credits. $5.00 lab fee.

2412—COPY PREPARATION*

An introduction to drawing board composition and the fitting of copy, selection of type and paste-up of mechanicals for the camera.

2 hours lec. 5 hours lab. 4 credits. $5.00 lab fee.

2413—LAYOUT & DESIGN*

A study of the theory and practice of layout and design for production of the printed message. The development of efficient procedures in the preparation of roughs, layouts and comprehensives.

2 hours lec. 5 hours lab. 4 credits. $5.00 lab fee.

2416—PRINTING MANAGEMENT EDUCATION*

A practical study and application of the research and education facilities as applied to Graphic Communications Management. A discussion of services available from supporting organizations.

3 hours lec. 3 credits.

2417—PRINTING PROCESSES II*

A survey of the typographic process and techniques with an in-depth study and practical application of type, makeup and composition.

2 hours lec. 5 hours lab. 4 credits. $10.00 lab fee.

**Technical Course † Prerequisites $ Lab Fee*

Graphic Communications Management Technology

2423–PRINTING PAPERS*

A study of the manufacture and selection of paper used in printing operations: sizes, colors, characteristics, limitations and packaging of printed papers. Field trips to a paper mill and a paper distributor.
3 hours lec. 2 credits.

2426–PERSONNEL TRAINING & SUPERVISION*

Supervisory and training techniques as applied to printing management. The use of job description, procedures, reports and schedules. Methods of job instruction in teaching and training employees.
2 hours lec. 3 credits.

2435–TECHNIQUES OF PRODUCTION I*

A comprehensive study of the practices and procedures of the operation of the camera, stripping and plate department of commercial printing plants and trade houses.
2 hours lec. 5 hours lab. 4 credits. $5.00 lab fee.

2436–TECHNIQUES OF PRODUCTION II*

A study of the problems and techniques of the production of quality press work and a look at "in plant" and custom bindery operations.
2 hours lec. 5 hours lab. 4 credits. $15.00 lab fee.

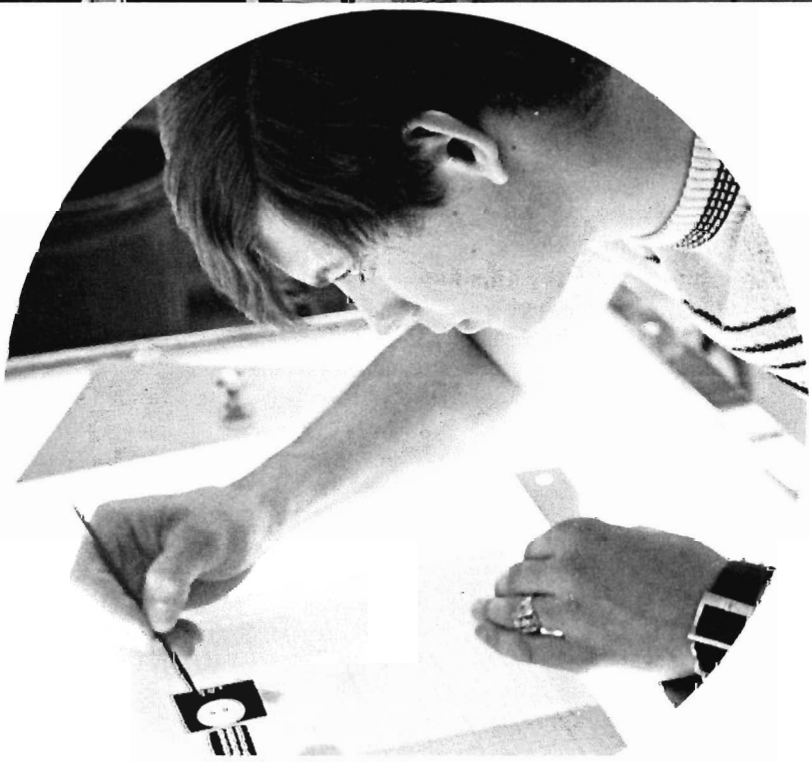
2445–SEMINAR ON PRODUCTION*

Conference session with production personnel of commercial graphic arts installations followed by discussion, critique and written reports.
3 hours lec. 1 credit.

2446–SEMINAR ON MANAGEMENT*

Conferences with suppliers and manufacturers representatives for new innovations of machinery and processes. Discussion with managers of commercial plants for a study of estimating, sales, technical assistance and related matters.
3 hours lec. 1 credit.

Graphic Communications Management Technology



Retail Mid-Management Technology

RETAILING is the last link in the chain that reaches from the producer or manufacturer to the ultimate consumer. It is so closely related to the entire business community that it readily provides an accurate index for judging the health of the economy. The retailer provides an outlet for merchandise and customer services. He is responsible for presenting new articles that may create a new market, as well as being responsible for supplying customer needs.

Opportunities for Graduates

The retail middle manager is employed as an assistant to top managers. He often experiences considerable rotation from one department to another as he progresses upward, or he may become a specialist in one division of the business. He is trained to observe and respond as a manager to the activities and problems of the entire organization.

The middle manager in retailing identifies with company policies. He works with top management and with non-supervisory employees. He interprets management directives to the worker. He recognizes developing problems, changes in customer response, and all other trends that affect profit. He understands the merchandise, its procurement and storage, its promotion and sales. He studies and appraises the market, and seeks ways to improve the sales and profit performance of his company.

The retailing industry is particularly attractive because of the variety of work performed by middle managers. Buying, stock control, stock storage, promotion, marketing, accounting, personnel management, and legal procedures for retailing are among the many functions a retail mid-manager performs. After graduation the student might become an executive trainee, head of stock, assistant department manager, assistant buyer, department manager, and, in some cases, manager for a small store. As the individual progresses he may become a buyer, department manager, merchandise manager, manager of a large store, or district manager. Whatever his position, he is constantly working with people inside and outside of his company to insure constant development of both sales and profits.

Retail Mid-Management Technology

Professional Advisory Committee

Lee Abbitt . . . . . The F. & R. Lazarus & Co.
Dale Bowman . . . . . Gold Circle Discount Stores
John Gatterdam . . . . . The F. & R. Lazarus & Co.
David Godfrey . . . . . Harts Stores, Inc.
Randy Lynch . . . . . Sears, Roebuck, & Co.
Robert Renzetti . . . . . Renzetti's IGA Foodliner
Roy Stage . . . . . Columbus Area Retail Merchants Association

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

FIRST YEAR

The following core courses must be successfully completed before the student is eligible for internship. These would normally be completed in 3 quarters. In addition to completing these courses, the student cannot be on academic probation. All of these courses are offered Autumn, Winter, and Spring.

COURSE		CLASS HOURS	LAB	CREDIT
First, Second, and Third Quarters				
1002	Beginning Composition	5	0	3
1003	Essay and Research***	5	0	3
1024	Speech ($1.00)	3	0	2
1131	Business Mathematics	5	0	4
1522	Psychology	3	0	3
1781	Survey of Business Data Processing	2	1	2
3801	Marketing	5	0	5
3802	Economics	5	0	4
3811	Personal Selling	3	0	2
3813	Management	3	0	2
3814	Non-Personal Selling	3	0	2
3821	Introduction to Business	4	0	3
3841	Accounting	5	0	3
2801	Introduction to Consumer Credit*	4	0	3
2901	Introduction to Retailing*	5	0	3
3002	Wholesaling Principles*	5	0	3
3111	Technical Selling*	4	0	2
	Behavioral Sciences Elective***			3
				53

*Technical Course **As Approved by Advisor

Retail Mid-Management Technology

SECOND YEAR

During these quarters the student must complete the following courses in order to enable him to graduate after completion of eight quarters of work. The letter designations in parenthesis indicate the quarter in which these courses will be taught. This does not preclude their being taught during other quarters. Nor does it guarantee their being offered if enrollment is not adequate. "A" indicates the course will be offered Autumn Quarter. "W" indicates the course will be offered Winter Quarter. "SP" indicates the course will be offered Spring Quarter. "SU" indicates the course will be offered Summer Quarter.

COURSE		CLASS	HOURS LAB	CREDITS
Fourth thru Eighth Quarters				
1014	Business Communications (A, W, SP)	3	0	2
3823	Business Law I (A, W, SP)	4	0	3
3832	Personnel Management* (A, W, SP)	3	0	2
3835	Industrial Relations* (A, W, SP)	3	0	2
2902	Sales Promotion* (W)	5	0	4
2904	Retail Store Operations and Control* (Su)	7	0	4
2913	Retail Buying I* (W)	5	0	4
2914	Retail Buying II* (Su)	5	0	4
2981	Retail Internship I* (Su, A)	–	–	6
2982	Retail Internship II* (A, SP)	–	–	6
2983	Retail Internship III* (Sp, A)	–	–	6
2985	Special Problems in Retailing I* (Su, A)	–	–	2
2986	Special Problems in Retailing II* (A, SP)	–	–	2
2987	Special Problems in Retailing III* (SP, A)	–	–	4-2
	Behavioral Science Elective**	–	–	3
	General Education Elective	–	–	3
				55

COURSE DESCRIPTIONS

2901—INTRODUCTION TO RETAILING* (A, W, SP)

Principles and methods of retail management, including organization, policy making, location, operation, selling services, records inventory, expenses control, insurance, and the coordination of a store.
5 hours lec. 3 credits.

2902—SALES PROMOTION* (W)

A study of the various sales promotion activities, including advertising, retail display and the coordination of an effective sales promotion program.
†1801, 1814, 2901. 5 hours lec. 4 credits.

Retail Mid-Management Technology

2904—RETAIL STORE OPERATIONS AND CONTROL* (SU)

The operation and control of retail establishments: Receiving stock, marking, warehousing, repair and alteration, packing, delivery, and customer services. Maintenance. Accounts payable and receivable, credit and collection. Inventory control, auditing, cash and payroll and statistical analysis. The course uses case studies of all types of retail problems including merchandising, personnel, sales promotion, operations and control.

†1841, 2913. 7 hours lec. 4 credits.

2913—RETAIL BUYING 1* (W)

A study of the nature, functions, and terminology of merchandising, merchandise information and decisions required in buying.

†2981-2985. 5 hours lec. 4 credits.

2914—RETAIL BUYING II* (SU)

Buyer's methods of handling special merchandise and working with the other divisions within a retail organization.

†2913. 5 hours lec. 4 credits.

2981—RETAIL INTERNSHIP I* (SU, A)

Supervised on-the-job application of knowledge and skills acquired in the classroom.

See Internship Prerequisites. 6 credits.

2982—RETAIL INTERNSHIP II* (A, SP)

A continuation of 2981.

†2981. 6 credits.

2983—RETAIL INTERNSHIP III* (SP, A)

A continuation of 2982.

†2982. 6 credits.

2985—SPECIAL PROBLEMS IN RETAILING I* (SU, A)

The first of three courses in which the student applies his practical knowledge of retailing to specific areas on his job and submits reports to his coordinator-supervisor.

See Internship Prerequisites. 2 credits.

2986—SPECIAL PROBLEMS IN RETAILING II* (A, SP)

A continuation of 2985.

†2985. 2 credits.

2987—SPECIAL PROBLEMS IN RETAILING III* (SP, A)

A continuation of 2986.

†2986. 2-4 credits.

**Technical Course † Prerequisites $ Lab Fee*

Retail Mid-Management Technology

Sales Marketing Technology

SALES MARKETING TECHNOLOGY is designed to give graduates a background in sociology, psychology, political science, and human behavior; and to give them intensive training in salesmanship, communications, marketing, accounting, and business.

Recognizing that there is no substitute for experience in the art of selling, the student will spend two quarters in industry concentrating on the practical problems of business. Selling requires a great amount of background in other phases of business. Therefore, the student is exposed to advertising layout, store layout, accounting systems, and other related subjects.

Opportunities for Graduates

A well-trained sales person, who has working knowledge of marketing, will have no problem in finding a career in an industry in our economy. With some additional study, the graduate will be able to pass the State Board Examinations in real estate, and insurance. He will be equipped to sell either a product or a service.

In addition to careers in real estate and insurance, graduates are equipped to enter industry as utilities sales service men, security researchers and salesmen for financial houses. Advertising, the mass media, needs men and women to plan programs for, and tailoring them to, the product and image of the advertiser. Employment agencies, pharmaceutical houses, airlines, and travel agencies need consultants and coordinators.

A salesman's advancement is increased by his willingness to work and by his abilities. In sales more than in any other business, each man's record is measureable by the amount of individual effort put forth.

A graduate who is interested in marketing but does not wish to be involved in actual selling will find places as assistant office manager and as a research and layout programmer.

Sales Marketing Technology

Professional Advisory Committee

Earl R. Bechtel . . . . . WTVN Radio
R. D. Burkholder . . . . . Burkholder/Flint, Inc.
Hal Crone . . . . . Landmark Farm Bureau Cooperatives
Gale Culter . . . . . Columbus Area Chamber of Commerce
William Favret . . . . . The Favret Company
George Frink . . . . . Nationwide Insurance Company
Richard Herzog . . . . . Snelling and Snelling Employment Agency
James Kelso . . . . . Big Drum, Inc.
Thomas E. Mullin . . . . . Ohio Bell Telephone Company
Ralph Negri . . . . . The National Cash Register Company
Charles Nicklaus . . . . . Warrent-Teed Pharmaceuticals, Inc.
Dwight Persons . . . . . American Airlines Incorporated

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS	CREDITS
Communication Skills Department	10
Behavioral Science Department**	9
General Education Division**	3

FIRST YEAR

During the 1st, 2nd, and 3rd quarters, the student must complete the following courses. All of these courses are given each quarter of Autumn, Winter, and Spring.

COURSE		CLASS HOURS	LAB	CREDITS
First, Second, and Third Quarters				
1002	Beginning Composition	5	0	3
1003	Essay and Research	5	0	3
1024	Speech	3	0	2
1131	Business Mathematics	5	0	4
1522	Psychology	3	0	3
1781	Survey of Data Processing	2	1	2
3801	Marketing	5	0	5
3802	Economics	5	0	4
3811	Personal Setting	3	0	2
3813	Management	3	0	2
3814	Non-Personal Selling	3	0	2
3821	Introduction to Business	4	0	3
3841	Accounting	5	0	4
2801	Introduction to Consumer Credit*	4	0	3
2901	Introduction to Retailing*	4	0	3
3002	Wholesaling Principles*	4	0	3
3111	Technical Selling	4	0	3
	Behavioral Science Elective**	—	—	3
3331	Beginning Typing (A) Recommended Elective	3	2	2
				53

*Technical Course **As Approved by Advisor

Sales Marketing Technology

SECOND YEAR

During the second year, the student is required to take the following courses: This does not preclude their being taught during other quarters nor does it guarantee their being offered if enrollment is not adequate. After each course is indicated the quarter in which the courses are given. "A" indicates Autumn Quarter, "W" indicates Winter Quarter, "SP" indicates Spring Quarter, "SU" indicates Summer Quarter.

COURSE		CLASS HOURS	LAB	CREDITS
Fourth thru Eights Quarters				
1014	Business Communications (A,W,SP)	3	0	2
3803	Personal Finance* (A, SP)	3	0	2
3812	Government and Business	3	0	2
3823	Business Law I (A,W,SP)	4	0	3
3824	Business Law II	4	0	3
3832	Personnel Management* (A,W,SP)	3	0	2
3835	Industrial Relations* (W,SP)	3	0	2
2813	Credit Administration*(A)	5	0	3
3108	Sales Case Studies* (W)	0	3	2
3112	Technical Selling II* (SP)	3	0	2
3115	Sale Promotion and Advertising* (SP)	5	0	3
3118	Effective Sales Meetings* (A)	5	0	2
3128	Buyer-Seller Relations*(A)	5	–	4
	Behavioral Science Elective	5	–	3

During the second year, the student also elects one of the following sequences of courses:

	I			
3125	Sales Specialties I* (S)	6	0	6
3126	Sales Specialties II* (W)	6	0	6
3129	Sales Specialties III* (SP)	6	0	6
	II			
3127	Insurance I* (A)	6	0	6
3131	Insurance II* (W)	6	0	6
3132	Insurance III* (SP)	6	0	6
	III			
3151	Real Estate Principles and Practices I (A)	3	0	3
3153	Real Estate Law (A)	3	0	3
3154	Real Estate Finance (W)	3	0	3
3155	Real Estate Appraisal (W)	3	0	3
3152	Real Estate Principles and Practices II (S)	3	0	3
3156	Real Estate Special Topics (S)	3	0	3

* *Technical Course*

Sales Marketing Technology

COURSE DESCRIPTIONS

3108—SALES CASE STUDIES*

Teaches the student to make temporal decisions by a six-step method and long term decisions by an alternative method. Actual industrial problems are discussed.

†1813 or 1832. 3 hours lec. 2 hours lab. 3 credits.

3111—TECHNICAL SELLING I*

Survey of various techniques employed by professional salesmen. Techniques employed by "big ticket" salesman, wholesale and industrial salesmen, and those salesmen involved with intangibles.

4 hours lec. 2 credits.

3112—TECHNICAL SELLING II*

This course emphasizes the approach and technique required in the sale of an idea or service. Four area of intangible sales will be discussed: computer, bookkeeping, and forms systems; security sales and estate planning; magazine and yellow pages advertising; banking and financial services.

†3111. 3 hours lec. 3 credits.

3115—SALES PROMOTION AND ADVERTISING*

A course designed to develop an understanding of the techniques of advertising. Relation to the buying and selling processes. The analysis of the success or failure of such programs related to costs and results. The development of sales brochures, displays, dealer meetings. The development of point sale material. The use of slides and photography.

†1811, 1814. 5 hours lec. 4 credits.

3118—EFFECTIVE SALES MEETINGS*

Techniques of good instruction. The organization of sales meetings including location, time, props and promotion. Each student to organize product and service presentations, and develop the lesson plans and visual aids necessary for the various presentations.

5 hours lec. 4 credits.

3125—SALES SPECIALTY I*

A course to acquaint the student with the total marketing, sales effort, and product knowledge in his chosen field. This includes: selection of personnel, leadership, use of records and reports, planning the sales effort, structure of company, training programs, product knowledge and marketing research and ideas.

5 hours lec. 2 hours lab. 5 credits.

3126—SALES SPECIALTY II*

A continuation of 3125. The student will delve into the minute details of product, production, service, sales aids and techniques in his chosen field. i.e., transportation, etc.

†3125. 5 hours lec. 2 hours lab. 5 credits.

3127—INSURANCE I*

The place of insurance in our society. Covers both personal and business needs and functions. Course includes general principles of insurance.
5 hours lec. 2 hours lab. 5 credits.

3128—BUYER-SELLER RELATIONS*

To develop an understanding of the human relations involved in selling. Establishment of rapport with the prospective customer. Reading his "body language". Understanding his philosophy and psychology and thus be better able to fill his wants and needs. The development of desirable sales traits and qualities.
†3111. 5 hours lec. 2 hours lab. 4 credits.

3129—SALES SPECIALTY III

A continuation of course 3126. Working with the prospective employee (if placed) or with student's choice of position. The student will be prepared to fill a specific slot in the employer's company or industry.
5 hours lec. 2 hours lab. 5 credits.

3131—INSURANCE II*

Course designed to help prepare student to pass the State Examination for multiple line agent's license.
†3127. 5 hours lec. 2 hours lab. 5 credits.

3132—INSURANCE III*

Course designed to help prepare student to pass the State Life Insurance Agent's examination. It will also include a brief summary of estate planning, and mutual fund investment principles and planning.
5 hours lec. 2 hours lab. 5 credits.

3141—REAL ESTATE PRINCIPLES AND PRACTICES I AND II

A study of the elementary physical, legal, locational and economical characteristics of real estate and real estate markets. Also, the national, regional and local economic influences on real estate values. The course also covers property ownership rights, real estate brokerage and construction of buildings, and the effects of marketing and production systems in our economy.
5 hours lec. 2 hours lab. 5 credits.

3142—REAL ESTATE LAW AND FINANCE

The first half of this course includes the following topics: the law of agency as applied to real estate brokers and salesmen, law of fixtures, estate (including leases), conveyancing of real estate managers, license laws of Ohio, zoning, cooperatives and condominiums. The second half of the course includes a study of the nature and characteristics of mortgage

loans, government, influences on real estate finance and the nature of the mortgage market. Effects of monetary and fiscal policies on real estate financing are considered.
5 hours lec. 2 hours lab. 5 credits.

3143—REAL ESTATE APPRAISAL AND SPECIAL TOPICS
The first half of this course covers the methodology of appraising urban real property and the theory underlying appraisal techniques. Three basic techniques of appraising are studied: market comparison, penalized cost of replacement, and income capitalization. Special topics relating to real estate are covered in the second half including: Insurance, Sales, Appraisal or other facit of the Real Estate Profession of special interest to the student. This is largely a seminar type course in the final weeks.
5 hours lec. 2 hours lab. 5 credits.

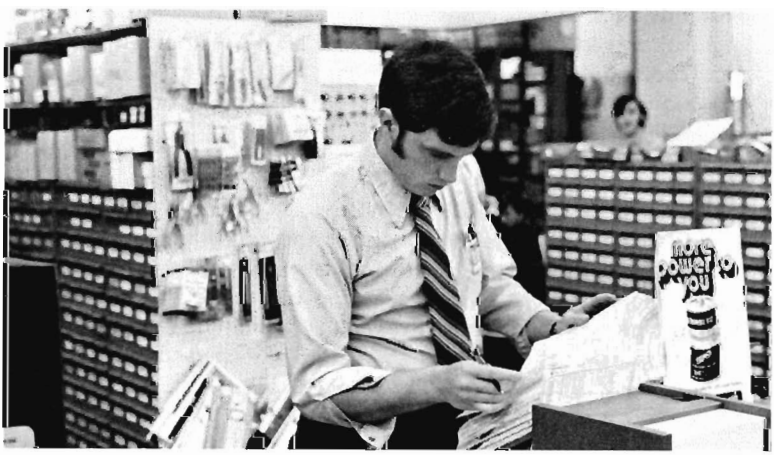
3181—SALES INTERNSHIP I*
Supervised on-the-job application of knowledge and skills acquired in the classroom.
13 credits.

3182—SALES INTERNSHIP II*
A continuation of 3181.
†3181. 13 credits.

3185—SPECIAL PROBLEMS IN SALES I*
The first two courses in which the student applies his practical knowledge in sales to specific areas of his job and submits reports.
2 credits.

3186—SPECIAL PROBLEMS IN SALES II*
Continuation of 3815.
2 credits.

**Technical Course † Prerequisites $ Lab Fee*



Secretarial Science Technology

STUDENTS in the Secretarial Science Department may select from three areas of secretarial specialization: Executive, Legal, and Medical. The first year of the program all students receive the same basic preparation in secretarial, business, and general education subjects. The second year the student takes courses in her area of specialization, as well as participating in an internship in her field. With a solid foundation in the executive, legal, or medical secretarial field, the student is prepared for successful employment in the chosen technical area.

Flexible Program Planning

Secretarial classes are offered both day and evening to fit the needs of both full-time and part-time students. Our curriculum is designed to serve recent high school graduates (both those who have had business courses and those who have not), persons with previous university experience who desire good marketable secretarial skills, employed persons who wish to upgrade their competencies, and those who wish to re-enter the job market. Our program enables the person to start at the level appropriate to her background and to plan her course to best fit her time and degree objective.

During the second year, students may select either the half-time internship in business or the on-campus simulated office-experience program. Internship students are employed in approved secretarial positions in the afternoon and are in classes in the morning. Students in the on-campus simulated-office program perform secretarial and business responsibilities under realistic office conditions and standards working for their own company.

Laboratory Facilities

The secretarial labs are set up to resemble actual office conditions as closely as possible. The labs are equipped with office-size desks, IBM electric typewriters, dictation and transcription machines, automatic magnetic card Selectric typewriters, duplication and copying equipment, adding machines, electronic calculators, and filing facilities. The labs are designed and furnished so the students receive training on the same kind of up-to-date equipment and procedures they will be using on the job.

Secretarial Science Technology

Professional Advisory Committee

Mr. William T. Fryer . . . . . Industrial Nucleonics Corporation
Dr. J. Marshall Hanna . . . . . The Ohio State University
Mr. Don A. List . . . . . Columbus Public Schools
Mrs. Maxine Born . . . . . Crabbe, Brown, Jones, Potts & Schmidt
Mrs. Margaret J. Hauser . . . . . The Ohio State University
Mr. J. Raymond Prohaska . . . . . Power, Jones & Schneider
Dr. Ron Daugherty . . . . . Center for Vocational and Technical Education
Mrs. Kay Hamilton . . . . . State Department of Health
Mr. Richard V. Patchen . . . . . Patchen, Murphy & Allison

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES COURSES	CREDITS
Communication Skills Department	10
Behavioral Sciences Department**	9
General Education Division**	3

FIRST YEAR

COURSE	CLASS HOURS	LAB HOURS	CREDITS
First Quarter			
1002 Beginning Composition	5	0	3
3823 Business Law I	4	0	3
1522 Psychology	3	0	3
3821 Introduction to Business	5	0	3
3331 Typing (Beginning)*[1]	2	3	2
3341 Shorthand (Beginning)*[2]	3	2	3
3322 Personal Development** (Elective)	(4)	0	(3)
			17
Second Quarter			
1003 Essay and Research	5	0	3
1131 Business Mathematics	5	0	4
1024 Speech	3	0	2
3304 Business Machine Projects*	1	3	2
3332 Typing (Intermediate)*[3]	1	5	3
3342 Shorthand (Intermediate)*[3]	3	3	4
			18
Third Quarter			
1515 Human Behavior	3	0	3
or			
1525 Marriage and the Family	3	0	3
3841 Accounting	3	4	4
3314 Records Management*	3	2	3
3333 Typing (Advanced)*	1	5	3
3343 Shorthand (Advanced)*	3	3	4
			17

** Technical Course ** This is an elective course. If a student does not take Beginning Typing, it is recommended she take 3322 Personal Development in its place.*

Waiver of Curriculum Requirements

A student may receive a waiver for any technical course required, providing she can meet the requirements of the class by examination or evaluation by the department. *Such waivers will receive no credit and the student will be required* to take additional courses to make up the credit requirement.

The following courses are recommended electives to fill in for waived courses:

3322—Personal Development*	1824—Business Law II
7025—Constitutional Law	1812—Government and Business
8514—Trends and Issues in the Health Field	7805—Ohio Criminal Code
	7816—Case Preparation

[1] Students who have successfully completed one year of typing in high school and have gained a strong foundation may select an elective in place of this course.

[2] Students who have successfully completed one year of shorthand in high school within the last two years and have gained a strong foundation may select an elective in place of this course.

[3] This course may be waived if they pass an examination and evaluation by the Dept. This waiver will receive no credit and another course must be taken in its place.

EXECUTIVE SECRETARIAL CURRICULUM

SECOND YEAR

The Executive Secretarial program prepares secretaries to assist employers in the efficient operation of an office, relieving them of routine office duties. To do so, the executive secretary must be able to compose written communications, be a skilled typist and stenographer, be able to use a wide variety of office machines, and be proficient in filing and record keeping. Executive secretaries must also be able to organize, coordinate, and assign work projects and to check the results for completeness and accuracy.

Executive secretarial technicians are professional people in their field, qualified to become private secretaries or administrators of the secretarial force in diverse areas of business and industry. Graduates may climb the career ladder in the secretarial field or use the executive secretarial positions to move into other professional responsibilities in business.

COURSE	CLASS HOURS	LAB	CREDITS
Fourth Quarter			
1014 Business Communications	3	0	2
General Education Elective	3	0	3
3303 Machines for Processing Communications*	2	4	3
3324 Secretarial Responsibilities*	6	0	4
3344 Shorthand and Transcription*	3	3	4
			16

* *Technical Course*

Secretarial Science Technology

COURSE		CLASS HOURS	LAB	CREDITS	
Fifth Quarter					
	Behavioral Science Elective	3	0	3	
1781	Survey of Data Processing	2	1	2	
3813	Management	3	0	2	
3316	Special Problems in Typing*	3	3	3	
3305	Secretarial Internship I*, AND	0	20	5	
3335	Internship Seminar I*	2	0	2	OR
	or			5	
3307	The Office*	2	8	2	
	plus 2 credit hours of electives			17	
Sixth Quarter					
3802	Economics	5	0	4	
3315	Special Problems in Shorthand and Transcription*	3	3	3	
3326	Office Management & Supervision*	4	0	3	
3306	Secretarial Internship II*, AND	0	20	5	
3336	Internship Seminar II	2	0	2	OR
	or				
3308	The Secretarial Service*	1	4	3	
	plus 4 credit hours of electives	—	—	4	
				17	

LEGAL SECRETARIAL CURRICULUM

SECOND YEAR

The legal secretary plays a vital role in the professional activities of a law office. She must be skillful in dealing with clients, beyond reproach in handling confidential information, have excellent typing and transcription skills, be accurate and competent on office machines, knowledgeable and efficient in legal office terminology and procedures, and have an understanding of and liking for law and court processes.

The Columbus Bar Association endorses the Legal Secretarial program and is cooperating with Columbus Tech by providing practicing attorneys to participate in the planning and teaching of the specialized courses. This curriculum meets the criteria established by the National Association of Legal Secretaries.

The Legal Secretarial program prepares students for a responsible position with an attorney in a law firm, in the legal departments of corporations, or with agencies of the government or the court system.

Fourth Quarter				
1014	Business Communications	3	0	2
	General Education Elective	3	0	3
3303	Machines for Processing Communications*	2	4	3
3324	Secretarial Responsibilities*	6	0	4
3344	Shorthand and Transcription*	3	3	4
				16

* *Technical Course*

COURSE		CLASS HOURS	LAB	CREDITS
Fifth Quarter				
	Behavioral Science Elective	3	0	3
1781	Survey of Data Processing	2	1	2
3813	Management	3	0	2
3317	Legal Typing, Forms and Procedures*	3	3	3
3305	Secretarial Internship I* AND	0	20	5
3335	Internship Seminar I*	2	0	2 OR
	or			
3307	The Office*	2	8	5
	plus 2 credit hours of electives			3
				17
Sixth Quarter				
3802	Economics	5	0	4
3318	Legal Terminology & Transcription*	3	3	3
3327	Legal Office Procedures*	4	0	3
3306	Secretarial Internship II* AND	0	20	5
3336	Internship Seminar II*	2	0	2 OR
	or			
3308	The Secretarial Service*	1	4	3
	plus 4 credit hours of electives			4
				17

MEDICAL SECRETARIAL CURRICULUM

SECOND YEAR

The Medical Secretary is a key member of the health team who uses modern office skills to carry the administrative business load in hospitals, physicians offices and other medical settings. The increased demand on physicians and hospitals for more and better medical care has also heightened the need for qualified secretarial assistance.

The duties of the Medical Secretary are many and varied. She must have a good understanding of medical terminology and procedures. Because of the critical nature of her work dealing with the health of others, accuracy, dependability, and good human relations skills are of utmost importance. Duties may include such responsibilities as taking dictation, transcribing medical correspondence and reports, telephone and reception work, record keeping, billing, and ordering supplies.

Graduates may work in a wide variety of medical settings. Medical Secretaries may choose from among the diverse secretarial opportunities in hospitals, physicians offices, medical clinics, nursing homes, pharmaceutical companies, local and state health departments, research centers, medical insurance companies, and dental offices. There is a great demand for the well-prepared medical secretary.

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* *Technical Course*

Secretarial Science Technology

COURSE		CLASS HOURS	LAB	CREDIT	
Fourth Quarter					
1014	Business Communications	3	0	2	
1344	Introduction to Anatomy and Physiology	3	0	3	
3303	Machines for Processing Communications*	2	4	3	
3351	Medical Office Procedures*	5	0	4	
3344	Shorthand and Transcription*	3	3	4	
				16	
Fifth Quarter					
	Behavioral Science Course	3	0	3	
1781	Survey of Data Processing	2	1	2	
3813	Management	3	0	2	
3352	Medical Terminology and Typing*	3	2	3	
3305	Secretarial Internship I* AND	0	20	5	
3335	Internship Seminar I*	2	0	2	OR
	or				
3307	The Office*	2	8	5	
	plus 2 credit hours of electives	—	—	2	
				17	
Sixth Quarter					
3802	Economics	5	0	4	
3353	Medical Vocabulary and Shorthand*	3	2	3	
3354	Medical Machine Transcription*	4	0	3	
3306	Secretarial Internship II* AND	0	20	5	
3336	Internship Seminar II*	2	0	2	OR
	or				
3308	The Secretarial Service*	1	4	3	
	plus 4 credit hours of electives	—	—	4	
				17	

COURSE DESCRIPTIONS

3303—MACHINES FOR PROCESSING COMMUNICATIONS* (A)

With the changing technology in the modern business office, the secretary is confronted with a diverse variety of machines for processing business communications. This course is designed to develop secretarial proficiency in the use of these office machines. Machines included are: machine transcription equipment (including dictation units), IBM Magnetic Card Selectric Typewriters, IBM Executive Typewriters, various makes of electric typewriters, duplication equipment, and copying equipment.

†3333. 2 hours lec. 4 hours lab. 3 credits. $4.00 lab fee.

3304—BUSINESS MACHINE PROJECTS (W)

This course is designed to develop secretarial proficiency in the use of office machines in solving business problems. Machine included are: 10-key and full-keyboard adding-listing machines; and electronic, printing, and rotary calculators. Emphasis will be on problem-solving activities which stress correct machine operation including correct fingering techniques and techniques for specific problem situations.
1 hour lec. 3 hours lab. 2 credits. $4.00 lab fee.

3305—SECRETARIAL INTERNSHIP I* (W)

A work experience providing application of all phases of the theory taught in the secretarial science program: taking dictation and transcribing, routine composition, duplicating processes, record and file maintenance, telephone service, reception, reservation responsibilities, itinerary maintenance, handling of expense accounts and bank accounts, follow-up systems, research of special projects, taking minutes, screening and routing mail, and procuring supplies. Four hours daily on the job. Students must enroll concurrently in 3335 Internship Seminar I.
†3324. 20 hours lab. 5 credits.

3306—SECRETARIAL INTERNSHIP II* (SP)

Similar to 3305. Student participation in a work situation four hours daily. Students must enroll concurrently in 3336 Internship Seminar II.
†3305. 2 hours lec. 20 hours lab. 8 credits.

3307—THE OFFICE* (W)

This course is designed to approximate office conditions, standards, and secretarial functions. The student will perform business responsibilities in a simulated office setting. Students learn to work as an office team, set priorities, plan time, apply skills, and understand the office as an operating system.
†3303. 2 hours lec. 8 hours lab. 5 credits. $3.00 lab fee.

3308—THE SECRETARIAL SERVICE* (SP)

This is a second on-campus work-experience program under simulated office conditions. Course provides further development and refinement of machine transcription and word processing skills.
†3303. 1 hour lec. 4 hours lab. 3 credits. $3.00 lab fee.

3314—RECORDS MANAGEMENT* (SP)

This course is designed for secretaries needing a knowledge of efficient handling of business records, filing methods and systems, and principles for the selection of records equipment and supplies.
3 hours lec. 2 hours lab. 3 credits. $3.00 lab fee.

3315—SPECIAL PROBLEMS IN SHORTHAND AND TRANSCRIPTION* (SP)

This course provides an opportunity to overcome individual weakness in shorthand theory and speed, in transcription from shorthand notes and

dictating machines, and in language skills. It concentrates on building speed through shortcuts and increased vocabulary. Opportunity to build shorthand competency in area of prospective employment.
†3344. 3 hours lec. 3 hours lab. 3 credits. $3.00 lab fee.

3316—SPECIAL PROBLEMS IN TYPING* (W)
This course prepares the student for the typing responsibilities of an executive secretary through long, interrelated, undefined problems. Individual drills to remedy specific weaknesses in typing are provided.
†3333. 3 hours lec. 3 hours lab. 3 credits. $3.00 lab fee.

3317—LEGAL TYPING, FORMS AND PROCEDURES* (W)
Combined emphasis upon developing an understanding of the functions served by various legal documents and papers in the areas of real estate, corporations, probate, wills and taxation and developing an ability to produce both fill-in and completely typed papers in these areas. Work in building legal terminology, including spelling and correct usage.
†3333. 3 hours lec. 3 hours lab. 3 credits $3.00 lab fee.

3318—LEGAL TERMINOLOGY AND TRANSCRIPTION* (SP)
To integrate and continue to build students' knowledge and understanding of legal terminology through the practical experience of taking and transcribing dictation, transcribing machine dictation, and developing shorthand rate. Practice in the preparation of legal briefs is also provided.
†3344. 3 hours lec. 3 hours lab. 3 credits. $3.00 lab fee.

3322—PERSONAL DEVELOPMENT* (A)
Guidance into an individual program of self-improvement emphasizing the physical, intellectual, emotional, and social dimensions of personality.
4 hours lec. 2 credits.

3324—SECRETARIAL RESPONSIBILITIES* (A)
A study of the daily responsibilities of a secretary. Discussion of office skills other than machine operation: receptionist duty, telephone techniques, handling telegrams and travel information, keeping office records, purchasing supplies, organizing a desk, using reference materials, setting work priorities, and getting along with people. Emphasis on developing understanding through case studies.
†3333, 3343. 6 hours lec. 4 credits.

3326—OFFICE MANAGEMENT AND SUPERVISION* (SP)
A presentation of the elements involved in the sound and efficient management and supervision of the office. A study of the management of equipping, servicing, and staffing the office. Emphasis on controlling office costs and on leadership and human relations. Case studies of problems of office supervision and management.
†3813. 4 hours lec. 3 credits.

3327–LEGAL OFFICE PROCEDURES* (SP)

This course provides instruction in procedures unique to law offices, including law office design, office management, legal filing, timekeeping and billing, and payroll. The special considerations, problems, and ethics involved in dealing with clients are also discussed. A general background of information about the American court system is provided.
†3324. 4 hours lec. 3 credits.

3331–TYPING (BEGINNING)* (A)

Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and forms.
2 hours lec. 3 hours lab. 2 credits. $4.00 lab fee.

3332–TYPING (INTERMEDIATE)* (W)

Emphasis on the development of speed and accuracy and the mastery of correct typing techniques used in producing business correspondence, tabulations, manuscripts, reports, and business forms; and in preparing materials for duplication. 1 year High School typing of C or better or †3331.
1 hour lec. 5 hours lab. 3 credits. $3.00 lab fee.

3333–TYPING (ADVANCED)* (SP)

Emphasis on developing the student's ability to function as an expert typist producing mailable copy. Application of typing ability to producing technical reports, minutes, drafts and business correspondence.
†3332. 1 hour lec. 5 hours lab. 3 credits. $3.00 lab fee.

3335–INTERNSHIP SEMINAR I* (W)

This is the on-campus seminar for students enrolled in 3305 Secretarial Internship I. The course content is related to what is happening on the job to meet the needs of the participants.
2 hours lec. 2 credits.

3336–INTERNSHIP SEMINAR II* (SP)

A continuation of 3335. This is the on-campus seminar for students enrolled in 3306 Secretarial Internship II. The course content is related to what is happening on the job to meet the needs of the participants.
2 hours lec. 2 credits.

3341–SHORTHAND (BEGINNING)* (A)

A foundation course in shorthand theory with emphasis on phonetics, word families, brief forms and phrases, and penmanship. Practice for speed and accuracy.
3 hours lec. 2 hours lab. 3 credits. $3.00 lab fee.

Secretarial Science Technology

3342–SHORTHAND (INTERMEDIATE)* (W)

A course designed to perfect basic shorthand theory, with emphasis on phonetics, word families, brief forms and phrases, and penmanship. Practice for speed and accuracy. 1 year High School Shorthand grade of C or better or †3341.

3 hours lec. 3 hours lab. 4 credits. $3.00 lab fee.

3344–SHORTHAND AND TRANSCRIPTION*(A)

A continuation of Shorthand (Advanced) intended to build shorthand speed and accuracy with major emphasis on typewritten transcription of unfamiliar material in mailable form. Experience with office-style dictation.

†3343. 3 hours lec. 3 hours lab. 4 credits. $3.00 lab fee.

3351–MEDICAL OFFICE PROCEDURES* (A)

This course provides an understanding of the medical secretarial environment and responsibilities. The student is involved in a wide variety of realistic situations where she performs tasks and copes with problems in a simulated medical office setting.

†3333 5 class hours 4 credits $3.00 lab fee.

3352–MEDICAL TERMINOLOGY AND TYPING* (W)

Presentation of terminology that a beginning medical transcriptionist is most likely to encounter in physical examinations, medical correspondence, and x-ray or pathology reports. This leads in to terminology related to medical specialties. Medical documents are provided for transcription practice. Practice in typing medical forms found in doctors' offices and hospital record forms. Stress on accuracy and efficient work habits.

†3333 3 hours lec. 2 hours lab. 3 credits $3.00 lab fee.

3353–MEDICAL VOCABULARY AND SHORTHAND* (SP)

Developes employable shorthand facility and transcription competency in working with medical correspondence and professional records. Further increases medical vocabulary and an understanding of medical secretarial responsibilities.

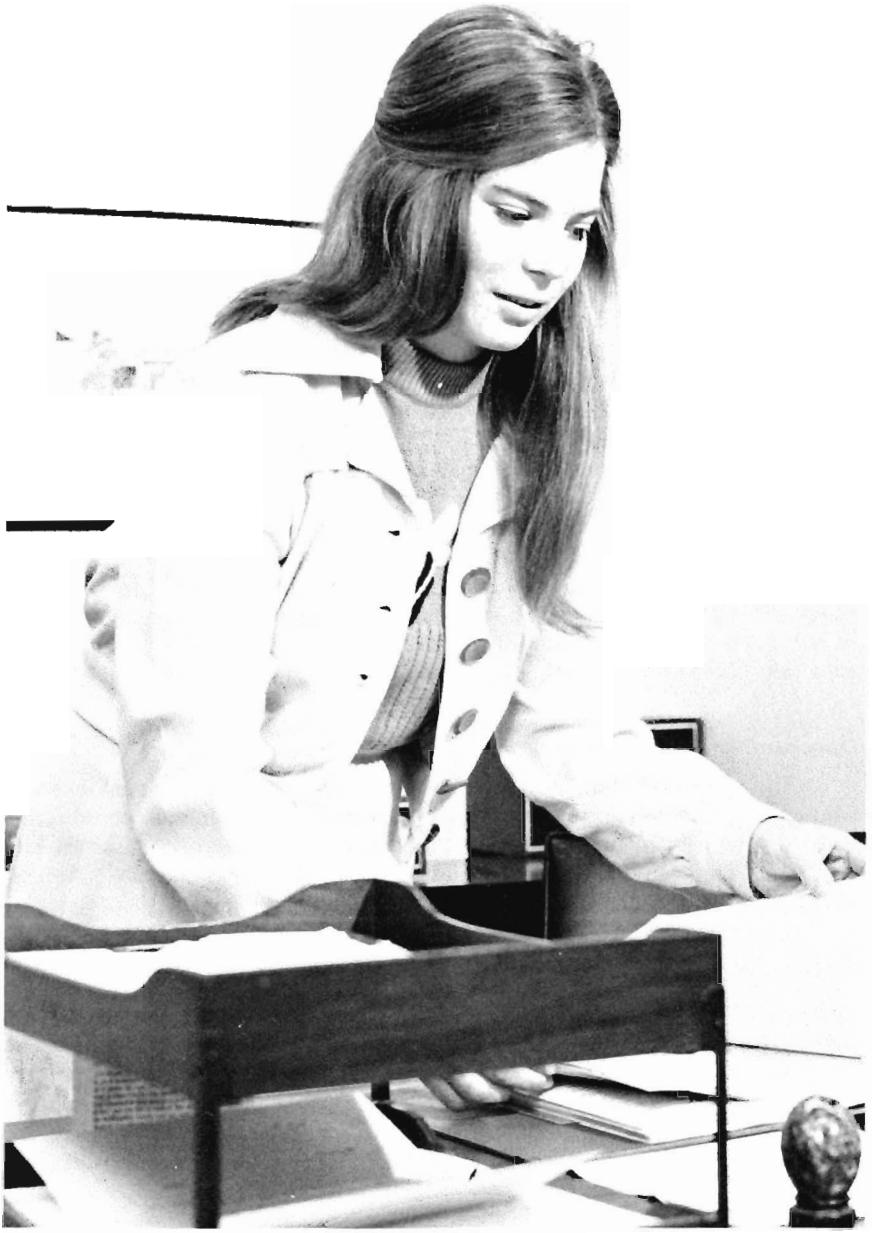
†3344 3 hours lec. 2 hours lab. 3 credits $3.00 lab fee.

3354–MEDICAL MACHINE TRANSCRIPTION* (SP)

Machine transcription of medical correspondence, reports, and documents, and further refinement of medical terminology. Emphasis upon efficient production and accurate copy.

†3303, 3352 4 class hours 3 credits $3.00 lab fee.

Secretarial Science Technology



Wholesale Mid-Management Technology

THE WHOLESALE mid-management technology is concerned with the selling of products to anyone other than the ultimate consumer. Wholesaling includes independently owned, retail-owned and factory-owned wholesale establishments. The wholesale mid-management technician aids the general manager of a wholesale establishment.

A Mid-management position may be defined as a job which requires decisions affecting a part of the business. People occupying such a position needs a broad business background much of which is gained through experience. In addition, he needs a knowledge of the understanding of economics, business law, business math, sociology, and psychology. He must be able to communicate and should have a personality which will enable him to deal with people in all areas of the business. The wholesaler of the future will have to perform services for his suppliers, his customers, and society as well.

Opportunities for Graduates

The wholesale technician is employed in mid-management positions with wholesale firms. He aids his employer in sales representation, sales consultation, inventory control management, and purchasing. Beginning opportunities for a graduate technician might include sales trainees, sales representatives, wholesale salesmen, a merchandising consultant, and purchasing assistant.

Professional Advisory Committee

Harlan Bockbrader . . . . . Southard Supply Association, Inc.
James Gaupp . . . . . Williams and Company, Inc.
T.J. Hausmann . . . . . .The Kauffman-Lattimer Company
Arthur Loeb . . . . . The Loeb Electric Company
John McMinn . . . . . Hughes-Peters, Inc.
Robert Woodward . . . . . .The Palmer-Donavin Manufacturing Company

Wholesale Mid-Management Technology

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES COURSES	CREDITS
Communication Skills Department	10
Behavioral Sciences Department**	9
General Education Division**	3

FIRST YEAR

The following core courses must be successfully completed before the student is eligible for internship. The student should complete the courses in 3 quarters. The student should not be on academic probation. All of these courses are offered each quarter of Autumn, Winter, and Spring.

COURSE		HOURS CLASS	HOURS LAB	CREDITS
First, Second, Third Quarter				
1002	Beginning Composition	5	0	3
1003	Essay and Research***	5	0	3
1024	Speech ($1.00)	3	0	2
1131	Business Mathematics	5	0	4
1522	Psychology	3	0	3
1781	Survey of Business Data Processing	2	1	2
3801	Marketing	5	0	5
3802	Economics	5	0	4
3811	Personal Selling	3	0	2
3813	Management	3	0	2
3914	Non-Personal Selling	3	0	2
3821	Introduction to Business	4	0	3
3841	Accounting	5	0	4
2801	Introduction to Consumer Credit*	4	0	3
2901	Introduction to Retailing*	5	0	3
3002	Wholesaling Principles* (A, W, SP)	5	0	3
3111	Technical Selling*	3	2	2
	Behavioral Sciences Electives***	—	—	3
				53

SECOND YEAR

During these quarters the student must complete the following courses in order to enable him to graduate after completion of eight quarters of work. The letter designations in parenthesis indicate the quarter in which these courses will be taught. This does not preclude their being taught during other quarters: Nor does it guarantee thier being offered if enrollment is not adequate. "A" indicates the course will be offered Autumn Quarter. "W" indicates the course will be offered Winter Quarter. "SP" indicates the course will be offered Spring Quarter.

4th Thru 8th Quarters				
1014	Business Communication (A, W, SP)	3	0	2
3823	Business Law I (A, W, SP)	4	0	3
3832	Personnel Management* (A, W, SP)	3	0	2
3835	Industrial Relations* (W, SP)	3	0	2

** Technical Course ** As Approved by Advisor *** Not required for Intership*

Wholesale Mid-Management Technology

COURSE		HOURS CLASS	HOURS LAB	CREDITS
3001	Wholesaling Specialities*($2.00) (A)	1	4	3
3003	Wholesale Case Studies* (A)	0	3	2
3004	Wholesale Operation and Control* (SP)	3	4	5
3011	Wholesale Salesmanship*	3	0	3
3081	Wholesale Intership I*	—	—	6
3082	Wholesale Internship II*	—	—	6
3083	Wholesale Internship III*	—	—	6
3085	Special Problems in Wholesaling I*	—	—	2
3086	Special Problems in Wholesaling II*	—	—	2
3087	Special Problems in Wholesaling III*	—	—	4-2
	Behavioral Science Elective**	—	—	3
	General Education Elective**			3
	Non-Classified Electives**			3
				55

COURSE DESCRIPTIONS

3001—WHOLESALING SPECIALITIES* (A)

Technical information about the line of goods marketed by the student's employer. Individual study utilizing programmed teaching materials, films, and reference books.

†3002, 3081. 1 hour lec. 4 hours lab. 3 credits. $2.00 lab. fee.

3002—WHOLESALING PRINCIPLES* (A, W, SP)

An analysis of the historical development of wholesaling. Trade vocabulary. Technological changes and their impact upon traditional methods of wholesaling. The economic, social and legal environment within which wholesaling operates.

5 hours lec. 3 credits.

3003—WHOLESALE CASE STUDIES* (A)

The application of scientific methods of case studies for the solution of managerial problems. Decision making at the managerial level. Establishing, evaluation, and recommending plans of action.

†1813. 3 hours lab. 2 credits.

3004—WHOLESALE OPERATION AND CONTROL* (SP)

A study of the scientific management of a wholesale enterprise. Locating, financing, and organizing a wholesale establishment. Inventory control, warehousing, and sales management.

†3002, 3083, 3087. 4 hours lec. 1 hour lab. 5 credits.

3011—WHOLESALE SALESMANSHIP* (SP)

This course is designed for the Wholesale Mid-Management student's

study of various wholesale sales positions and techniques used in outside sales, inside sales and counter sales.
3 hours lec. 3 credits.

3081—WHOLESALING INTERNSHIP I*
Supervised on-the-job application of knowledge and skills acquired in the classroom.
6 credits.

3082—WHOLESALE INTERNSHIP II*
A continuation of 3081.
†3081. 6 credits.

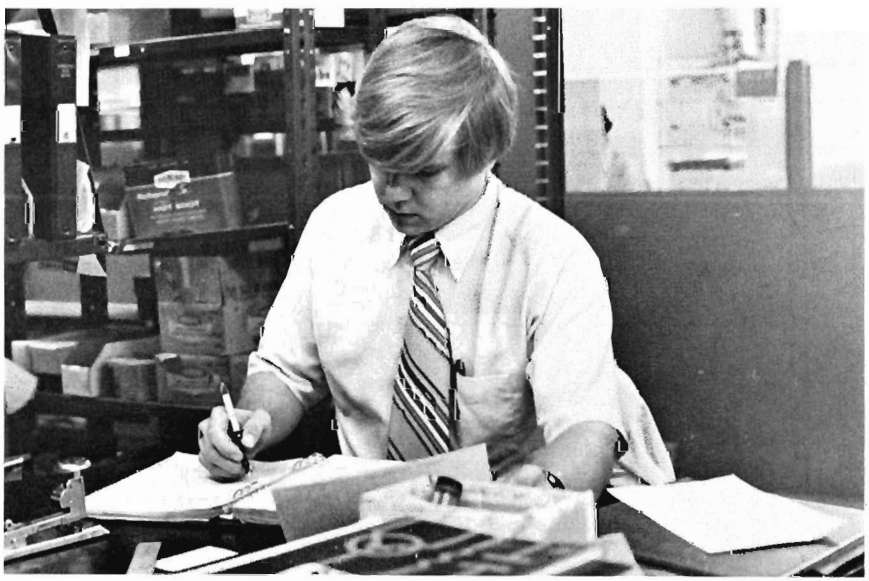
3083—WHOLESALE INTERNSHIP III*
A continuation of 3082.
†3082. 6 credits.

3085—SPECIAL PROBLEMS IN WHOLESALING I*
The first of three courses in which the student applies his practical knowledge of wholesaling to specific areas of his job and submits reports.
2 credits.

3086—SPECIAL PROBLEMS IN WHOLESALING II*
A continuation of 3085.
†3085. 2 credits.

3087—SPECIAL PROBLEMS IN WHOLESALING III*
A continuation of 3086.
†3068. 2-4 credits.

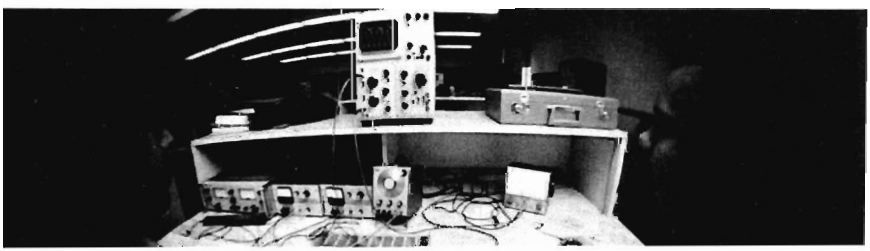
**Technical Course † Prerequisites $ Lab Fee*



Engineering Technologies

The course requirements for graduation and the required credit hours are included in the following Engineering Technologies:

TECHNOLOGY	GENERAL STUDIES	BASIC STUDIES	TECHNICAL STUDIES	TOTAL CREDITS
ARCHITECTURE	22	24	63	109
AVIATION ADMINISTRATION	22	25	63	110
AVIATION MAINTENANCE	22	24	95	141
CIVIL ENGINEERING	22	26	62	110
ELECTRONIC ENGINEERING	22	32	57	111
INDUSTRIAL	22	30	58	110
MECHANICAL ENGINEERING	22	27	57	106



Architecture Technology

THE ARCHITECTURAL Technician assists the Architect with many of his routine duties. At times he may serve as the link between the Architect and the craftsman on a job. The architectural technician must be able to think, read, and speak about the problems and ideas of the Architect, the designer, the engineer, the fabricator, and the contractor and to translate these ideas into drawings clear and concise enough for construction purposes.

The Architectural technician must have training in the language of the construction industry, that is, drafting techniques and standards of how construction materials fit. He must be able to originate drawings using these standards but also to read drawings made by others. He must be familiar with the properties of materials and the processes of putting these materials together and also to be able to estimate the cost of the completed structure. He must know manufacturer and association standards and understand specifications; he must also know building codes and ordinances and be able to work with building inspectors. The technician, by his draftsmanship, makes possible the proper coordination of all the craftsmen involved in the actual construction of the project.

Opportunities for Graduates

Architectural technicians are employed as draftsmen who assist Architects and engineers in the preparation of working drawings, structural drawings, mechanical and electrical drawings, measured drawings, as-build and general purpose drawings. If he accepts a position as an estimator, he assists Architects, engineers, contractors and sub-contractors with material quantity take-off, budget estimates and cost analysis. They may assist contractors, sub-contractors and fabricators with bills of materials, the preparation of shop drawings, coordination of purchasing and scheduling of labor and delivery of materials, of job site and construction supervision. If the architectural technician becomes a manufacturer's representative, he provides Architects, engineers and contractors with specific manufacturer's product information and cost; as a building code inspector, he examines plans and construction work to insure compliance with building code regulations.

Architecture Technology

The architectural technician may, after he has had sufficient experience, progress in the Architect's or engineer's office to job captain, chief draftsman or architect's superintendent on the job site, or in the contractor's office to chief estimator, chief coordinator or job superintendent.

Equipment Provided by Columbus Tech

A drafting table, stool and a lockable file drawer for the use of each student. Pre-printed paper for the final submittal of the student's projects. Lighting levels in the drafting rooms that meet professional standards. An up-to-date product literature library including Sweet's Catalog Files.

Equipment to be Provided by the Students

Personal drafting equipment, textbooks and paper for rough drafts of project solutions. (Note that equipment constitutes a long-term investment).

Professional Advisory Committee

Wayne E. Dipner . . . . . The Ohio State University
James J. Foley . . . . . Kellam and Foley
Richard L. Tully . . . . . Tully, Ames, Elzey, and Thomas, Architects
Fred E. Wright . . . . . Wright-Filfillen-Keske, Architects

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENT**	CREDIT
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

FIRST YEAR

COURSE	LAB FEES	CLASS	LAB HOURS	CREDITS
First Quarter				
1001 Communication Skills		5	0	3
1111 Technical Mathematics		5	0	4
5101 Architectural Graphics I*	$3.00	3	6	3
5111 Materials & Processes I*	3.00	3	3	4
5121 Survey of Architecture*		5	0	4
		21	9	18
Second Quarter				
Communication Skills		5	0	3
1112 Technical Mathematics		5	0	4
5102 Architectural Graphics II*	$3.00	3	6	3
5112 Materials & Processes II*	3.00	3	3	4
5124 Structural Systems (Concrete)*	3.00	2	4	3
		18	13	17

** Technical Course ** As Approved by Advisor*

COURSE		LAB FEES	CLASS	HOURS LAB	CREDITS
Third Quarter					
	Communication Skills		3	0	2
1113	Technical Mathematics		5	0	4
4644	Statics		5	0	4
5103	Architectural Graphics III*	$3.00	4	8	5
5122	Structural Systems (Wood)*	3.00	2	4	3
			19	12	18

SECOND YEAR

Fourth Quarter					
	Communication Skills		3	0	2
1383	Physics (Hydraulics)		5	0	4
4645	Strength of Materials		5	0	4
5104	Architectural Graphics IV*	$3.00	4	8	4
5116	Mechanical Systems (Plumbing)*	3.00	2	2	3
5123	Structural Systems (Steel)*	3.00	2	4	3
			21	14	20
Fifth Quarter					
	General Education Elective		3	0	3
	Behavioral Science		3	0	3
5105	Architectural Graphics V*	$3.00	4	8	4
5114	Mechanical Systems (Heating & Ventilation)*	3.00	2	4	4
5126	Specifications, Codes & Standards*	3.00	2	4	4
			14	16	18
Sixth Quarter					
	Behavioral Science		6	0	6
5106	Architectural Graphics VI*	$3.00	5	10	5
5115	Mechanical Systems (Electricity)*	3.00	2	4	5
5125	Estimating*		2	4	3
			15	18	18

COURSE DESCRIPTIONS

5102–ARCHITECTURAL GRAPHICS I* (A)

Fundamentals of lettering, line work, orthographic projections, isometric and oblique drawings, and preliminary drawing techniques used in the architect's office. Field trips.

3 hours lec. 6 hours lab. 3 credits. $3.00 lab fee.

5102–ARCHITECTURAL GRAPHICS II* (W)

Fundamentals of descriptive geometry with the objective of developing problem solving techniques in three dimensions. This includes the inter-

sections of lines and surfaces, surfaces with surfaces, the development of irregular shapes, the intersection of solids and shades and shadows.
3 hours lec. 6 hours lab. 3 credits. $3.00 lab fee.

5103—ARCHITECTURAL GRAPHICS III* (SP)
Site development requirements including coordination with local government authorities for right-of-way, utilities, zoning and codes checking, development of topography and meets and bounds of property. Introduction of construction surveying and the use of the level and transit on the construction site. Field trips.
†5102. 4 hours lec. 8 hours lab. 5 credits. $3.00 lab fee.

5104—ARCHITECTURAL GRAPHICS IV* (A)
Perspectives line presentation, working drawing layout techniques for various plan types and sizes. Evaluations and reference techniques. Freehand perspective and presentation drawing techniques.
4 hours lec. 8 hours lab. 4 credits. $3.00 lab fee.

5105 ARCHITECTURAL GRAPHICS V* (W)
Selected details which involve several trades such as curtain wall construction, elevator construction, roof structure and craneway construction. Multiple floor and wall finish details, coordination of details with working drawings of projects. Working drawings organization and specification notes. Field trips.
4 hours lec. 8 hours lab. 4 credits. $3.00 lab fee.

5106—ARCHITECTURAL GRAPHICS VI* (SP)
Complete working drawing project with office procedures and requirements emphasized. Detailed coordination with consultants' drawings and manufacturers' literature. Independent use of office product files and technical information. Field trips.
5 hours lec. 10 hours lab. 5 credits. $3.00 lab fee.

5111—MATERIALS AND PROCESSES OF CONSTRUCTION I* (A)
The properties, standards, unit measurements and economics of materials and their structural systems are studied. The materials and processes considered are concrete, masonry, wood, steel and non-ferrous metals and alloys. Field trips will be taken to local manufacturing plants and fabrication shops.
3 hours lec. 3 hours lab. 4 credits. $3.00 lab fee.

5112—MATERIALS AND PROCESSES OF CONSTRUCTION II* (W)
The properties, standards, unit measurements and economics of materials and their use in buildings are studied. The materials and processes considered are plaster, acoustical finishes, waterproofing, roofing, flooring, wall coverings, doors, windows, hardware, glass, paints and sealouts. Field trip will be taken to construction sites as related to various materials.
3 hours lec. 3 hours lab. 4 credits. $3.00 lab fee.

5114–MECHANICAL SYSTEMS (HEATING AND VENTILATING)* (W)
Fundamentals of comfort conditioning. Methods of heating, ventilating, and air conditioning; coordination with the elements of the building. Job construction techniques, detailing, schedules, trade association recommendations, shop drawings. Conventional symbols and nomenclature. Economic evaluations and research forecasts. Field trips.
2 hours lec. 4 hours lab. 4 credits. $3.00 lab fee.

5115–MECHANICAL SYSTEMS (ELECTRICAL EQUIPMENT)* (SP)
Fundamentals of lighting, electrical systems equipment for buildings. Essentials of electrical code and association standards. Conventional symbols, nomenclature and layouts. Coordination of electrical work with the elements of the building, computer techniques fixture and equipment schedules, electrical work economics, and research forecases. Field trips.
2 hours lec. 4 hours lab. 4 credits. $3.00 lab fee.

5116–MECHANICAL SYSTEMS (PLUMBING AND SANITATION)* (A)
Plumbing codes and standards, layout techniques, conventional symbols and nomenclature, coordination with other elements of building, schedule, details, shop drawings, economics, research forecases, and computer techniques. Field trips.
2 hours lec. 2 hours lab. 3 credits. $3.00 lab fee.

5121–SURVEY OF ARCHITECTURE* (A)
A survey of architecture in America from 1600 to present. The men and ideas that shaped construction. Emphasis on modern construction.
5 hours lec. 4 credits.

5122–STRUCTURAL SYSTEMS I (WOOD)* (SP)
Wood construction techniques and detailing of conventional, post and beam, panel, prefabrication, light and heavy truss, millwood and laminated plywood systems. Shop drawing techniques and checking. Field trips.
2 hours lec. 4 hours lab. 3 credits. $3.00 lab fee.

5123–STRUCTURAL SYSTEMS II (STEEL)* (A)
Drafting room use of steel construction handbook and steel detailing. Structural plan layout, details, schedules, shop drawing techniques and checking, coordination of steel elements with other parts of building. Computer techniques in structural work, and economics of steel construction. Field trips.
2 hours lec. 4 hours lab. 3 credits. $3.00 lab fee.

5124–STRUCTURAL SYSTEMS III (CONCRETE AND MASONRY)* (W)
Drafting room use of concrete reinforcing steel handbook and masonry handbook. Fundamentals of construction details and detailing, shop drawings, shop and job fabrication. Job layout and construction tech-

niques. Coordination with other elements of the building, computer techniques, and economics of concrete construction. Field trips.
2 hours lec. 4 hours lab. 3 credits. $3.00 lab fee.

2125–ESTIMATING* (SP)

Building cost estimating methods, detailed materials and labor takeoff mathods, contractors' overhead costs, wage withholding and payroll deduction. Insurance, tax, bond, and economics of construction costs. Cost control in the architect's office and on the job.
†5111 & 5112. 2 hours lec. 3 hours lab. 3 credits. $3.00 lab fee.

2126–SPECIFICATIONS, CONTRACTS, OFFICE PRECEDURES* (W)

Types and organization of offices, consultants, contract documents, construction documents, construction supervision. Specification elements: general and special conditions, organization of trade, sections, details of specification requirements for government-agency and private work, computerized specifications.
†5111 & 5112. 3 hours lec. 3 credits. $3.00 lab fee.

** Technical Course † Prerequisites $ Lab Fee*

Aviation Administration Technology

THE VAST aviation industry depends upon a host of ground-support personnel to keep the aircraft flying profitably. Opportunities for employment are available to the prepared individual. In some instances, acceptance into a company training program and successful completion of the program are prerequisites to find employment. In other instances, candidates for employment are required to complete on-the-job training before final employment. In both of these cases, the applicant with appropriate preparatory training has the better chance of securing employment. The Aviation Administration program provides the necessary general aviation educational background and the employing company provides the specific training applicable to the company routines.

Opportunities for Graduates

This program prepares students for entry into aviation clerical services, aviation customer services, airline stewardess and steward training, airport manager operations, traffic management operations, and fixed base operations.

Professional Advisory Committee

Edward Haussermann . . . . . Haussermann Aviation, Inc.
Richard Hickman . . . . . Trans World Airlines, Inc.
Sidney Small . . . . . American Airlines
P.D. Strahm . . . . . Trans World Airlines, Inc.
Jay Tritt . . . . . Flight Instructor
Robert Varner . . . . . Lane Aviation Corporation
George Young . . . . . Federal Aviation Agency

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

Aviation Administration Technology

FIRST YEAR

COURSE		CLASS HOURS	LAB HOURS	CREDITS
First Quarter				
5521	Aviation Fundamentals I (Basic)*	5	3	6
5522	Aviation Fundamentals II (Meteorology)*	4	3	5
3851	Principles of Transportation	4	0	3
	Communication Skills Course**	0	0	3
				17
Second Quarter				
1131	Business Mathematics	5	0	4
3821	Introduction to Business	3	0	3
5523	Aviation Fundamentals III (Flight Planning)*	5	3	6
5524	Aviation Fundamentals IV (Air Navigation)*	5	3	6
				19
Third Quarter				
5531	Air Transportation I (Development)*	5	0	4
5525	Aviation Physiology*	4	0	4
3841	Accounting	3	4	4
	Communication Skills Course**	0	0	3
	Behavioral Science Elective**	0	0	3
				18

SECOND YEAR

Fourth Quarter				
5532	Air Transportation II (Airlines)*	5	3	6
5533	Air Carrier Operations*	4	0	3
3823	Business Law	4	0	3
3804	Economics	5	0	4
	Behavioral Science Elective**	0	0	3
				19
Fifth Quarter				
5534	General Aviation*	5	0	4
5526	Aviation Law*	3	0	3
5535	Air Cargo Management*	4	0	3
5536	Airport Management*	4	0	3
	Communications Skills Course**	0	0	2
	Behavioral Science Course**	0	0	3
				18
Sixth Quarter				
5529	Air Traffic*	3	0	2
5528	Aviation Public Relations*	3	0	3
5537	Aviation Financial Management*	5	0	5
3832	Personnel Management	3	0	2
3813	Management	3	0	2
	Communication Skills Course**	0	0	2
	Non-technical General Education Elective**	0	0	3
				19

** Technical Course ** As Approved by Advisor*

COURSE DESCRIPTIONS

5521—AVIATION FUNDAMENTALS I (BASICS)* (A)
Physical laws affecting aerodynamics, aircraft structure, control surfaces, stability, power, aircraft instruments, identification of general aviation and airline aircraft.
5 hours lec. 3 hours lab. 6 credits.

5522—AVIATION FUNDAMENTALS II (METEOROLOGY)* (A)
Air circulation patterns, fronts, turbulence. Weather charts, teletype reports, U.S. Weather Bureau: organization and services.
4 hours lec. 3 hours lab. 5 credits.

5523—AVIATION FUNDAMENTALS III (FLIGHT PLANNING)* (W)
Development of flight planning through dead reckoning, use of flight computer and plotter, navigation charts and symbols, station identifiers, cruise control, weight and balance for aircraft loading.
†2521 previously or concurrently. 5 hours lec. 3 hours lab. 6 credits.

5524—AVIATION FUNDAMENTALS IV (AIR NAVIGATION) (W)
Radio navigation systems and associated instruments. Time and fuel estimates. VFR and IFR flight rules. Major air routes. Study of Airman's Information Manual. Contact navigation.
†2523 previously or concurrently. 5 hours lec. 3 hours lab. 6 credits.

5525—AVIATION PHYSIOLOGY* (SP)
Physical responses of the body to flight conditions — construction of the inner ear, vertigo, pressure changes, aeroembolism, oxygen, alcohol and tobacco. Study of NASA and FAA Aero-Medical Department reports.
4 hours lec. 4 credits.

5526—AVIATION LAW* (W)
The Federal Aviation Administration jurisdiction — CAB — routes and fares — aviation negligence litigation. The rule making process. Enforcement — ICAO, structure, membership, powers, legal implications.
3 hours lec. 3 credits.

5527—AVIATION PHRASEOLOGY* (A)
Jargon, radio communications, aviation abbreviations. Use of microphone and tape recorder. Conversation with aircraft on ground and in flight. Conversation with pilots. Giving directions to crews and employees.
2 hours lec. 2 credits.

5528—AVIATION PUBLIC RELATIONS* (W)
A study of the aviation "image". Advertising, meeting the customer, salesmanship. Participation in civic affairs. Responsibilities when making public appearances. Meeting the press. Handling complaints and claims.
3 hours lec. 3 credits.

Aviation Administration Technology

5529—AIR TRAFFIC* (SP)

Organization of air traffic compared to traffic departments in industries. Passenger handling, ticketing, refunds, baggage regulations and handling, travel plans, tours and routing. FAA air traffic control towers, centers, radar facilities and services, flight service, controllers, and air traffic separation.

3 hours lec. 2 credits.

5531—AIR TRANSPORTATION I* (SP)

A history of the development of aircraft from early types to the present. The development of airports, the airways system and the growth of airlines. Development of federal acts and their effects on air transportation. Introduction to passenger and cargo traffic.

5 hours lec. 4 credits.

5532—AIR TRANSPORTATION II* (A)

Duties, responsibilities and requirements for employment in the airlines. Structures of airlines. Coordination for an efficient, profitable operation. Employed personnel: conditions of employment and progression. Government controls. Handling of passengers, baggage and cargo. Major air routes. First, second, and third level carriers.

†2531. 5 hours lec. 3 hours lab. 6 credits.

5533—AIR CARRIER OPERATIONS* (A)

Organization of carrier operations: costs, revenues, equipment, services. Capabilities of general aviation and airlines. Costs and profits.

†2532 previously or concurrently. 4 hours lec. 3 credits.

2534—GENERAL AVIATION* (W)

Flight schools, FAA regulations, supplies, charter activities, repair and maintenance, line service, sales, leasing, aircraft financing, loans, interest payments, dealerships, management problems and obligations.

5 hours lec. 4 credits.

5535—AIR CARGO MANAGEMENT* (W)

Efficient and economic handling of cargo, air mail, air express and air freight. Related problems in marketing, research, advertising and utilization. Survey of scheduled and non-scheduled, charter and contract operations. Flight equipment, storage, tie-downs, loading, insurance, tariffs, FAR's personnel.

4 hours lec. 3 credits.

5536—AIRPORT MANAGEMENT* (SP)

A study of a community in relation to an airport — its influence on business — study of the wealth of a community, land values, geographical characteristics, meteorological characteristics, political influences, and airport construction and maintenance requirements.

4 hours lec. 3 credits.

5537–AVIATION FINANCIAL MANAGEMENT* (SP)

Recording a breakdown of expenses and profits of an aviation operation. Analysis of accounts, deficit operation, breakeven point and profits. Decision making techniques. Cost accounting.
5 hours lec. 5 credits.

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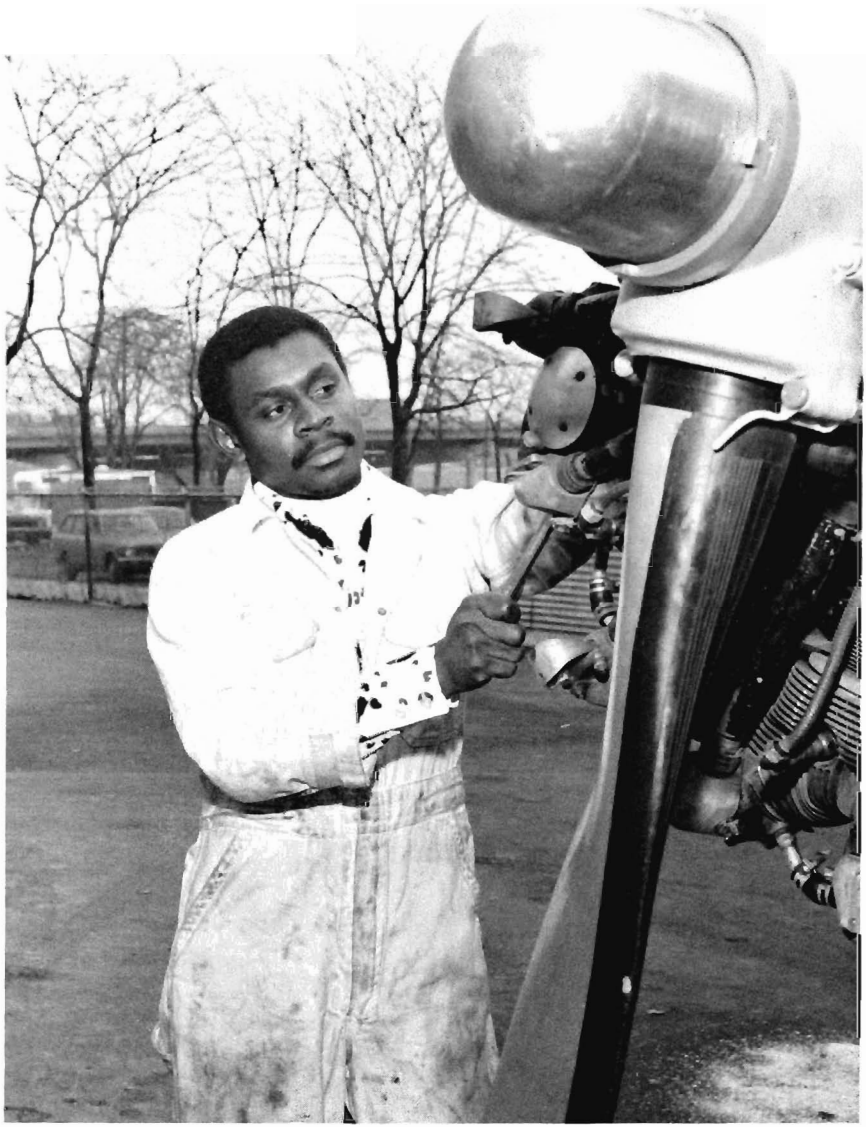
* *Technical Course*



Aviation Maintenance Technology

THE LICENSED Airframe and Powerplant technician performs various duties on the complete airplane. He may be employed by one of several aviation or aerospace industries. For both the major airlines and the air taxi services, he may work at a repair station, at an airlines terminal, or handle various flight-line duties such as weight and balance control and pre-flight inspections. For the aerospace industries he may support flight test programs, assist in technical research and development, write technical reports and manuals, and assemble and repair prototypes.

If the aviation technician holds a classification as a rated pilot, he may qualify as a flight mechanic. In a fixed base operation in general aviation he may perform numerous inspections, make major and minor repairs and alterations to aircraft and powerplants.

Opportunities for Graduates

This Program prepares students for entry into aviation clerical services, aviation customer services, airline stewardess and steward training, airport manager operations, traffic management operations, and fixed base operations.

Equipment Provided by Columbus Tech

An aviation technology laboratory with major equipment required for maintenance and repair of airframes and powerplants is provided. Teaching aids include films, cutaways of aircraft parts and components, and operating mockups of systems. Single and multi-engine aircraft are provided.

The student interested in the Aviation Administration Program may refer to the course description section on page 101.

Professional Advisory Committee

Paul H. Burcher . . . . . Lockbourne Air Force Base
Bob Butche . . . . . Electronics Division, AiRadio Corporation
George Clyde . . . . . Clydesdale Aircraft Corporation
Norman Crabtree . . . . . Ohio Division of Aviation
Jack Eggspuehler . . . . . The Ohio State University
Caly Irby . . . . . Delta Airlines, Inc.
Foster Lane . . . . . .Lane Aviation Corporation

Aviation Maintenance Technology

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

FIRST YEAR

COURSE		LAB FEES	CLASS	LAB HOURS	CREDITS
First Quarter					
1381	Physics (Mechanics)		3	3	4
2501	Aviation Theory*	$8.00	4	3	4
2502	Aircraft Construction & Design*	8.00	3	4	3
2504	Basic Aviation Maintenance*	8.00	4	6	5
	Communications Skills Course		0	0	3
					19
Second Quarter					
1111	Technical Mathematics I		5	0	4
1382	Physics (Electricity)		3	3	4
2553	Basic Aviation Technology*	$8.00	5	8	7
2505	Aircraft Structures I (Welding)*	8.00	2	3	3
					18
Third Quarter					
1112	Technical Mathematics II		5	0	4
2557	Aircraft Electrical Systems*	$8.00	6	10	8
2508	Aircraft Environmental Control System*	8.00	3	3	3
					15
Fourth Quarter					
1113	Technical Mathematics III		5	0	4
2506	Aircraft Structures II*	$8.00	7	13	10
2513	Powerplant Theory & Maintenance (Turbine Engines)*	8.00	3	3	3
	Behavioral Science Elective		0	0	3
					20

SECOND YEAR

Fifth Quarter					
2509	Aircraft Fluid Systems*	$8.00	8	9	9
2511	Aircraft Rigging, Assembly & Inspection*	8.00	2	6	4
	Communications Skills Course		0	0	3
	Behavioral Science Elective		0	0	3
					19

* *Technical Course* ** *As Approved by Advisor*

Aviation Maintenance Technology

COURSE		LAB FEES	CLASS HOURS	LAB HOURS	CREDITS
Sixth Quarter					
2512	Powerplant Theory & Maintenance (Reciprocating Engines)*	$8.00	7	12	10
2515	Carburetion and Fuel Controls*	8.00	4	6	5
	Communications Skills Course		0	0	2
					17
Seventh Quarter					
1383	Physics (Heat, Light, Sound)		3	3	4
2514	Magnetos and Ignition Systems*	$8.00	7	8	8
2516	Propellers*	8.00	5	6	5
					17
Eighth Quarter					
2517	Powerplant & Powerplant Systems Inspection*	$8.00	6	8	8
	Communication Skills Course		0	0	2
	Behavioral Science Elective		0	0	3
	Behavioral Science Elective		0	0	3
					16

COURSE DESCRIPTIONS

2501—AVIATION THEORY* (A, SP)
Basic science for the aviation maintenance technician, including aerodynamics of lifting and control surfaces, conditions for flight stability, weight and balance effects, center of gravity limits, reports. Federal Air Regulations.
4 hours lec. 3 hours lab. 4 credits. $8.00 lab fee.

2502—AIRCRAFT CONSTRUCTION AND DESIGN* (A,SP)
Blueprint reading and interpretation, fundamentals of drawing, drawing sketches of hardware and materials used in construction of aircraft.
3 hours lec. 4 hours lab. 3 credits. $8.00 lab fee.

2504—BASIC AVIATION MAINTENANCE* (A,SP)
Fabricating and installing fluid lines and fittings. Selecting and performing non-destructive testing methods. Aircraft cleaning and corrosion control.
4 hours lec. 6 hours lab. 5 credits. $8.00 lab fee.

2505—AIRCRAFT STRUCTURES I (WELDING)* (W,SU)
Development of sufficient proficiency for the A and P maintenance technician's license. Practice in oxyacetylene welding and analyzing welding faults during routine inspection of airframe components.
†2501, 2502, 2503, 2504. 2 hours lec. 3 hours lab. 3 credits. $8.00 lab fee.

2506—AIRCRAFT STRUCTURES II (SU,SP)

Identification of aircraft metals and plastics, properties of aircraft metals, heat treatment of fabricated parts, layout from blueprints, bending and bending allowances, protective finishes, identification, selection and use of inspection, and repair of wood structures, maintenance and repair of fabric and fiberglass.

†2501,2502,2503,2504. 7 hours lec. 13 hours lab. 10 credits. $8.00 lab fee.

2508—AIRCRAFT ENVIRONMENTAL CONTROL SYSTEMS* (SP,SU)

Inspection and repair and cabin atmosphere control systems; inspection check, troubleshooting, service and repairing of ice and rain control systems. Maintenance of aircraft fire control system.

†2501,2502,2503,2504. 3 hours lec. 3 hours lab. 3 credits. $8.00 lab fee.

2509—AIRCRAFT FLUID SYSTEMS* (A,W,SP,SU)

Basic hydraulic and pneumatic principles. Basic hydraulic systems. Brake systems. Hydraulic lines, fittings, fluids, pumps, and actuating devices. Inspection, troubleshooting, reapir. Vacuum systems: maintenance, inspection, and repair. Aircraft fuel systems.

†2501,2502,2503,2504. 8 hours lec. 9 hours lab. 9 credits. $8.00 lab fee.

2511—AIRCRAFT RIGGING, ASSEMBLY AND INSPECTION* (A,W,SP,SU)

Airplane nomenclature. Disassembly and assembly sequence and procedure. Alignment procedures. Airplane overhaul. Fundamentals and methods of rigging. Stability in flight, control surfaces. Control cables: inspection, installation, splicing. Landing gear assembly: types, maintenance, repair, Fuel systems. Aircraft appliances and miscellaneous equipment. Servicing and handling of aircraft. Heating, pressurization, and other internal systems. Instrument installation and inspection. Weight and balance review. Inspection of complete aircraft. FAA report forms. Helicopter theory and maintenance. Aerodynamics of the helicopter.

†Aviation Courses 2501 through 2509. 2 hours lec. 6 hours lab. 4 credits. $8.00 lab fee.

2512—POWERPLANT THEORY AND MAINTENANCE (RECIPROCATING ENGINES)* (W,SU)

Principles, development, and design of internal combustion engines. Engine maintenance, repair, and overhaul. Inspection and troubleshooting. Identification of aircraft materials, parts, and components. Calibration of tools and testing equipment. Engine run-in, testing, and maintenance. Hazards of aircraft engine operation. Lubrication systems.

†2501,2502,2503,2504. 7 hours lec. 12 hours lab. 10 credits. $8.00 lab fee.

** Technical Course † Prerequisites $ Lab Fee*

Aviation Maintenance Technology

2513—POWERPLANT THEORY AND MAINTENANCE (TURBINE ENGINE)* (SP,SU)

Principles, development, design and classification of turbine engines. Engine inspection, maintenance, repair and overhaul. Installation and removal of turbine engines.

†2501,2502,2503,2504. 3 hours lec. 3 hours lab. 3 credits. $8.00 lab fee.

2514—MAGNETOS AND IGNITION SYSTEMS* (W,SP)

Basic electrical principles in ignition systems. Magneto theory, construction, operation, overhaul. Review of combustion principles. Types of magnetos, distributor. Magneto timing: internal and external. Harness construction, inspection, overhaul and testing. Booster systems. Low tension ignition systems. Battery ignition systems.

†2501,2502,2503,2504. 7 hours lec. 8 hours lab. 8 credits. $8.00 lab fee.

2515—CARBURETION AND FUEL CONTROLS* (W,SP)

Float carburetors: theory, construction, operation, troubleshooting maintenance, and overhaul. Pressure injection carburetors: theory, construction, inspection, maintenance, and troubleshooting. Direct pressure injection systems. Fuel systems and requirements: gravity and pressure systems. Induction systems and supercharging.

†2501,2502,2503,2504. 4 hours lec. 6 hours lab. 5 credits. $8.00 lab fee.

2516—PROPELLERS* (A,SP)

Aerodynamic principles of propellers. Propeller types, construction and materials. Inspection, repair, and troubleshooting. Installation, removal, tracking and balancing. Controllable propellers. Constant speed governor control: construction, operation, maintenance, adjustment, troubleshooting. Reversible propellers. Hazards of propeller operation.

†2501,2502,2503,2504. 5 hours lec. 6 hours lab. 5 credits. $8.00 lab fee.

2517—POWERPLANT AND POWERPLANT SYSTEMS INSPECTION* (A,W,SP,SU)

Condensation and coordination of previously accumulated knowledge. Inspection of powerplants and powerplant systems, use of inspection equipment and aids. Procedures for returning aircraft to active service.

†2501,2502,2503,2504,2512,1513,1514,1514,1515,1516. 6 hours lec. 8 hours lab. 8 credits. $8.00 lab fee.

2553—BASIC AVIATION THEORY* (SU,W)

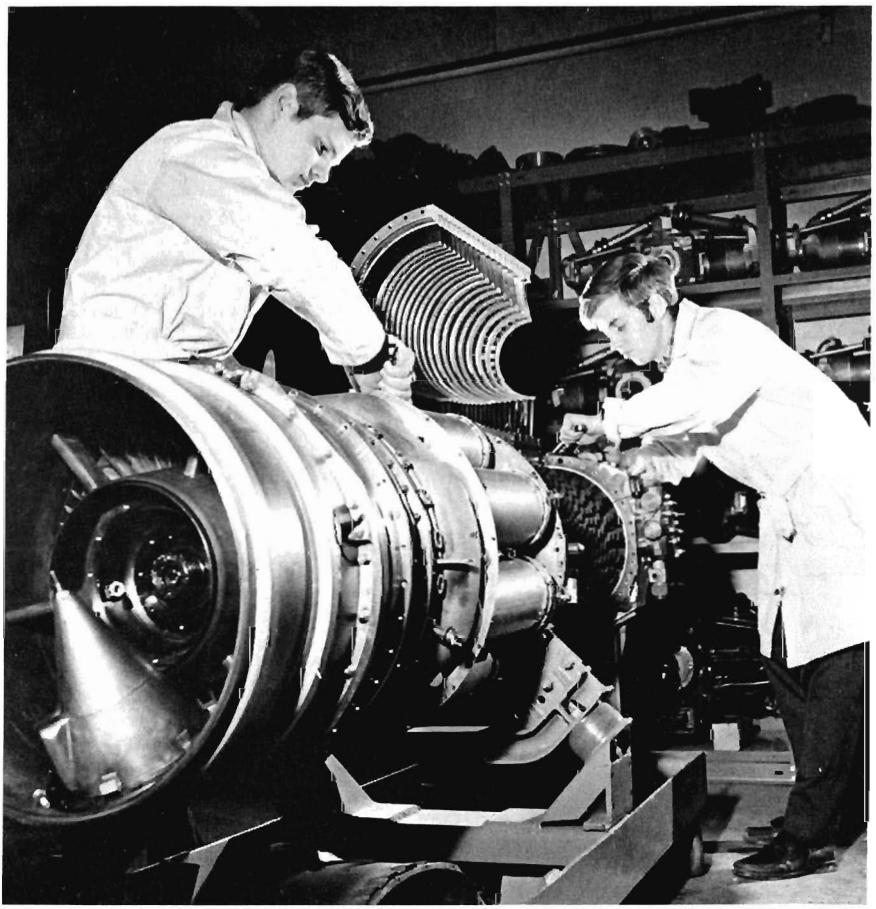
Basic electricity for the aviation maintenance system including reading and interpreting electrical circuit diagrams utilized in troubleshooting aircraft electrical systems. Batteries and generators. Performing ground

operation and servicing of aircraft. Understanding maintenance publications, forms and records.
5 hours lec. 8 hours lab. 7 credits. $8.00 lab fee.

2557—AIRCRAFT ELECTRICAL SYSTEMS* (SP,SU)

Review of fundamentals of electricity. Generator control systems. Direct current motors. Electrical engine starting systems: types, inspection, maintenance, overhaul, troubleshooting. Review of basic alternating current principles. Alternating current motors. Alternating current instrument systems. Reading electrical blueprints. Wiring practices, bonding, shielding. Electrical systems. Electrical power units. Radio installations, and inspection.
6 hours lec. 10 hours lab. 8 credits. $8.00 lab fee.

** Technical Course † Prerequisites $ Lab Fee*



Civil Engineering Technology

CIVIL ENGINEERING Technology is concerned with the conception, completion, and operation of physical works such as water supply systems, drainage and sewerage systems, highways, airports, dams, bridges, buildings, townsite developments, as well as collection and interpretation of basic data for improvement of existing facilities, and for creation of new projects. Its goal is achievement of maximum benefit to society with minimum expenditure of physical resources, labor and money.

A civil engineering technician's qualifications derive from training in practical application of mathematics, communication skills, graphics, force analysis, dimensional and quality control, data recording methods and similar fields of endeavor.

Opportunities for Graduates

Civil engineering work constantly demands an ever-increasing number of qualified technicians. Construction projects are much larger than ever before, occur with ever increasing frequency, and in many cases must be completed in shorter periods of time. Present day buildings, highways, bridges, airports, sports arenas, factories, water supply facilities, flood control equipment, drains, anti-pollution construction, and similar projects have gigantic appetites for educated and trained personnel.

Prospects for employment are seldom better in any endeavor than in civil engineering work. Opportunities for trained civil engineering technicians extend considerably beyond construction work. When qualified in civil engineering, technicians can adapt easily to technical work in allied fields such as manufacturing, sales, plant engineering, economic studies, preliminary layout work, cataloguing, etc.

Civil engineering technicians are subordinate only to the engineer, director, and owner of a project. Among normal responsibilities of technicians are inspection, testing, investigation, surveying, drafting, record keeping, computation, cost estimating, and frequently, supervision and coordination of all aspects of the project to which he is assigned.

Civil engineering technicians are prepared for immediate employment in such incidental fields as traffic control, construction of all kinds, mapping, measure-

ments of materials for payment, water and sewage treatment plant operation, and in general, in every activity where competency depends on knowledge of basic civil engineering techniques.

Prospective students intending to be awarded associate degrees in Civil Engineering Technology at Columbus Technical Institute must have graduated from an accredited high school. They are expected to have earned at least average grades in algebra, geometry and physics. Additional courses in these subjects are offered at Columbus Technical Institute as part of the study program in Civil Engineering Technology.

All civil engineering technicians do better when inspired by high degrees of interest in activities which involve planning, comparison, numerical work and use of mathematical relationships. Though civil engineering technology involves a considerable amount of detail work, it also provides opportunities for making prompt, worthwhile and important decisions.

Equipment Provided by Columbus Technical Institute

Equipment and facilities provided by Columbus Tech for the student's use are drawing tables, T-squares, tracing paper and cloth, ink, blueprint paper, specialized drawing instruments and equipment, blueprinting machine, surveying instruments and equipment, portable stereoscopic equipment, calculating machines, storage cabinets, computation paper, reference library, professionally prepared contracts and drawings, materials and equipment catalogues, current technical periodicals, etc.

Equipment Provided by the Student

Tools and equipment which students should provide include drafting instruments, triangles, scales, pencils and pens, slide-rule or electronic calculator, textbooks, etc.

Professional Advisory Committee

Gunnar Eeman, Partner . . . . . Fling & Partners, Consulting Engineers
Harold L. Jett, Design Engineer . . . . Evans, Mechwart, Hambleton and Tilton
Robert F. Koerner, Deputy . . . . . County Engineer, Franklin County
Roger W. Loveless, Partner . . . . . Alden E. Stilson and Associates
Robert C. Parkinson, Assistant Service Director . . . . . City of Columbus
Theodore L. Wallace, City Engineer . . . . . City of Columbus

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS*	CREDITS
Communication Skills Department	10
Behavioral Sciences Department	9
General Education Division	3

** *As Approved by Advisor*

Civil Engineering Technology

FIRST YEAR

COURSE	LAB FEES	CLASS	LAB HOURS	CREDIT
First Quarter				
1001 Communication Skills I* or		(5)	(0)	(3)
1002 Communication Skills II		5	0	3
1111 Technical Mathematics I		5	0	4
1381 Physics (Mechanics)	$1.00	3	3	4
5301 Engineering Graphics I**	6.00	0	6	3
5311 Surveying I**	4.00	2	6	4
		15	15	18
Second Quarter				
1002 Communication Skills II* or		(5)	(0)	(3)
1003 Communications Skills III		5	0	3
1112 Technical Mathematics II		5	0	4
1382 Physics (Electricity & Magnetism)	$1.00	3	3	4
5302 Engineering Graphics II**	6.00	0	9	4
5313 Materials & Testing**		3	4	5
		16	16	20
Third Quarter				
1003 Communication Skills III* or		(5)	(0)	(3)
1024 Speech	$1.00	3	0	2
1113 Technical Mathematics III		5	0	4
1383 Physics (Heat, Light, Sound)	1.00	3	3	4
5304 Structural Drafting**	2.00	0	6	3
5312 Surveying II**	4.00	2	6	4
		13	15	17

SECOND YEAR

Fourth Quarter				
1004 Technical Writing		3	0	2
1505 General Economics		3	0	3
5305 Descriptive Geometry**		2	4	4
5314 Public Works Structures**		3	0	3
5316 Elementary Hydraulics**		3	0	3
5324 Structural Stress Analysis**		5	0	5
		19	4	20
Fifth Quarter				
4202 Electronic Data Processing		2	2	2
5325 Townsite & Landscape Engineering	$2.00	3	4	5
5336 Structural Systems**		4	6	5
15XX Behavioral Sciences		6	0	6
		15	12	18

**Alternate Course for credit as General Education Elective* ***Technical Course*

COURSE		CLASS HOURS	LAB	CREDIT
Sixth Quarter				
5303	Advanced Study-Technical Elective**	0	3	3
5306	Construction Methods & Estimating**	3	3	4
5315	Highway Construction**	3	2	4
5326	Office Practice & Legal Procedure**	3	0	3
1024	Speech, or other*	(3)	(0)	(2)
XXXX	General Education Elective *	3	0	3
		12	8	17

COURSE DESCRIPTIONS

5301—ENGINEERING GRAPHICS I

Use of basic drafting instruments, tools and equipment. Geometric constructions. Line work with emphasis on lettering, symbols and conventions. Mapping and construction details. Graphical problem solutions. Emphasis on precision.

Lab Fee $6.00. Lab Hours 6. Credit Hours 3.

5302—ENGINEERING GRAPHICS II

Advanced drawing procedures and methods for contract drawings with emphasis on ink work, formality and accuracy.

†5301. Lab Fee $6.00. Lab Hours 9. Credit Hours 4.

5303—ADVANCED STUDY

Advanced study. Second year students who have achieved a grade of "B" or better in any civil engineering technical course may choose the subject of that course for advanced study. A grade of C or better in course 5303 is required for graduation. To be eligible for enrollment in course 5353, students must each have achieved a cumulative average technical grade of 2.25 or better at the end of the fifth quarter.

Class Hours 3. Lab Hours 3. Credit Hours 3.

5304—STRUCTURAL DRAFTING

Standard methods used in preparation of informal and semi-formal drawings. Detailing for steel, reinforced concrete and timber structures.

†5302. Lab Hours 6. Lab Fee $2.00. Credit Hours 3.

5305—DESCRIPTIVE AND PROJECTIVE GEOMETRY

Graphical representation and solution of three dimensional space problems on two dimensional surfaces.

†5302. Class Hours 2. Lab Hours 4. Credit Hours 4.

5306—CONSTRUCTION METHODS AND ESTIMATING

Computation of basic quantities for labor and material costs. Utilization of general and detail data for cost analysis. Preparation of bills of

material. Measurement of contract quantities for acceptance and payment.
†5304. Class Hours 3. Lab Hours 3. Credit Hours 4.

5311–SURVEYING I

Full scale application of field methods. Collection of record data. Conversion of field data for use in maps and plats. Preparation of plats and incidental drawings. Emphasis on precision in use of tools and equipment. Computations to determine precision of field work. Boundary description, resolution of conflicts, replacement of missing data.
Lab Fee $4.00. Class Hours 2. Lab Hours 6. Credit Hours 4.

5312–SURVEYING II

Advanced surveying and mapping problems including introduction to celestial observation, establishment of meridians, parallels of latitude, section and subdivision lines; horizontal and vertical curvature; transition curves; introduction to photogrammetry; legal considerations for boundary descriptions.
†5311. Lab Fee $4.00. Class Hours 2. Lab Hours 6. Credit Hours 4.

5313–MATERIALS AND TESTING

Methods of manufacture and properties of commonly used construction materials. Standard methods for conducting tests of physical properties; direct observation of production processes and plant fabrication. Visits to operating laboratories and construction projects.
†1111. Class Hours 3. Lab Hours 4. Credit Hours 5.

5314–PUBLIC WORKS STRUCTURES

Standards for street improvement including pavements, bases, curbs, etc.; principal elements and accessories for storm water drainage, sanitary sewer systems, and water distribution systems.
†5304,5316. Class Hours 3. Credit Hours 3.

5315–HIGHWAY CONSTRUCTION

Elements of route location. Construction materials, methods and procedures. Relation of design standards to topography and prospective traffic. Earthwork measurement. Physical design standards. Financing.
†5312,5313. Class Hours 3. Lab Hours 2. Credit Hours 4.

5316–ELEMENTARY HYDRAULICS

Study of water at rest and in motion; criteria for measurement of pressure, velocity, friction and capacity of open channels, pipe lines and metering devices.
†1113. Class Hours 3. Credit Hours 3.

5324–STRUCTURAL STRESS ANALYSIS

Statics, centroids, moments of inertia, shear, bending moment diagrams and stress distribution in civil engineering structural elements.
†1113,1381. Class Hours 3. Lab Hours 2. Credit Hours 5.

5325–TOWN SITE AND LANDSCAPE ENGINEERING

City and subdivision planning, calculations and preliminary cost considerations. Public regulation and private interest.

†5302,5312. Lab Fee $2.00. Class Hrs. 3. Lab Hrs. 4. Credit Hrs. 5.

5326–OFFICE PRACTICE AND LEGAL PROCEDURES

Economics of engineering office procedures. Coordination techniques, supervision, time schedules. Standard operating methods. Legal responsibilities and contract documents.

†1003,1004. Class Hours 3. Lab Hours 0. Credit Hours 3.

5336–STRUCTURAL SYSTEMS

Computation of forces, reactions, shears, moments and stresses in members of structures. Comparisons of advantages and disadvantages of alternate arrangements of materials for performance of specific tasks.

†5304,5324. Class Hours 4. Lab Hours 6. Credit Hours 5.

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† Prerequisites $ Lab Fee

Electronic Engineering Technology

ELECTRONICS plays a big role in influencing today's way of life. In the areas of medical electronics, space exploration, communications and computers, the science of electronics is progressing at an unparalleled pace. In addition to these relatively new fields, electronics is hard at work in the more established fields of industry. Manufacturing operations proceed at a speed, and with a precision unheard of only a few years ago due to sophisticated electronic equipment and controls. Capable electronic engineering technicians are needed to assist in the design, test, manufacture, installation, and maintenance of these complex systems.

At least one, and often several technicians assist each engineer in carrying every project to completion. Serving in this capacity with his well balanced theoretical and practical knowledge, the electronic technician sometimes acts as a liason or buffer between the highly theoretical scientist and engineer and the highly practical production man.

To acquire and maintain a position in electronics, the technician must have broad but rigorous training in the fundamentals of electronics. Mathematics and physics, in addition to detailed study of electronic circuits, devices and systems, are all part of the electronic engineering technology curriculum.

Today's electronic technician must also be able to communicate clearly with engineers, scientists and workers around him. He must be able to read and interpret complex instructions and drawings and since he will often be called upon to give spoken presentations to his associates, he must have a command of the English language, and an above average ability to speak.

A person willing to put forth the serious effort needed to acquire these skills will find the rewards and the opportunities for advancement above average.

Equipment Provided by Columbus Tech:

High-quality precision instruments such as Tektronix oscilloscopes and Hewlett Packard signal generators, frequency counters and power supplies make up the general purpose equipment. In addition, special-purpose test equipment, logic trainers, communications trainers, digital computers, analog computers and a variety of other equipment are provided for student use.

Electronic Engineering Technology

Professional Advisory Committee

Richard Gibbs . . . . . Battelle Memorial Institute
Milton Lanford . . . . . Bell Sound Systems, Division of Thompson-Remo Woolridge Company
Paul Maxuzan . . . . . National Coil Company
L.A. Rea . . . . . The Ohio Bell Telephone Company
Marion Smith . . . . . The Ohio State University
W. Wilhyolt . . . . . Bell Telephone Laboratories

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENT**	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

COURSE		LAB FEES	CLASS	LAB HOURS	CREDIT
First Quarter					
1111	Technical Mathematics I		5	0	4
4201	Electronic Drafting*	$3.00	0	4	2
4211	DC Fundamentals		5	0	4
4261	DC Laboratory*	6.00	0	5	2
	Behavioral Science Elective**		0	0	3
	Communication Skills Course**		0	0	3
					18
Second Quarter					
1112	Technical Mathematics II		5	0	4
4212	AC Fundamentals		5	0	4
4262	AC Laboratory*	$6.00	0	5	2
1381	Physics (Mechanics)	1.00	3	3	4
	Behavioral Science Elective**		0	0	3
	Communication Skills Course**		0	0	3
					20
Third Quarter					
1004	Technical Writing		3	0	2
1113	Technical Mathematics III		5	0	4
4213	Electronic Devices*		5	0	4
4263	Electronic Devices Laboratory*	$6.00	0	6	2
1383	Physics (Heat, Sound, Light)		3	3	4
	Behavioral Science Elective**		0	0	3
					19

* *Technical Course* ** *As Approved by Advisor*

Electronic Engineering Technology

COURSE		LAB FEE	CLASS HOURS	LAB HOURS	CREDITS
Fourth Quarter					
1024	Speech	$1.00	3	0	2
1124	Calculus for Electronics I*		3	0	3
4214	Electronic Devices Circuit Analysis*		5	0	4
4234	Modern Semiconductor Devices*		5	0	4
4264	Electronic Devices Circuit Laboratory*	.6.00	0	6	2
4274	Modern Semiconductor Devices Laboratory*	6.00	0	6	2
					17
Fifth Quarter					
1125	Calculus for Electronics II*		3	0	3
4215	Electronic Communication I*		5	0	4
4225	Pulse and Logic Circuits*		5	0	4
4235	Computer Programming*	$1.00	1	2	1
4265	Electronic Communication I Lab.	6.00	0	6	2
4275	Pulse and Logic Circuits Laboratory*	6.00	0	0	3
	General Education Elective**		0	0	3
					19
Sixth Quarter					
1126	Calculus for Electronics III*		3	0	3
4216	Digital Computers*		5	0	4
4226	Industrial Electronics*	$3.00	4	2	4
4236	Electronic Communication II*	3.00	3	2	3
4246	Analog Computers*	1.00	2	1	2
4266	Digital Computer Laboratory*	6.00	0	6	2
					18

COURSE DESCRIPTIONS

4200—COLOR TELEVISION SYSTEMS I (SU)

Fundamentals of color television systems. Maintenance, alignment, and troubleshooting.

5 hours lec. 5 hours lab. 6 credits. $5.00 lab fee.

4201—ELECTRONIC DRAFTING* (A,W)

An elementary course. Fundamentals of drawing and drafting. Use of templates, including lettering and electronic templates. Electrical circuit drawing, terms, symbols, and standards.

4 hours lab. 2 credits. $3.00 lab fee.

** Technical Course ** As Approved by Advisor † Prerequisites $ Lab Fee*

4202—ELECTRONIC DATA PROCESSING (A)

An introduction to computer programming with emphasis on the application of computers to solving engineering type of problems. The student will learn to program a small computer by writing programs. The course is a one quarter course for those who do not plan to take additional courses in computer programming.

2 hours lec. 2 hours lab. 2 credits.

4210—BASIC ELECTRONICS MATHEMATICS

A basic course in algebra designed to prepare the student to handle the problems encountered in basic electricity. Applications oriented. (Not open to students enrolled in Associate degree program).

5 hours. lec. 4 credits.

4211—DC FUNDAMENTALS (A,W)

An introduction to direct current fundamentals, electronics physics, current and voltage. Work, power, series and parallel resistances. Network theorems, magnetic circuits, electrical measurement devices, inductance and capacitance.

5 hours lec. 4 credits.

4212—AC FUNDAMENTALS (W,SP)

Analysis of alternating-current fundamentals. Reactance, complex algebra, and impedance. Networks and power. Transformers, coupled circuits and polyphase systems.

†1112, 1211, 1261. 5 hours lec. 4 credits.

4213—INTRODUCTORY ELECTRONIC DEVICES* (SP,SU)

Introduction to electronic devices. Vacuum tubes and transistors. Auxiliary components. Rectifiers, filter, and regulators. Basic amplifiers.

†1212, 1261. 5 hours lec. 4 credits.

4214—ELECTRONIC DEVICES CIRCUIT ANALYSIS* (A)

Analysis of vacuum tube and transistor circuits. Small-signal and large-signal methods. Amplifiers and coupling. Special amplifiers, feedback, and oscillators.

†1212, 1262, 1213. 5 hours lec. 4 credits.

4216—DIGITAL COMPUTERS* (SP)

Digital computer operations and applications. Boolean algebra. Logic circuits and design. Computer systems.

†All first year courses, 1214, 1215, 1234, and respective labs. 5 hours lec. 4 credits.

4220—BASIC ELECTRONIC MATHEMATICS (A)

A basic course in algebra designed to prepare the student to handle the problems encountered in basic electricity. Applications oriented. (Not open to students in Associate degree program).

5 hours lec. 4 credits.

Electronic Engineering Technology

4225–PULSE AND LOGIC CIRCUITS* (W)

Nonsinusoidal circuits. Pulse amplification and wave-shaping. Multivibrators. Time-base and logic circuits. Transient analysis.

†All first year courses, 1213, 1234. 5 hours lec. 4 credits.

4226–INDUSTRIAL ELECTRONICS* (SP)

Industrial devices and utilization concepts. Timbers, welders, photoelectric devices and ultrasonics. Magnetic systems, rotary devices, and servo and synchro systems.

†1214, 1234. 4 hours lec. 2 hours lab. 4 credits. $3.00 lab fee.

4230–BASIC ELECTRICITY (A)

This is a basic course which covers the fundamentals of DC and AC electricity. Electrical physics, current, voltage, and power. Ohm's law, and Kirchoff's laws are thoroughly studied. Network theorems are introduced then applied to series and parallel networks. Inductance and capacitance completes the first half of the course. The second half of the course is devoted to AC electricity. Alternating coupling circuits are the major topics of study.

5 hours lec. 4 hours lab. 5 credits. $3.00 lab fee. (Not open to students enrolled in Associate degree program.)

4234–MODERN SEMICONDUCTOR DEVICES* (A)

A study of field effect transistors, integrated circuits, operational amplifiers, opto-electronics, and miscellaneous electronic devices.

†1213. 3 hours lec. 4 credits.

4235–COMPUTER PROGRAMMING* (W)

An introduction to computer programming. Computer language. A Digiac 3080 computer available for student to use throughout the program.

1 hour lec. 2 hours lab. 1 credit $1.00 lab fee.

4236–COMMUNICATIONS ELECTRONICS II* (SP)

A continuation of Communications I. Ultra-high frequency, transceiver, microwave, principles and systems and antennas.

†1215. 3 hours lec. 2 hours lab. 3 credits. $3.00 lab fee.

4240–BASIC ELECTRICITY (A)

This is a basic course which covers the fundamentals of DC and AC electricity. Electrical physics, current, voltage, and power. Ohm's law, and Kirchoff's laws are thoroughly studied. Network theorems are introduced then applied to series and parallel networks. Inductance and capacitance completes the first half of the course. The second half of the course is devoted to AC electricity. Alternating coupling circuits are the major topics of study.

5 hours lec. 5 hours lab. 5 credits. $3.00 lab fee. (Not open to students enrolled in Associate degree program.)

4246–ANALOG COMPUTERS* (SP)
Fundamentals of analog computers covering circuits and equipment.
†1125. 2 hours lec. 1 hour lab. 2 credits $1.00 lab fee.

4250–ELECTRONIC DEVICES I (W)
Principles of operations of vacuum tubes and solid state devices lay the foundations for a thorough study of amplifiers, coupling methods, feedback, biasing, stability, and oscillators.
5 hours lec. 5 hours lab. $4.00 lab fee. (Not open to students enrolled in Associate degree program.)

4260–ELECTRONIC DEVICES I (W)
Principles of operations of vacuum tubes and solid state devices, lay the foundations for a thorough study of amplifiers, coupling methods, feedback, biasing, stability, and oscillators.
5 hours lec. 5 hours lab. $4.00 lab fee. (Not open to students enrolled in Associate degree program.)

4261–DC LABORATORY (A,W)
Laboratory study of DC fundamentals, electrical measurement devices, network theorems.
5 hours lab. 2 credits. $6.00 lab fee.

4262–AC LABORATORY (W, SP)
Laboratory study of signal sources, oscilloscopes, reactance, AC networks, transformers and filter circuits.
†1112, 1211, 1261. 6 hours lab. 2 credits. $6.00 lab fee.

4263–INTRODUCTORY ELECTRONIC DEVICES LABORATORY* (SP, SU)
Laboratory study of thermionic emissions, vacuum tube characteristics and amplifiers, and transistor characteristics and amplifiers.
†1212, 1262. 6 hours lab. 2 credits. $6.00 lab fee.

4264–ELECTRONIC DEVICES CIRCUIT ANALYSIS LABORATORY* (A)
Laboratory study of amplifiers, oscillators, special purpose devices, response, and feedback.
6 hours lab. 2 credits. $6.00 lab fee.

4265–COMMUNICATIONS LABORATORY* (W)
Laboratory study of communication circuitry, AM, FM, commercial systems.
6 hours lab. 2 credits. $6.00 lab fee.

4266–DIGITAL COMPUTER LABORATORY* (SP)
Laboratory study of complete systems utilizing logic trainers, memory core trainers, the Digiac 3080 and SCM 7816 computers.
6 hours lab. 2 credits. $6.00 lab fee.

** Technical Course † Prerequisites $ Lab Fee*

Electronic Engineering Technology

4270—ELECTRONIC COMMUNICATION SYSTEMS (SP)
Am systems, FM systems, single side band, multiplex, basic television system, antenna and transmission lines.
5 hours lec. 5 hours lab. 5 credits. $5.00 lab fee.

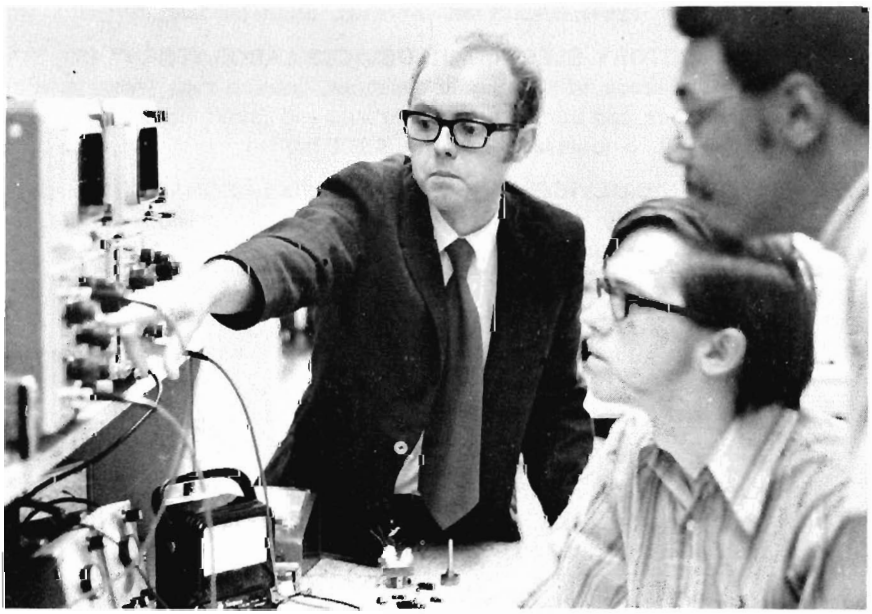
4274—MODERN SEMICONDUCTOR DEVICES CIRCUIT LABORATORY (A)
Laboratory study of the FET, integrated circuit and other modern devices.
6 hours lab. 2 credits. $6.00 lab fee.

4275—PULSE AND LOGIC LABORATORY* (W)
Laboratory study of pulse, wave shaping circuits, logic circuits, and transients.
6 hours lab. 2 credits. $6.00 lab fee.

4280—COMMUNICATIONS ELECTRONICS I* (W)
Communication circuits and systems. Power supply, transducers, transmission. AM & FM transmitters and receivers. Television. Single side band and multiplex.
†1214. 5 hours lec. 4 credits.

4290—COLOR TELEVISION SYSTEMS I (SU)
Fundamentals of color television systems. Maintenance, alignment, and troubleshooting.
3 hours lec. 3 credits.

** Technical Course † Prerequisites $ Lab Fee*



Industrial Technology

THE INDUSTRIAL Technician is concerned with the process of manufacturing from an industrial engineering and management viewpoint. He will be involved in the design, planning, organization, and control of a variety of manufacturing processes. His training will include the study of mechanical, electrical, hydraulic, and related systems used in production. Additional emphasis is placed upon the human relations and management aspects of manufacturing to meet the ever-increasing need for management-oriented, technically-trained personnel in today's highly complex industrial environment.

Opportunities for Graduates

Important Industrial Technology activities are present in such diverse fields as manufacturing, construction, transportation, communication, mining, petroleum, retailing, wholesaling, banking, and data processing. The content of the Industrial Technology follows an educational format which will enable the Industrial Technician to work in any of these career areas.

Industrial technicians may coordinate planning, scheduling, and control activities in order to produce goods and services. He may specialize in the management of one of the organization's sub-systems, or he may coordinate the activities of human resources as a line manager or supervisor. The four general areas of specialization are:

1. Operation Analysis
2. Production Control and Inventory Management
3. Line Management and Supervision
4. Industrial Methods and Process Control

Equipment provided by Columbus Tech:

The Industrial Technology utilizes the laboratories and equipment provided for students in the Mechanical Engineering Technology for those courses dealing with the technical aspects of the manufacturing process.

Professional Advisory Committee

Robert E. Georges . . . . . The Ohio State University
Richard H. Wharton . . . . . The Ohio State University
Willard C. Clark . . . . . Barnebey-Cheney Company

Industrial Technology

Ted R. Walker . . . . . .Columbus Heating and Ventilating Company
Frank L. Lewis . . . . . Buckeye Steel Castings Company

COURSE REQUIREMENTS FOR GRADUATION

COURSE REQUIREMENTS	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

FIRST YEAR

COURSE	LAB FEES	CLASS	LAB HOURS	CREDITS
First Quarter				
1002 Beginning Composition		5	0	3
1111 Technical Mathematics I		5	0	4
1381 Physics (Mechanical)	$1.00	4	2	4
4601 Mechanical Drafting I	6.00	0	6	2
4612 Manufacturing Processes I		5	0	5
		19	8	18
Second Quarter				
1003 Essay & Research		5	0	3
1112 Technical Mathematics II		5	0	4
1382 Physics (Electrical)	$1.00	4	2	4
4602 Mechanical Drafting II	6.00	0	6	2
4301 Industrial Organization & Management		5	0	5
		19	8	18
Third Quarter				
1505 General Economics		3	0	3
1383 Physics (Heat, Light, Sound)	$1.00	4	2	4
4302 Industrial Supervision I (Principles & Practices)		3	0	3
15XX Humanities Course		3	0	3
1024 Speech		3	0	2
4613 Manufacturing Processes II	4.00	3	1	2
		19	3	17

SECOND YEAR

Fourth Quarter				
1004 Technical Writing		3	0	2
15XX Humanities Course		3	0	3
4303 Industrial Supervision II (Labor Relations)		3	2	3
4651 Time Study		4	1	4
4305 Purchasing, Stores & Inventory Control		3	0	3
1401 Chemistry	$10.00	5	4	5
		21	7	20

** Technical Course ** As Approved by Advisor*

COURSE		LAB FEE	CLASS HOURS	LAB HOURS	CREDITS
Fifth Quarter					
4304	Industrial Supervision III (Safety & Environment)		3	2	3
4634	Fortran IV	$5.00	1	2	2
4626	Hydraulics & Pneumatics	3.00	5	2	5
4647	Industrial Electricity		3	2	4
1425	Industrial Chemistry (Instrumentation)		5	4	5
			17	12	19
Sixth Quarter					
4635	Numerical Control	$5.00	2	4	4
4653	Production, Scheduling & Control		3	1	3
4649	Quality Planning for Industry		4	1	4
4646	Cost Estimation		4	1	4
1575	Industrial Psychology		3	0	3
			16	7	18

COURSE DESCRIPTIONS

4301—INDUSTRIAL ORGANIZATION AND MANAGEMENT

A review of industrial management principles, problems, and practices as viewed from the policy-making level. An over-view of modern management principles; organization structure; operational planning, organization, and control; managerial functions; and related subjects.
5 hours lec. 5 hours credit.

4302—INDUSTRIAL SUPERVISION I — PRINCIPLES & PRACTICES

A functional analysis of the industrial supervisor's job. Problems in dealing with employees, machines, and processes. A review of supervisory management principles, functions, and their application at the front-line supervisory level.
3 hours lec. 3 hours credit.

4303—INDUSTRIAL SUPERVISION II — LABOR RELATIONS

Principles and practices of recruiting, selecting, developing, compensating, and utilizing manpower resources at the front-line supervisory level. Collective bargaining agreements and application at the working level in the management process.
3 hours lec. 2 lab. 3 hours credit.

4304—INDUSTRIAL SUPERVISION III — SAFETY AND ENVIRONMENT

The industrial supervisor's role in safety management. Problems of the front-line supervisor in handling safety and accident control. Review of

$Lab Fee

O.S.H.A. activities and environmental protection movements as related to the industrial environment.
3 hours lec. 2 hours lab. 3 hours credit.

4305—PURCHASING, STORES, AND INVENTORY CONTROL
The purchasing function. Inventory maintenance and control. Principles and practices of material handling and management in the production process. The supervisor's responsibility for materials, supplies, and equipment.
3 hours lec. 3 hours credit.

Mechanical Engineering Technology

MECHANICAL Engineering Technology is concerned with the design and performance of machines and machine elements, the manufacturing processes, the design of manufacturing tools, and the operation of manufacturing plants.

The mechanical engineering technician aids the mechanical engineer, releasing a considerable part of the engineer's time for other professional work. Because of the growing complexity of technology and the high level of expenditure for research and development, the ability of the well-trained technician will be in continuing demand.

Opportunities for Graduates

Mechanical Engineering Technicians may find industrial employment as associate engineers, research assistants, layout and detail draftsmen, machine designers, tool designers, estimators, laboratory technicians, mechanical draftsmen, production process technicians, field service engineers, or mechanical test technicians.

In addition to the ability to work from sketches, diagrams, blueprints, and verbal information, the technician must have a capacity for problem solving and skill in calculating, interpreting, and converting test data into report form. A knowledge of mathematics, physics, and mechanical drawing in indispensable.

Equipment provided by Columbus Tech:

The Mechanical Engineering Technology lab consists of a numerically controlled machine, metal bandsaw, welding equipment, precision grinding machines, hardness testing machine, lathes, milling machines, and electric discharge machine.

Mechanical Engineering Technology

Professional Advisory Committee

Ed Hasting . . . . . Janitrol Aero Division, Midland Ross Corporation
Cleve Kettrey . . . . . Fisher Body Division, General Motors Corporation
Don Kibby . . . . . The Ohio State University
N.J. Kowalski . . . . . Timken Roller Bearing
Del Patton . . . . . Columbus Auto Parts
A.G. Ruben . . . . . .Cooper-Bessemer Company
Robert Schuler . . . . . North American Rockwell
Charles Schoemaker . . . . . North American Rockwell
John Wolfe . Neway Division of Lear-Siegler Corporation, Muskegon, Michigan

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENT**	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

FIRST YEAR

COURSE	CLASS	LAB HOURS	CREDITS
First Quarter			
1111 Technical Mathematics I	5	0	4
1381 Physics	4	2	4
1002 Beginning Composition	5	0	3
4601 Mechanical Drafting I	0	6	2
4612 Manufacturing Processes I	5	0	5
	19	8	18
Second Quarter			
1112 Technical Mathematics II	5	0	4
1382 Physics	4	2	4
1003 Essay & Research	5	0	3
4602 Mechanical Drafting II	0	6	2
4611 Machine Tools	3	6	5
	16	15	18
Third Quarter			
1113 Technical Mathematics III	5	0	4
1383 Physics	4	2	4
15XX Humanities Course	3	0	3
1024 Speech	3	0	2
4613 Manufacturing Processes	3	1	2
4924 Principles of Metallurgy	3	0	3
	21	3	18

*Technical Course **As Approved by Advisor

COURSE	CLASS HOURS	LAB	CREDITS
Fourth Quarter			
1004 Technical Writing	3	0	2
15XX Humanities Course	3	0	3
4604 Basic Mechanism	2	6	4
4616 Design Problems	0	10	4
4644 Statics	5	0	4
	13	16	16
Fifth Quarter			
10XX or			
15XX Communications Skills/Humanities	3	0	3
4645 Strength of Materials	5	0	4
4634 Fortran	1	2	2
4626 Hydraulics & Pneumatics	5	2	5
4603 Materials of Industry	5	0	4
	19	4	18
Sixth Quarter			
15XX Humanities Course	3	0	3
4635 Numerical Control	2	4	4
4606 Tool Design	0	10	4
4661 Plant Mechanical Systems	3	0	3
4605 Machine Design	3	6	4
	11	20	18

COURSE DESCRIPTIONS

4600—INTRODUCTION TO DRAFTING* (SU)

Fundamentals of drafting: line work, lettering, orthographic projection, and isometric drawing.
5 hours lab. 2 credits. $3.00 lab fee.

4601—MECHANICAL DRAFTING I* (A)

A beginning course including principles of orthographic, isometric, and oblique projection. Dimensioning, sectioning, and applied descriptive goemetry. Emphasis on making complete detail and assembly drawings.
†1600 or H.S. drafting. 6 hours lab. 2 credits. $6.00 lab fee.

4602—MECHANICAL DRAFTING II* (W)

A continuation of Mechanical Drafting I, including advanced drafting practices, industrial standards, and the drawing of machine elements.
†1601. 6 hours lab. 2 credits. $6.00 lab fee.

4603—MATERIALS OF INDUSTRY* (A)

A study of the mechanical and physical properties of the materials of construction. Emphasis on the use of reference data and calculations for

applying these materials to the best practical and economic advantage. Standard testing procedures used to evaluate these materials, including steel, cast iron, wood, brick, cementing materials concrete, rubber and plastics.
†1112. 5 hours lec. 4 credits.

4604—BASIC MECHANISMS* (A)
A study of the basic mechanisms used in the construction of industrial machinery, such as linkages, cams, and gear trains.
†1113, 1602. 2 hours lec. 6 hours lab. $6.00 lab fee.

4605—MACHINE DESIGN* (W)
A study of the design of machine elements: beams, bearings, shafts, gears, clutches, power screws, and fasteners. Emphasis on loading and stress considerations in the design.
†1113, 1602. 3 hours lec. 6 hours lab. $6.00 lab fee.

4606—TOOL DESIGN* (SP)
A study of the principles of design of production tooling, including jigs, fixtures, and various types of dies.
†1113, 1602. 10 hours lab. 4 credits. $6.00 lab fee.

4611—MACHINE TOOLS* (A)
A study of the operation of the basic machine tools and the related theory. Cutting tool materials, cutting tool geometry, machining time, indexing, and helical milling.
3 hours lec. 6 hours lab. 5 credits. $11.00 lab fee.

4612—MANUFACTURING PROCESSES I* (W)
A course in the basic manufacturing processes used in production of machine parts. Study of the extraction and refinement of metals, production machining methods and production machine tools, precision dimensional inspection methods, hotforging methods, cold-working methods, metal stamping and foundry methods.
†1111. 5 hours lec. 5 credits.

4613—MANUFACTURING PROCESSES II* (SP)
Continuation of Manufacturing Processes I. Laboratory work in welding and visits to manufacturing plants. Further study of cast metals. Welding equipment and procedures, welds, and weld inspection. Injection molding and powdered metals, plus Statistical Quality Control.
†1112, 1612. 3 hours lec. 1 hour lab. 2 credits. $4.00 lab fee.

4616—DESIGN PROBLEMS* (SP)
An advanced project. Student uses his knowledge and initiative to analyze a problem in machine design; gathers data, makes sketches, calculations, and working drawings, and checks his work.
†1113, 1602. 10 hours lab. 4 credits. $5.00 lab fee.

4626–HYDRAULICS AND PNEUMATICS* (SP)

A course in the elementary theory of fluid flow and power transmission in hydraulic machine. Emphasis on the design, the principles of operation, and the use of hydraulic components in hydraulic and pneumatic circuits.
†1113. 5 hours lec. 2 hours lab. 5 credits. $3.00 lab fee.

4634–FORTRAN IV* (A)

Elementary computer science concepts. The language rules of Fortran. Writing programs. Testing on the IBM 370/135.
†1113. 1 hour lec. 2 hours lab. 2 credits. $5.00 lab fee.

4635–NUMERICAL CONTROL* (W)

A fundamental course, including principles of numerical control, operation sheets, transfer of references, programming manuscript, tape preparation, and basic numerical control systems. Programming of a machine part requires a point-to-point application, and production of the part on the numerical control machine tool. Programming and production of a more complex machine part on the numerical control machine. An introduction to the APT program. Numerical control aspects of tooling. Computer programming. Study of advanced applications of numerically controlled manufacturing equipment.
†1634. 2 hours lec. 4 hours lab. 4 credits. $5.00 lab fee.

4644–STATICS* (A)

A review of statics followed by a study of stresses caused by externally applied loads. Center of gravity, moment of inertia, thin-walled cylinders and spheres, riveted joints, welded joints, torsion, shear diagrams, and bending-moment diagrams.
†1113. 5 hours lec. 4 credits.

4645–STRENGTH OF MATERIALS II (W)

A continuation of statics, including stresses in beams, deflections of beams, statically indeterminate beams, columns, eccentrically applied loads, combined stresses and stress concentration.
†1644. 5 hours lec. 4 credits.

4646–PLANT MECHANICAL SYSTEMS

The course is designed to familiarize students prospectives in the facilities design and plant maintenance areas.
3 hours lecture. 3 credits.

Mechanical Engineering Technology

Health Technologies

The course requirements for graduation and the required credit hours are included in the following Health Technologies:

TECHNOLOGY	GENERAL STUDIES	BASIC STUDIES	TECHNICAL STUDIES	TOTAL CREDITS
ANIMAL HEALTH	22	25	56	103
DENTAL LABORATORY	22	22	62	106
MEDICAL LABORATORY	22	29	85	136
MENTAL HEALTH & RETARDATION	22	27	65	114
NURSING	22	29	61	112
RESPIRATORY THERAPY	22	27	62	111

Animal Health Technology

THE ROLE OF the animal health technician is developing rapidly. The animal health technician will assist the veterinarian in many areas of modern veterinary practice. Examples of the duties an animal health technician may perform in veterinary practice include obtaining and recording information about cases, preparation of patients, instruments, equipment and medicaments, collection of specimens and performance of certain laboratory procedures, application of wound dressings, and assisting the veterinarian in diagnostic, medical, and surgical procedures.

The animal health technician may also find employment opportunities in bio-medical facilities. The technician's knowledge of animal behavior, housing, nutrition, and reproduction, lends itself to many areas of medical and bio-medical research, including work in pharmaceutical, medical, college and university laboratories.

Employment of the animal health technician will offer a means for the veterinarian to expand the scope and breadth of his practice by delegating those duties and procedures which can be legally and ethically handled by the qualified technician.

Professional Advisory Committee

Dr. Fredrick Deist, D.V.M. . . . . Chittenden Veterinary Clinic
Dr. Donald Gisler, D.V.M. . . . . .Countryside Veterinary Clinic
Dr. Louis W. Harrod, D.V.M. . . . . Harrod Veterinary Clinic
Dr. D. O. Jones, D.V.M. . . . . The Ohio State University
Dr. Arron M. Leash, D.V.M. . . . . Case Western Reserve University
Dr. Steele Mattingly, D.V.M. . . . . .University of Cincinnati
Dr. Phillip W. Murdick, D.V.M. . . . . The Ohio State University
Dr. Arthur Peters, D.V.M. . . . . .Battelle Memorial Institute
Dr. Lawrence D. Rowe, D.V.M. . . . . Professional Veterinary Service
Dr. C. R. Smith, D.V.M. . . . . The Ohio State University
Dr. Alden E. Stilson, Jr., D.V.M. . . . . The Ohio State University
Dr. Bruce Wenger, D.V.M. . . . . Beechwold Veterinary Clinic

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS	22 CREDITS
Communication Skills Department	10
Behavioral Sciences Department**	9
General Education Division**	3

FIRST YEAR

COURSE		LAB FEES	CLASS	LAB HOURS	CREDITS
First Quarter					
1002	Beginning Composition		5	0	3
1181	Math for Health Technologies		5	0	4
1311	Basic Inorganic Chemistry	$8.00	5	4	5
1321	Physiology and Anatomy I	6.00	3	4	4
8902	Animal Health Technology I*	25.00	5	0	5
					21
Second Quarter					
1003	Essay and Research		5	0	3
1312	Introduction to Organic Chemistry	$8.00	5	4	5
1322	Physiology and Anatomy II	6.00	4	2	4
8907	Animal Health Technology II*	25.00	5	4	5
	Behavioral Science Elective**		3	0	3
					20
Third Quarter					
1024	Speech	$1.00	3	0	2
8916	Clinical Procedure I (Surgery)*		3	0	3
8917	Clinical Procedure II (Radiology)*		3	0	3
8926	Clinical Laboratory I*		2	6	4
8931	Clinical Application I*	25.00	0	6	3
					15

SECOND YEAR

Fourth Quarter

Section A

1004	Technical Writing or		3	0	2
1014	Business Communication				
1392	Medical Physics I or	$1.00	3	2	3
1393	Medical Physics II	1.00			
8918	Clinical Procedures III (Pharmacology)*	25.00	3	0	3
	Behavioral Science Elective**		3	0	3
	General Education Elective**		3	0	3
					14

Section B

8918	Clinical Procedures III (Pharmacology)*	$25.00	3	0	3
8986	Clinical Experience I*	25.00	0	30	6
					9

*Technical Course **As approved by advisor

Animal Health Technology

COURSE	LAB FEES	CLASS	LAB HOURS	CREDITS
Fifth Quarter				
Section A				
8904 Animal Health and Disease*		3	0	3
8986 Clinical Experience I*	$25.00	0	30	6
				9
Section B				
8904 Animal Health and Diseases*		3	0	3
8919 Clinical Procedures IV (Anesthesiology)*		3	0	3
8927 Clinical Laboratory II*		2	6	4
8928 Clinical Laboratory III*		2	6	4
8932 Clinical Application II*	25.00	0	6	3
				17
Sixth Quarter				
Section A				
8919 Clinical Procedures IV (Anesthesiology)*		3	0	3
8927 Clinical Laboratory II*		2	6	4
8928 Clinical Laboratory III*		2	6	4
8932 Clinical Application II*	25.00	0	6	3
Behavioral Science Elective**		3	0	3
				17
Section B				
8987 Clinical Experience II*	$25.00	0	30	6
8988 Research Report*		1	0	1
				7
Seventh Quarter				
Section A				
8987 Clinical Experience II*	$25.00	0	30	6
8988 Research Report*		1	0	1
				7
Section B				
1004 Technical Writing or 1014 Business Communication		3	0	2
1392 Medical Physics I OR	$1.00			
1393 Medical Physics II	1.00	3	2	3
Behavior Sciences Elective**		3	0	3
Behavior Sciences Elective**		3	0	3
General Education Elective**		3	0	3
				14

*Technical Course **As approved by advisor

8902—ANIMAL HEALTH TECHNOLOGY I (A)

Discussion of the career opportunities and duties of a technician. The laws and ethics related to animal care and to animal health technicians. Pertinent records kept in an animal facility and a veterinary hospital. Other management information and basic accounting principles. An introduction to animal species, including physiological data, gestation, breeding information, important concepts of genetics, nutrition and research usage.

5 hours lec. 5 credits. $25.00 lab fee.

8904—ANIMAL HEALTH AND DISEASES (A)

This course deals with animal health, disease prevention and signs of diseases in each of the species.

†1322, 8907. 3 hours lec. 3 credits.

8907—ANIMAL HEALTH TECHNOLOGY II (W)

Study of animal caging systems including kennel management, physical handling of the animals, proper restraint for certain procedures, environmental temperature control, sanitation and sterilization, basic animal science and the principles of gnotobiotics. In addition, a general study of clinic operations from the front desk through all sections including the clinical laboratory.

†8902. 5 hours lec. 4 lab hours. 5 credits. $25.00 lab fee.

8916—CLINICAL PROCEDURES I (Surgery) (SP)

Discussion of surgery room preparation, animal preparation, animal aftercare, and assisting the veterinarian during surgery.

†1315, 8907. 3 hours lec. 3 credits.

8917—CLINICAL PROCEDURES II (Radiology) (SP)

Lectures, demonstrations and laboratory exercises covering the following topics: terminology, care and maintenance of radiological equipment and techniques of exposing and developing radiographs. Radiographic positioning, animal measurement, and instrument settings are studied.

†1322, 8907. 3 hours lec. 3 credits.

8918—CLINICAL PROCEDURES III (Pharmacology) (S)

The study of disinfectants, insecticides, anthelmintics, antibiotics and other drugs commonly used in veterinary medicine. The administration and calculation of the proper dosage is studied.

†1322. 3 hours lec. 3 credits. $25.00 lab fee.

8919—CLINICAL PROCEDURES (Anesthesiology) (A,W)

The study of anesthetic agents and the use and maintenance of inhalation anesthetic equipment. Ancillary monitoring equipment, including electrocardiograph are studied. Special surgical instruments are discussed.

†8916 and 8986. 3 hours lec. 3 credits.

**Technical Course **As approved by Advisor †Prerequisite*

Animal Health Technology

8926—CLINICAL LABORATORY I (SP)

Course designed to teach the use of equipment necessary to perform complete blood counts. Students learn to use the hemocytometer, pipet, centrifuge and spectrophotometer. Emphasis on the differential white blood counts and reticulocyte counts and most other tests utilized in a clinical hematology laboratory. In addition, students perform urinary microscropics and learn to recognize normal and abnormal structures in urinary sediment.

†8907. 2 hours lab. 6 hours lab. 4 credits.

8927—CLINICAL LABORATORY II (A,W)

Student performs tests on urine, including protein, glucose and ketones, and other tests performed in routine urinalysis laboratory. Students learn characteristics of and tests performed on transudates, exudates, and cerebrospinal fluid. Students perform blood chemistries, including glucose, BUN, creatinine, bilirubin and enzymes. Special emphasis on the methods used in the clinical laboratory at the Ohio State University College of Veterinary Medicine.

†8986. 2 hours lec. 6 hours lab. 4 credits.

8928—CLINICAL LABORATORY III (A,W)

Course includes processes necessary to identify causative agents of bacterial infections. Student performs susceptibility testing to identify chemical or antibiotic agents necessary for treatment. Basic bacteriologic procedures which include isolation of colonies on culture plate and Gram stain are taught. Seriologic procedures, identification of leptospirosis and brucellosis by antigen-antibody detections, are introduced.

†8986. 2 hours lec. 6 hours lab. 4 credits.

8931—CLINICAL APPLICATION I (SP)

Practical application of procedures used in Veterinary clinics and hospitals. Includes drug and fluid administration, radiographs, surgical and anesthesiology procedures, collecting laboratory samples and any other task performed in Veterinary facilities.

†8907. 6 hours lab. 3 credits. $25.00 lab fee.

8932—CLINICAL APPLICATION II (A,W)

A continuation of course 8931.

†8931 and 8986. 6 hours lab. 3 credits. $25.00 lab fee.

8986—CLINICAL EXPERIENCE I (S,A)

A rotation through various departments and areas of the Ohio State University Veterinary Hospital. The student will work closely with junior and senior veterinary medical students under the supervision of College of Veterinary Medicine faculty.

†23 technical credits. 30 clinical hours. 6 credit hours. $25.00 lab fee.

8987—CLINICAL EXPERIENCE II (W,SP)

A continuation of course 8986.

†8986. 30 clinical hours. 6 credits. $25.00 lab fee.

8988—RESEARCH REPORT (W,SP)

Selected research projects for senior students which may include both library research and laboratory investigation under supervision of the faculty, in the student's major field of interest. Presentation of a formal research paper is required.

†25 technical credits. 1 credit.

**Technical Course **As approved by Advisor †Prerequisite*

Dental Laboratory Technology

THE DENTAL laboratory technician is a highly skilled artisan who works in cooperation with the professional dentist on specialized art form, with the ultimate goal of maintaining and improving a patient's dental health, function and esthetics. The dental technician is an intrical part of the dental health team and can, through his knowledge and developed skills find the dental laboratory vocation a rewarding career suitable for both young and mature men and women. The dental technician is a perfectionist in his technology, and his vocation is involved with the fabrication of dental restorations, dentures or the use of precious metal, in the replacement of missing natural teeth and lost bone structure.

The dental laboratory technician may work either in a dentist's laboratory, commercial laboratory, or for himself as owner of his own dental laboratory. It is in the laboratory that precision dental appliances are constructed in accordance to the prescription of the dentist. The dental technician deals directly with the dentist.

Opportunities for Graduates

The employment opportunities for the dental technician are many and varied. Due to the short supply of qualified technicians, the employment outlook is extremely bright. The graduate with extended experience can look forward to possible employment as a specialist in the areas of complete dentures, crown and bridge, partial dentures, ceramics, dental material research or dental laboratory business for himself or perhaps become a dental sales representative. Salaries widen as experience is gained.

Professional Advisory Committee

Douglas Andrews, C.D.T. . . . . .Andrews Ceramic Laboratories
Bernard F. Bramlage, C.D.T. . . . . .Bramlage Dental Laboratory
Max Cornell, C.D.T. . . . . .Columbia Dental Laboratory
Dominic Digiacomo . . . . . .Ohio State University Laboratory
Linda Dorsey . . . . . .Columbus, Ohio

Dental Laboratory Technology

Dr. Robert C. Hinkel, D.D.S. . . . . Practicing Dentist
R. Stanley Knotts, C.D.T. . . . . Knotts Dental Laboratory
Ervin W. Norris, C.D.T. . . . . .Caldwell-Norris Dental Laboratories
John Pazar, C.D.T. . . . . Pazar Dental Laboratory
Gerald Rosen, C.D.T. . . . . .Rosen Dental Laboratory
William A. Ross, C.D.T. . . . . .Ross Dental Laboratory
Eugene R. Sonnenberg, C.D.T. . . . . .Sonnenberg Ceramic Laboratory
Dr. Henry Yaggi, D.D.S. . . . . Practicing Dentist

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

FIRST YEAR

COURSE		CLASS HOURS	LAB HOURS	CREDITS
1st Quarter				
8101	Dental Laboratory Technology I	2	6	4
1002	Beginning Composition	5	0	3
1181	Mathematics for Health Technologies	5	0	4
1344	Introduction to Human Anatomy & Physiology	3	0	3
	Behavioral Science Elective	3	0	3
		18	6	17
2nd Quarter				
8102	Dental Laboratory Technology II	3	6	5
8112	Dental Anatomy	3	4	4
1003	Essay & Research	5	0	3
1341	Physical Science I	4	2	4
		15	12	16
3rd Quarter				
8103	Dental Laboratory Technology III	5	9	8
1024	Speech	3	0	2
1342	Physical Science II	4	2	4
3821	Introduction to Business	3	0	3
		15	11	17
4th Quarter				
8104	Dental Laboratory Technology IV	3	15	9
8114	Dental Laboratory Operations	2	0	2
1014	Business Communication	3	0	2
	Behavioral Science Elective	3	0	3
		11	15	16

***As Approved by Advisor*

Dental Laboratory Technology

COURSE		CLASS HOURS	LAB	CREDITS
5th Quarter				
8105	Dental Laboratory Technology V	3	15	9
	General Business Elective	3	0	3
	General Education Elective	3	0	3
		9	15	15
6th Quarter				
8106	Dental Laboratory Technology	3	15	9
	Behavioral Science Elective	3	0	3
	General Business elective	3	0	3
		9	15	15
7th Quarter				
8107	Dental Laboratory Technology VII*	5	19	12
	*includes extramural assignments of 16 hours per week in addition to class and laboratory			

COURSE DESCRIPTION

8101—DENTAL LABORATORY I

A comprehensive study of gypsum products, impression materials, acrylic resins, waxes, duplication materials and plastic annivac materials. Laboratory procedures will include evaluation and pouring preliminary and final impressions, the use of acrylic resins both ploynerizing and self polymerizing in the construction of impression trays, temporary appliances and denture bases. The construction of base plates, occlusial rims and impression trays will require a working ability with omnivac plastic, waxes and shellac tray materials. The evaluating, boxing and pouring of individual fixed partial denture dies will familiarize the student with due stones, dowell pins, and die lock procedures.
2 hours class. 6 hours lab. $20.00 lab fee. 4 credits.

8107—DENTAL LABORATORY TECHNOLOGY VII

This quarter is designed to permit the student to advance working ability in all phase of training given throughout the course. An introduction to advanced techniques, materials and equipment not used in instruction will be presented to the student. The student will be involved in an off campus extramural experience during this quarter.
5 hours class. 15 hours lab. $30.00 lab fee. 12 credits.

8102—DENTAL LABORATORY TECHNOLOGY II

The areas of instruction completed in course 8101 will be extended to include the use of the shade guide, selection of artifical teeth, pontic use in replacing missing dentition and an introduction to complete dentition

replacement. The procedures of flasking, deflasking and processing acrylic resin impression trays is to be covered. Acrylic resin repair, relines and reproduction of denture base will be done. The study of ferrous and non-ferrous metals, casting, soldering, heat treatment, finishing and polish techniques are taught.
†8101. 3 hours class. 6 hours lab. $25.00 lab fee. 5 credits.

8114–DENTAL LABORATORY OPERATIONS
Laboratory operation covering personnel management, wages, accounting, equipment and various laboratory arrangements are taught. Ethics, OSHEA and areas of major concern to the future of the Dental Laboratory profession are covered.
2 hours class. 2 credits.

8112–DENTAL ANATOMY
An introduction to the anatomy of the oral cavity structures that effect the function and comfort of dental prosthesis. Emphasis placed on the anatomy of the individual teeth and surrounding tissues plus practical tooth anatomy for function and its relation to occlusion.
3 hours class. 4 hours lab. $15.00 lab fee. 4 credits.

8103–DENTAL LABORATORY TECHNOLOGY III
An introduction to the use of stimulated gold metal and chrome metal, removable partial denture design, waxing, investing, casting and finishing of metals. The use of simulated gold metal relating to the fixed partial dentures phase of training will be covered. The use of non-ridged connectors and precision attachments is also covered.
5 class hours. 9 lab hours. $25.00 lab fee. 8 credits.

8104–DENTAL LABORATORY TECHNOLOGY IV
The tooth arrangement of complete denture units incorporating the procedures of balanced occlusal grinding and all procedures involved with complete denture construction are covered. The selection of mold and shade of artifical teeth relating to individual edentulous dental patient, the immediate denture and surgical tray, the acrylic resin temporary replacement, the corrective splint and an introduction to the orthodontic appliance are to be covered.
3 class hours. 15 hours lab. $30.00 lab fee. 9 credits.

8105–DENTAL LABORATORY TECHNOLOGY V
Fixed partial denture will be covered. Laboratory functions will include die construction, waxing of crowns, investing of waxed crowns, burn out and casting using electric, gas and air torch and tri-caster as casting equipment. Assembly of pontics and cast units, soldering, finishing of metal, application of acrylic resin by packing and pryoplast techniques are areas taught in this quarter.
3 hours class. 15 hours lab. $35.00 lab fee. 9 credits.

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†Prerequisites $Lab Fee

Dental Laboratory Technology

8106–DENTAL LABORATORY TECHNOLOGY VI

The fabrication of chrome removable partial dentures and construction of porcelain jacket and porcelain to metal are to be taught in this quarter. The procedures of evaluation of impression and cast, partial frame design, duplication of blockout cast, waxing of designed frame, investment, burnout, casting and metal finishing related to chrome are taught. Porcelain fabrication includes those steps from matrix to stain and final polish. Metal construction related to porcelain and the application of porcelain to metal is included.

3 hours class. 15 hours lab. $35.00 lab fee. 9 credits.

$Lab Fee

Medical Laboratory Technology

MEDICAL LABORATORY technicians work closely with physicians. With microscopic examinations and clinical tests, technicians greatly assist doctors in accurate diagnosis and effective treatments for their patients.

Medical laboratory technology demands a high degree of technical skills in performing many physiological and chemical tests. These skills include the use of such instruments as the microscope, spectrophotometer, incubators, centrifuge, and sterilization equipment. An understanding of the basis of these skills is essential to a well trained and competent medical laboratory technician. Adherance to the Code of Ethics as established by the American Society of Medical Technologists is required of the student. This insures a high degree of integrity and professionalism.

Opportunities for Graduates

Graduates face a rewarding career in a working situation where there could be either extensive or little patient contact. Graduates will find employment opportunities in hospitals, nursing homes, independent laboratories, clinics, and research laboratories. The opportunities available more than compensate for the hard work necessary to complete this program. The field of endeavor is so vast that the technician, upon graduation and employment acceptance, may find a tendency to specialize in one laboratory phase.

Professional Advisory Committee

Oliver Carpenter, MT-AMT . . . . . Columbus Westgate Laboratories
Norman Clark, Assistant Director . . . . . Ohio Hospital Association
Charles C. Croft, Sc.D. . . . . .Bureau of Public Health
Bruce Dailey . . . . . .Grady Memorial Hospital
Mel Davis, M.D. . . . . St. Anthony Hospital
Phillip Golding, D.O. . . . . Doctor's Hospital
Roberta Heinlen, MT (ASCP) . . . . . .Riverside Hospital
Brooks H. Hurd, M.D. . . . . Grant Hospital
David Luckhaupt . . . . . Doctor's Hospital
Colin R. Macpherson, M.D. . . . . University Hospital

Medical Laboratory Technology

Samuel Meites, Ph.D. . . . . Children's Hospital
Edward Miller, M.D. . . . . Riverside Hospital
Helen Patterson, MT (ASCP) . . . . . Davidson Laboratories
Robert Reichle . . . . . St. Anthony Hospital
William Rice, M.D. . . . . Mt. Carmel Hospital
Wayne Stires . . . . . Children's Hospital
Ada Sutton, M.S., MT (ASCP) . . . . . Ohio State University
Jane Taylor, Ph.D. . . . . Children's Hospital
C. Michael Thorne, M.D. . . . . Licking County Memorial Hospital

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Science Department	9
General Education Division	3

FIRST YEAR

COURSE	LAB FEES	HOURS CLASS	HOURS LAB	CREDIT
First Quarter				
1181 Mathematics Course**		5	0	4
1311 Basic Inorganic Chemistry	$8.00	5	4	5
1321 Physiology and Anatomy	6.00	3	4	4
8001 Medical Technology I*		1	2	2
Communication Skills Course **		–	–	3
				18
Second Quarter				
1182 Mathematics Course**		3	0	3
1312 Introduction to Organic Chemistry	$8.00	5	4	5
1322 Anatomy and Physiology	6.00	4	2	4
8023 Urinalysis*	25.00	2	4	3
Communication Skills Course**		–	–	3
				18
Third Quarter				
1393 Medical Physics II	$ 1.00	4	2	4
1522 Psychology		3	0	3
8003 Hematology I*	35.00	3	9	5
8002 Medical Technology II*	15.00	1	2	2
8006 Histology & Cytology	15.00	2	6	4
				18

SECOND YEAR

Fourth Quarter				
8004 Hematology II*	$20.00	3	6	5
8005 Blood Banking*	20.00	5	9	6

**Technical Course **As Approved by Advisor*

COURSE		LAB FEES	CLASS	HOURS LAB	CREDITS
8014	Immunology and Serology*	20.00	3	6	5
	Behavioral Science Elective**		–	–	3
					19
Fifth Quarter					
1024	Speech		3	0	2
8024	Clinical Chemistry I*	$25.00	3	9	6
8026	Clinical Chemistry II*	25.00	2	9	5
	General Education Elective**		–	–	3
					16
Sixth Quarter					
8015	Microbiology I	20.00	3	9	6
8016	Microbiology II	15.00	2	9	6
	Behavioral Science Elective		–	3	3
					15
Seventh Quarter					
8081	Medical Laboratory Internship I		0	0	13
8085	Special Problems in Medical Laboratory Technology No. 1*		2	0	2
	Communication Skills**		–	–	3
					18
Eighth Quarter					
8082	Medical Laboratory Internship II		0	0	13
8086	Special Problem in Medical Laboratory Technology II*		2	0	2
					15

COURSE DESCRIPTIONS

8001–MEDICAL TECHNOLOGY I (A) (SP)

Orientation to the field of medical technology; defining the role of the medical laboratory technician, overview of working conditions and places of employment, medical terminology, reporting methods and charts.
1 hour lec. 2 hours lab. 2 credits.

8002–MEDICAL TECHNOLOGY II (SP) (A)

Study concerning the use and maintenance of laboratory equipment including the microscope, spectrophotometer, centrifuges and analytical balance. Stress is also made on the mathematical approach to solution concentrations and dilutions.
†8001 or permission of Department Chairman*** 1 hour lec. 2 hours lab. 2 credits. $15.00 lab fee.

**Technical Course* ***As Approved by Advisor* *†Prerequisites* *$Lab Fee*

Medical Laboratory Technology

8003—HEMATOLOGY I (SP) (A)

The origin and formation of blood cells are studied. This includes techniques in counting of red blood cells, white blood cells, platelets, reticulocytes and eosinophiles. Differential morphology including staining qualities and recognition of cells is stressed. Hemoglobinometry is reviewed. Methods of counting blood cells in other body fluid are demonstrated and practiced.

†8023, 1312, and 1322 or permission of Department Chairman*** 3 hours lec. 9 hours lab. 5 credits. $35.00 lab fee.

8004—HEMATOLOGY II (SU,W)

The coagulation mechanism and its factors are studied and practiced. This includes procedures such as the prothrombin time, partial thromboplastin time, thromboplastin generation test, bleeding time, coagulation time and prothrombin consumption. Laboratory work will also include work on anemias, leukemia, and hemoglobinopathies.

†8003 and 1393 or permission of Department Chairman*** 3 hours lec. 6 hours lab. 5 credits. $20.00 lab fee.

8005—BLOOD BANKING (SU,W)

Procedures are stressed in ABO and Rh typing, antibody screening, and crossmatching of patient and donor bloods. Studies and laboratory techniques also include discussion of most all blood group systems, phenotyping, identification of atypical antibodies, and the selection of proper donor blood in cases of crossmatching incompatibilities. Sufficient time is also spent studying transfusion reaction investigations, the use of blood components in transfusion therapy, and the problems concerning fetal-maternal blood incompatibilities.

†8003 and 1393 or permission of Department Chairman*** 5 hours lec. 9 hours lab. 6 credits. $20.00 lab fee.

8006—HISTOLOGY AND CYTOLOGY* (W,S)

Procedures learned in the preparation of tissue for microscopic examination, include fixation, dehydration, embedding, cutting, mounting, and staining. The use and care of equipment employed in the procedures is discussed.

†8023 and 1322 or permission of Department Chairman*** 2 hours lec. 6 hours lab. 4 credits. $15.00 lab fee.

8014—IMMUNOLOGY AND SEROLOGY (SU, W)

Antigen-antibody reactions are studied. The techniques practiced include flocculation, precipitation, complement fixation, agglutination and titration procedures as they relate to various diseases.

†8003 and 1393 or permission of Department Chairman*** 3 hours lec. 6 hours lab. 5 credits. $20.00 lab fee.

8015—MICROBIOLOGY I (A,SP)

Includes the study of bacteriology, mycology and parasitology. Bacteriology includes the cultivation and identification of organisms through the utilization of primary and secondary culture techniques, staining techniques, anaerobic techniques, biochemical techniques, and microscopic examination. Other methods studied include antibiotic sensitivity testing, concentration of mycobacteria, blood cultures and the preparation of culture media and stains.

†8005 or permission of Department Chairman*** 3 hours lec. 9 hours lab. 6 credits. $20.00 lab fee.

8016—MICROBIOLOGY II (A,SP)

This is a continuation of 8015 with emphasis on mycology and parasitology. Parasitology includes staining and concentration or flotation techniques, host parasite relationships, microscopic examination of the various helmenths and protozoa. Mycology includes the study of various types of fungi.

†8005 or permission of Department Chairman*** 2 hours lec. 9 hours lab. 6 credits. $15.00 lab fee.

8023—URINALYSIS (W, SU)

The study of this course includes the complete laboratory procedures, qualitative and quantitative, for routine urine examination. Various chemical tests are taught and practiced. The theory and application of kidney function are included.

†8001 or permission of Department Chairman*** 2 hours lec. 4 hours lab. 3 credits. $25.00 lab fee

8024—CLINICAL CHEMISTRY I (W,SU)

This course includes topics of general chemistry in relation to their applications in the medical laboratory. The student studies colorimetry, photometry, gasometry, enzymes, flame photometry, preparation of solutions and reagents with emphasis on quality control and instrumentation.

†8016 or permission of Department Chairman*** 3 hours lec. 9 hours lab. 6 credits. $25.00 lab fee.

8026—CLINICAL CHEMISTRY II (W,SU)

Continued study of the medical application of the topics presented in 8024. The study of diagnostic isotopology, steroid determinations and flurormetry is introduced.

2 hours lec. 9 hours lab. 5 credits. $25.00 lab fee.

8081—MEDICAL LABORATORY INTERNSHIP I (A, W, SP, SU)

Two-quarter internship providing a practical application of the skills and abilities learned during the previous six quarters. The students are assigned to an accredited hospital laboratory as a trainee. Students will

apply their talent as members of the laboratory department. The student will be involved for six weeks each in the Hematology and Urinalysis Section and Chemistry Section of the laboratory; four weeks each in the Bacteriology and Serology Section and the Blood Banking Section of the laboratory; and will elect a two-week period in the Histology Section, the Isotopology Section, or the Special Chemistry Section of the Laboratory. 13 credits. † All Medical laboratory Courses

8082–MEDICAL LABORATORY INTERNSHIP II (A, W, SP, SU)
Continuation of 8081.
13 credits.

8085–SPECIAL PROBLEMS IN MEDICAL LABORATORY TECHNOLOGY I (A, W, SP, SU)
Durings the internship period, the student will keep a weekly log indicating scope and degree of activity in the laboratory. A copy of this work will be filed with the hospital and a copy filed with the Institute. A problem of special interest to the student, requiring library and/or laboratory study will be selected by the student and the faculty coordinator. This course includes open discussion of intern related problems, lectures on laboratory management, demonstration of other employment opportunities, interviewing techniques, and cases studies.
†All medical laboratory courses. 2 hours lec. 2 credits.

8086–SPECIAL PROBLEMS IN MEDICAL LABORATORY II (A, W, SP, SU)
Continuation of 8085.
2 hours lab. 2 hours lec. 2 credits.

**Technical Course † Prerequisites $ Lab Fee*

Mental Health and Retardation Technology

MENTAL HEALTH and Mental Retardation Technology prepares people to work in agencies and organizations providing services to individuals, families, and communities having needs in the areas of mental health and mental retardation. The technician, as a member of the mental health team, is trained to be a "generalist" or middle level professional person who will work with clients in conjunction with professional personnel such as psychiatrists, psychologists, social workers, nurses, and therapists.

The curriculum at Columbus Tech includes both basic and behavioral science course work and a series of courses and internship experiences related directly to mental health and retardation. Techniques and skills emphasized include basic interviewing and information gathering, counseling, crisis intervention, group work, behavior modification, report writing, and interpersonal relations.

The personality of the technician is an important factor in the ability to be effective in a helping relationship. A screening interview with the Mental Health and Retardation staff is required.

Career Opportunities in the Field

Being a new career field, opportunities for mental health technicians are continually being developed. Technicians may work in psychiatric hospitals, institutions for mentally retarded, community mental health and social agencies, geriatric facilities, certain correctional and rehabilitation centers, and in government agencies.

Professional Advisory Committee

Anne Allen . . . . . Allied Health Services, O.S.U.
Dr. F. Arthur Benson . . . . . Nisonger Center
Betty Cofield, R.N. . . . . Columbus Technical Institute
Linda Eggleston, M.H.T. . . . . Orient State Institute
Ed Finley . . . . . Ohio State Dept. of Mental Health
James Gebhart . . . . . Southwest Community Mental Health Center
Dr. Norman Guitry . . . . . Franklin County Mental Health Assn.
Donald Jones . . . . . Harding Hospital
Eleanor Jones . . . . . Harding Hospital
Charles Parrish . . . . . Bureau of Vocational Rehabilitation

Mental Health and Retardation Technology

Don Williams . . . . . Columbus State Hospital
Dr. Marilyn Strayer . . . . . Columbus, Ohio

COURSE REQUIREMENTS FOR GRADUATION:

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communications Skills Department	10
Behavioral Science Department	9
General Education Division	3

FIRST YEAR

COURSE		CLASS HOURS	LAB	CREDITS
First Quarter				
1344	Introduction to Human Anatomy and Physiology	3	0	3
1515	Human Behavior	3	0	3
1522	Psychology	3	0	3
8401	Intro to Mental Health and Mental Ret.*	4	0	4
	Communication Skills Course**	—	—	3
				16
Second Quarter				
1323	General Health Problems	5	0	4
1525	Marriage and Family Relations	3	0	3
8482	MH & MR Clinic I*	4	12	6
	Comm Skills Course**	—	—	3
				16
Third Quarter				
1523	Child Psychology	4	0	4
8413	Intro to Casework	5	0	4
8483	MH & MR Clinic II*	4	12	6
1541	Community Sociology	—	—	—
				18
Fourth Quarter				
1024	Speech	3	0	2
1524	Adult Psychology	4	0	4
1542	Social Psychology I	4	0	4
8484	MH & MR Clinic III*	4	12	6
				16
Fifth Quarter				
1004	Tech Writing	3	0	2
1543	Social Psychology II	4	0	3
8415	Tech. of Behavior Mod.*	4	0	4
8485	MH & MR Clinic IV*	2	18	6
				15

*Technical Course **As Approved by Advisor

Mental Health and Retardation Technology

COURSE		LAB FEES	CLASS	LAB HOURS	CREDITS
Sixth Quarter					
8416	Therapeutic Methods I*		4	0	4
8426	Social Problem/Comm. Res.		5	0	4
8486	MH & MR Clinic V*		2	18	6
					14
Seventh Quarter					
8417	Therapeutic Methods II		4	0	4
8427	Seminar on MH & MR*		5	0	5
8487	MH & MR Clinic VI		2	18	6
	Technical Elective**		—	—	4
					19

COURSE DESCRIPTIONS

8401—INTRODUCTION TO MENTAL HEALTH & MENTAL RETARDATION (A)

A survey of the field of human services and related helping professions and agencies, employing, films, field trips, and guest lecturers, to enable the student to understand the role of the direct service worker, the nature of mental health technology and its relationship to the various agencies and organizations which form the delivery system for mental health and mental retardation services.

4 hour lec. 4 credits.

8413—INTRODUCTION TO CASEWORK (SP)

A study of the techniques of interviewing, taking histories, referrals, inter-agency cooperation, etc. Emphasis is on assessment and intervention in relation to casework in the mental health areas.

5 lec. hours. 4 credits.

8415—TECHNIQUES OF BEHAVIOR MODIFICATION* (A)

Introduction to operant and respondent conditioning with emphasis on human behavior. The focus is on conditioning techniques used in modifying behavior.

4 lec. hours. 4 credits.

8416—THERAPEUTIC METHODS I* (W)

A survey course of techniques used in treating patients and serving clients. Includes forms of psychotherapy, activities, groups, etc., in use today. To help the student understand the patients or clients and to be helpful to the therapist.

4 lec. hours. 4 credits.

**Technical Course* ***As Approved by Advisor*

8417–THERAPEUTIC METHODS II* (SP)

A continuation of Therapeutic Methods I with greater indepth study of the various techniques used in treating patients and clients.
4 lec. hours. 4 credits.

8426–SOCIAL PROBLEMS/COMMUNITY RESOURCES* (W)

A study of the nature, extent, causal factors, and suggested solutions to major modern problems. The general social processes underlying most social problems are considered, as well as the more specific factors responsible for the particular problems. Governmental, health and welfare organizations will be reviewed, and related to general problems. Community resources for specific problems will be identified and unmet needs considered.
5 lec. hours. 4 credits.

8427–SEMINAR ON MENTAL HEALTH AND RETARDATION* (SP)

A study of modern methods, innovations, and procedures with indepth study. Instructor introduces material not covered elsewhere in the curriculum and strengthens other materials.
5 lec. hours. 5 credits.

8482–MENTAL HEALTH AND RETARDATION CLINIC I (W)

Students are assigned 12 hours per week in an agency and two two-hour sessions in the classroom for discussion of field problems, case study, and development of specific skills related to individual and group counseling and treatment program planning. Each student must have a minimum of one quarter each in a residential agency, retardation facility, and community mental health center. Additional placements for concentrated experience are taken in fifth, sixth, and seventh quarters.
4 lec. and 12 clinical hours. 6 credits.

8483–MENTAL HEALTH AND RETARDATION CLINIC II* (SP)

Students are assigned 12 hours per week in an agency and two two-hour sessions in the classroom for group discussion of field problems. Assignments are made in a psychiatric, retardation, rehabilitation, or community agency. Placement is made on the basis of student's preference, instructor's recommendations, and availability of opportunities.
4 lec. and 12 clinical hours. 6 credits.

8484–MENTAL HEALTH AND RETARDATION CLINIC III* (SU)

Students work in same agency as the preceding quarter, but develop individual projects and responsibilities. Written reports by the student at the end of each week are reviewed and discussed with the students on an individual basis by the instructor.
4 lec. and 12 clinical hours. 6 credits.

8485–MENTAL HEALTH AND RETARDATION CLINIC IV (A)

Students concentrate in an area of preference with instructor approval. Students are fully engaged in the helping process; developing and refining specific skills, knowledge of community resources, and working on independent projects.

2 lec. and 18 clinical hours. 6 credits.

8486–MENTAL HEALTH AND RETARDATION CLINIC V (W)

Students concentrate in an area of preference with instructor approval. Students are fully engaged in the helping process; developing and refining specific skills, knowledge of community resources, and working on independent projects.

2 lec. and 18 clinical hours. 6 credits.

8487–MENTAL HEALTH AND RETARDATION CLINIC VI (SP)

Students concentrate in an area of preference with instructor approval. Students are fully engaged in the helping process; developing and refining specific skills, knowledge of community resources, and working on independent projects.

2 lec. and 18 clinical hours. 6 credits.

Nursing Technology

Philosophy

THIS PHILOSOPHY of nursing education reflects concern for the preservation and enhancement of the dignity, integrity and individuality of each human being. Basic to this philosophy is an acceptance of and belief in the concept that man functions in accordance with his capacities, abilities and opportunities.

As an integral part of the Columbus Technical Institute, Nursing Technology accepts the philosophy, educational tasks and objectives of the Institute and functions within the policies of the Institute.

We believe that education for nursing should take place with an institution whose primary goal is education. In this setting, students will be provided with opportunities to participate in the Institute special, cultural, and educational activities conducive to the development of the potentials of the student as a person and as an interested, contributing member of society. As members of the total Institute student body, nursing students will be entitled to all the rights, privileges and responsibilities inherent to membership in this group.

Nursing education at Columbus Technical Institute reflects the following definition of nursing. Nursing in common with other health professions is based on the belief that pursuit of the highest attainable standard of health is a basic human right. Nursing is an interpersonal problem-solving process requiring assessment, diagnosis, intervention and evaluation. The goal of nursing is to maximize the individual's potential for personal growth and fulfillment by eliciting his responsible participation in meeting basic human needs for: physiological integrity, safety, belonging, affection, creativity, understanding and skill necessary to establish helping relationships with individual and their families in order to identify, assist in solving and solve both individual and community health problems. The skillful use and degree of use of nursing process increases with the educational preparation and cognitive level of the user. The nurse, functioning within the health care delivery system as a member of a team of health workers, combines his knowledge and talents with the particular capabilities of maintainence of health, prevention of disease, treatment of illness and rehabilitation.

Education is a maturing force which offers the student an opportunity to maximize his potentials for growth. Nursing theory is unique in its specificity of application and nursing education is the process that enables the learner to choose and combine appropriate theory components and use them in problem

solving. Integration of this body of knowledge determines the safety and scope of the individual's practice.

The institution whose primary purpose is education is responsible for providing each student with the conditions which will facilitate that individual's growth. Education provides for learning encompassing the cognitive, affective, and psycho-motor domains. Learning is a change in behavior that is acquired as a result of practice and can be repeated (demonstrated) when the need is aroused.

The teacher is the facilitator in the learning experience. He recognizes that the learner must be ready both physically and psychologically to learn. The learner must also have the basic principles or background necessary to be ready for the next learning experience.

The selection of learning experiences and teaching methods depends upon the level of understanding and comprehension of the student. The facilitator recognizes that individuals learn at different rates, have different learning styles, and that there is a difference in levels of achievement between individuals and groups of students. Allowance must be made for these rates and different achievement levels within the learning experience.

Teaching methods and the selection of learning experiences can foster the self development of the student so that he establishes a pattern characteristic of a continuous learner and becomes self-directing and self-evaluating with his goal setting commensurate to his growth potentials.

Nursing

Nursing, in common with other health professions, is based on the belief that the pursuit of the highest attainable standard of health is a basic human right. Nurses try to meet this goal by helping individuals and their families obtain, and/or regain an optimum level of health. With this objective continually in mind, nurses function within the health care delivery system as integral members of the health care team. Students of nursing learn to approach nursing through a process of problem solving which includes an understanding and use of scientific principles; the development of manual, observation, teaching, and management skills, and development of the ability to work effectively with others.

Curriculum

Students completing the seven quarter ADN curriculum receive an Associate Degree in Applied Science and are eligible to sit for the State Board examination for Registered Nurse licensure. For those students interested in a one year course, there is a four quarter Practical Nurse curriculum. Graduates of this program receive certification and are eligible to sit for the State Board examination for Practical Nurse Licensure. Both curricula are approved by the Ohio State Board of Nursing Education and Nurse Registration.

Both ADN and PN curricula include laboratory experience in local health agencies, during which students practice the concepts, techniques, and skills they have acquired in the classroom and college laboratories. Columbus Tech is affiliated with some twenty local health agencies, giving students an opportunity to

gain experience in a wide variety of health related areas. Nursing students take required and elective courses in general education along with students from other technologies on campus. Nursing courses are offered in the daytime, Monday through Friday; however, some evening and weekend experiences may be required. General education courses are offered both daytime and evening. The first nursing course (8501) is a core course common to both ADN and PN students. By the end of the second week, students are asked to state in which program they wish to be enrolled. The next three nursing courses (8502, (child and adolescent), 8503 (mothers and newborns), and 8504 (care of adults with physical illness) have common elements but the course objectives, clinical experience and examinations differ for the ADN and PN students. Students who wish to transfer from one program to another must request such transfer within the time limits set by the State Board of Nursing. Further information on this subject may be obtained from the technology chairman.

Health

Mental and physical health are important. Students are required to have an annual physical examination and must meet health requirements *before* being allowed to have clinical experience.

Liability Insurance

All students *must* be covered by student nurse liability insurance while enrolled in nursing courses. This insurance may be purchased through the school.

Faculty

Instructors of the nursing course — in the classroom and in the clinical areas are registered nurse faculty members of the Columbus Technical Institute.

Requirements for Admission

1. Evidence of a High school graduation or a GED certificate valid in Ohio.
2. Transcripts from other colleges, schools, or nursing programs.
3. Scores from American College Test (ACT) or *Career Planning Profile (CPP–)* given at CTI).
4. Results of no cost, CTI pre-entrance exams in mathematics, reading, and composition. (Based on results of these exams students may be admitted to nursing courses or referred to developmental courses prior to beginning nursing courses.)
5. Completed physical examination report with an up to date record of immunization.

Applications for Nursing Technology are taken twice a year beginning April 1 and November 1.

Career Opportunities

Graduates of the Nursing Technology Programs are prepared, pending licensure, to seek employment in beginning staff nurse positions. Varying with the community in which employment is sought, opportunities for employment are available throughout the health-care-delivery system in hospitals, nursing homes,

industry, clinics, rehabilitation centers, doctor's offices and other community health agencies.

Professional Advisory Committee

Frances Copeland, R.N. . . . . Doctors Hospital North
David H. Greegor, M.D., ... Diagnosis and Internal Medicine
Elizabeth Gurney, R.N., ... State Department of Education, Division of Vocational Education
Sister M. Janis . . . . . St. Ann's Hospital
Margaret Goode, R.N., ... Riverside Methodist Hospital
Stella Piotrowski, R.N., . . . Board of Nursing Education and Nurse Registration
Joyce Reed . . . . . Mercy Hospital
Dr. Grayce Sills . . . . . The Ohio State University
Charles Turner . . . . . St. Anthony Hospital

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Sciences Department	9
General Education Division	3

FIRST YEAR

COURSE	LAB FEE	CLASS HOURS	LAB HOURS	CREDITS	
First Quarter					
1351 Biological & Physical Science I	$5.00	5	4	7	
1522 Psychology		3	0	3	
8501 Nursing I (Fundamentals)*	6.00	4	8	7	
				17	
Second Quarter					
1352 Biological & Physical Science II	$5.00	5	4	7	
1523 Psychology (Child and Adolescent)		4	0	4	
8502 Nursing II (Child and Adolescent)* or	2.00***	3	8	6	OR
8503 Nursing III (Mothers and Newborns)*	3.00***	3	8	6	
				17	
Third Quarter					
1353 Biological & Physical Science III	$5.00	5	4	7	
1524 Psychology (Adult)		4	0	4	
8503 Nursing III (Mothers and Newborns)* or	3.00***	3	8	6	OR
8502 Nursing II (Children and Adolescent)*	2.00***	3	8	6	
				17	
Fourth Quarter					
8504 Nursing IV (Adults with Physical Illnesses)*	$3.00	6	18	12	
8514 Trends and Issues in the Health Field*		3	0	3	
				15	

**Technical Course **As Approved by Advisor ***8502 - Some students may elect 8502 as their second nursing course; 8503 - Some students may elect 8503 as their second nursing*

Nursing Technology

SECOND YEAR

COURSE			CLASS	LAB HOURS	CREDITS
Fifth Quarter					
1514	Sociology		3	0	3
8505	Nursing V (Advanced)*	$2.00	6	9	9
1002	Beginning Composition		5	0	3
1024	Speech		3	0	2
					17
Sixth Quarter					
1003	Essay and Research		5	0	3
8506	Nursing VI (Mental Health and Mental Illness)	$2.00	3	8	6
	Behavioral Science Elective**		–	–	3
	Communication Skills Course		–	–	3 OR
	Behavioral Science Elective		–	–	3
					15
Seventh Quarter					
1004	Technical Writing		3	0	2
8507	Nursing VII (Associate Degree Nursing Role)*	$9.00	6	18	12
					14

COURSE DESCRIPTIONS

8501–NURSING I (FUNDAMENTALS)* (A,SP.)

An introduction to nursing and the problem solving process as used in nursing. Theory and skills learned in the classroom and in the college laboratory are practiced in the clinical setting. Emphasis is on student responsibility and safety. A survey of normal nutrition is included. This is a core course for students entering either the Practical Nursing or the Associate Degree Nursing Curricula.

5 hours lec., 7 hours clinical lab independent study in college lab. 7 hours credit. $6.00 lab fee.

8502–NURSING II (CHILD AND ADOLESCENT)* (Usually A,W,SP,SU)

Correlated with the child and adolescent psychology course. The nursing needs of children and adolescents as related to their physical and psychological development. Emphasis on nursing problems commonly encountered in pediatric and adolescent nursing. Student participation in the care of children of various ages and in the care of adolescents.

†Group A*** 8501,1351,1522. Group B*** 8501, 8503,1351,1352,1522,1523. 3 hours lec. 8 hours lab. 6 credits. $3.00 lab fee.

8503–NURSING III (MOTHERS AND NEWBORNS)* (Usually A,W,SP,SU)

Correlated with the section of the adult psychology course dealing with the young adult and the developing family, with an exploration of fami-

**Technical Course **As Approved by Advisor ***8502 - Some students may elect 8502 as their second nursing course; 8503 - Some students may elect 8503 as their second nursing*

ly-centered nursing care during pregnancy, labor, delivery, and puerperium, with focus on common nursing problems. Student participation in the care of mothers and infants.
†Group A*** 8501,8502,1351,1352,1522,1523. Group B*** 8501, 1351,1522. 3 hours lec. 8 hours lab. 6 credits. $3.00 lab fee.

8504—NURSING IV (ADULT WITH PHYSICAL ILLNESSES)
Nursing problems encountered in the care of adults of all ages. Students are given opportunity to carry out specific nursing measures in relatively simple to moderately complex situations. Emphasis is placed upon synthesizing basic knowledge and understanding from the biological and behavioral sciences in the solution of common nursing problems. Each student is given opportunity, under guidance, to assess nursing needs, to plan for and give nursing care to a small group of patients.
†1351,1352,1353,1522,1523,1524,8501,8502, 8503,8514. 6 hours lec. 18 hours lab. 12 credits. $2.00 lab fee.

8505—NURSING V (ADVANCED)* (A,SP)
Advancement made to the more in depth knowledge and understandings from the natural and behavioral sciences in the solution of nursing problems in more complex situations. Presentation of more nursing situations which call for a greater input of previous learning and continuously developing ability to synthesize. Clinical laboratory involving the care of adult patients with physical illnesses.
†8501,8502,8503,8504,8514. 6 hours lec. 9 hours lab. 9 credits. $2.00 lab fee.

8506—NURSING VI (MENTAL HEALTH AND MENTAL ILLNESS)*+ (W and SU).
A course dealing with nursing intervention for the promotion of mental health and the prevention of mental illness in persons of all ages. Emphasis on the nursing care of patients whose primary diagnosis is one of mental illness. Students participation in learning activities in hospital and community settings.
†8501,8502,8503,8504,8505,8514. 3 hours lec. 8 hours lab. 6 credits. $2.00 lab fee.

8507—NURSING VII (ASSOCIATE DEGREE NURSE)* (A,SP)
A problem-solving course built upon all preceding nursing and related courses, to continue experiences in more complex nursing situations. Consideration given to allowing the student to become involved in this problem solving experience in the context of the area of nursing (i.e. maternity, pediatric, medical surgical) in which work is planned. Each student is given a limited opportunity, under guidance, to carry out a patient assignment of a nature approaching that of beginning nurse.
†8501,8502,8503,8504,8585,8506. 6 hours lec. 18 hours lab. 12 credits. $9.00 lab fee.

**Technical Course **As Approved by Advisor ***8502 - Some students may elect 8502 as their second nursing course; 8503 - Some students may elect 8503 as their second nursing*

Nursing Technology

8514—TRENDS AND ISSUES IN THE HEALTH FIELD* (W,SU)

Attention to prevalent trends and issues in the health field, encourages a responsible attitude on the part of the technician. Current journals utilized.

†8501 or permission of department chairman. 3 hours lec. 3 credits.

**Technical Course †Prerequisites*

Respiratory Therapy Technology

RESPIRATORY THERAPY is an allied health specialty concerned with the treatment, management, control, diagnostic evaluation, and care of patients with deficiencies and abnormalties associated with the cardiopulmonary system. The respiratory therapist must be expert in the therapeutic use of such aids to the breathing process as medical gases, oxygen administration, humidification, aerosols, positive pressure ventilation, chest physiotherapy, cardiopulmonary resuscitation, and mechanical airways.

It is the responsibility of the respiratory therapist to follow specific instructions from the physician. To do this effectively, he must understand the physical and psychological needs of the patient, the doctor's goal in using respiratory therapy, and where and how the specialist's equipment and know-how fit into the treatment picture. The complexity of this responsibility requires the services of a highly trained, dedicated technologist.

Columbus Technical Institute has a program to help prepare students to meet the requirements for qualified, competent respiratory therapists. Theory and academic studies are presented in classroom and laboratory setting at Columbus Tech. Students then gain clinical experience and practice theory by working in various area hospitals under the supervision of qualified instructors.

Career Opportunities

Since Respiratory Therapy is a new and growing field, qualified therapists are in great demand. Hospitals are the major employers with such positions as technical director, assistant director, shift supervisor, staff therapist, out patient supervisor, and pulmonary function technician. Employment other than hospital would include instructor, salesperson, or research.

Professional Advisory Members

Dr. Daniel M. Daneshvari, M.D., ... Medical Director, Mt. Carmel Medical Center
Mr. John Griffin, C.R.I.T. . . . . Mt. Carmel Hospital
Mr. Donald Hannan, A.R.R.T. . . . . Grant Hospital
Mr. Mark Kemerer . . . . . Riverside Methodist Hospital
Mr. David Luckhaupt . . . . . Doctor's Hospital
Dr. Robert Morgan, Ph.D. . . . . Doctor's Hospital

Respiratory Therapy Technology

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Sciences Department	9
General Education Division	3

FIRST YEAR

COURSE	LAB FEE	CLASS HOURS	LAB HOURS	CREDITS
1st Quarter				
1002 Beginning Composition		5	0	3
1181 Mathematics for Health Technologies		5	0	4
1311 Basic Inorganic Chemistry		5	4	5
1321 Physiology & Anatomy I		3	4	4
8601 Introduction to Respiratory Therapy		2	0	1
		20	8	17
Second Quarter				
1003 Essay & Research		5	0	3
1315 General Microbiology		5	6	6
1322 Physiology & Anatomy II		4	2	4
1392 Medical Physics I		3	3	4
		17	11	17
Third Quarter				
1024 Speech		3	0	2
8604 Cardiopulmonary Physiology		3	0	3
8602 Introduction to Respiratory Equipment		2	3	3
8603 Nursing Arts for Respiratory Therapy		2	4	3
Behavioral Science Elective		3	0	3
		14	7	14
Fourth Quarter				
8605 Pharmacology		3	0	3
8611 Respiratory Procedures I		3	0	3
8681 Clinical Practice I		0	24	8
		6	24	14

SECOND YEAR

Fifth Quarter				
8612 Respiratory Procedures II		3	0	3
8682 Clinical Practice II		0	24	8
8606 Clinical Specialities		5	–	4
Behavioral Science Elective		3	0	3
		11	24	18

**As Approved by Advisor*

COURSE		LAB FEE	CLASS HOURS	LAB	CREDITS
Sixth Quarter					
8613	Respiratory Procedures		2	0	2
8683	Clinical Practice III		0	24	8
	General Studies Elective		3	0	3
1804	Technical Writing		3	0	2
8608	Pulmonary Function and Blood Gas Analysis		4	0	3
			12	24	18
Seventh Quarter					
8609	Administration and Organization		2	0	2
8684	Clinical Practice IV		0	24	8
	Behavioral Science Elective		3	0	3
			5	24	13
	Total Credits for Graduation		85	122	111

COURSE DESCRIPTIONS

8601—INTRODUCTION TO RESPIRATORY THERAPY (F)

An introduction to respiratory therapy including discussion of the role of respiratory therapy in current medical practice, and duties, responsibilities, and professional liabilities of the therapist. Field trips to the clinical facilities will be included to cover respiratory therapy application to pediatrics, geriatrics, medical and surgical respiratory ill patients.
1 credit 2 hrs. class.

8602—INTRODUCTION TO RESPIRATORY THERAPY EQUIPMENT (SP)

A study of the apparatus utilized in providing respiratory care, including gas regulators, flowmeters, humidity and aerosol generators both reuseable and disposable. Also to include pre-filled humidifiers and nebulizers, intermittant positive pressure breathing machines, ultrasonic nebulizers and volumn ventilators.
3 credits. 2 hrs. class. 3 hrs. lab.

8603—NURSING ARTS FOR RESPIRATORY THERAPY (SP)

A study of the procedures and skills of nursing care as applied to patients receiving respiratory therapy in a clinical setting. Including approach, rapport, and explanation of treatment to respiratory ill patient. Related experiences in clinical setting for application of these procedures and skills.
†1321,1322,8601,1522. 3 credits 2 hrs. class. 4 hrs. lab.

8604—CARDIOPULMONARY PHYSIOLOGY (SP)

A study of the physiology and pathology of the cardiovascular and pulmonary system. Including hypoxia, airway obstruction, pulmonary

†Prerequisites

distention, ventilation-perfusion imbalance, pulmonary restriction, and respiration of alveolar gases.
†1321,1322,1315,1311,8601. 3 credits. 3 hrs. class.

8605–PHARMACOLOGY (SU)
A study of the general principle of pharmacology, including drug types, dispensing, dosage, effects including contraindications and regulations. Drug groups relating to respiratory therapy will be emphasized to include bronchodilators, wetting agents, mucolytics, proteolytics, antibiotics, and aerosol solutions.
†1321,1322,1311,8604. 3 credits. 3 hrs. class.

8606–CLINICAL SPECIALITIES (F)
A study of respiratory therapy applications in medical practice, including pathology, internal medicine, neurology, surgery, pediatrics and obstetrics, emphasizing the role of the respiratory therapist as a member of the specialized health care team.
†8612. 4 credits. 5 hrs. class.

8608–PULMONARY FUNCTION AND BLOOD GAS ANALYSIS (W)
A study of ventilatory and respiratory insufficiency problems that can be diagnosed and evaluated by pulmonary function studies to include alveolar-arterial oxygen gradients and carbon monoxide diffusion studies. The evaluation of normal and abnormal acid-base balance through the study of blood gas analysis.
†8612. 3 credits. 4 hrs. class.

8609–ORGANIZATION AND ADMINISTRATION (SP)
A study of procedures of record keeping, budgeting, cost finding, personnel management, and policies and organization of a respiratory therapy department. Job descriptions and interviews will be discussed.
†8603. 2 credits. 2 hrs. class.

8611–RESPIRATORY PROCEDURES I (SU)
A discussion of oxygen and other theraputic gas administration to include indications and contraindications of the various gases. Discussion of aerosol, humidity and ultrasonic therapy, intermittant positive pressure breathing, and chest physiotherapy.
†8605. 3 credits. 3 hrs. class.

8612–RESPIRATORY PROCEDURES II (F)
A study of the principles and practices of airway management, cardiopulmonary resuscitation, and emergency procedures. A discussion of manual resuscitators, airways and other equipment needed in management of patient airways.
†8611. 3 credits. 3 hrs. class.

8613—RESPIRATORY PROCEDURES III (W)

A continuation of mechanical ventilation therapy covering pressure and volume ventilation and their application along with the psychological aspects of respiratory therapy on the patient.

†8612. 2 credits. 2 hrs. class.

8681—CLINICAL PRACTICE I (SU)

Clinical Affiliation. Practical application of oxygen and other theraputic gases on the respiratory ill patient by means of cannula, catheter, and mask humidifiers by pre-filled, disposable or permanent humidifiers. Clinical use of ultrasonic nebulizers, IPPB machines and chest physiotherapy. Maintenance and sterilization of equipment relating to the prevention of nosocomial infections.

Must be taken concurrently with 8611. 9 credits. 30 hrs. lab.

8682—CLINICAL PRACTICE II (F)

Clinical Affiliation. Emphasis on airway management, cardiopulmonary resuscitation and emergency procedures as it relates to the apneic patient. Following through with management of these patients on mechanical ventilation with blood gas analysis. Maintenance of equipment used in these procedures.

Must be taken concurrently with 8612. 6 credits. 20 hrs. lab.

8683—CLINICAL PRACTICE III (W)

Clinical affiliation. A continuation of Clinical Practice III including the operation and maintenance of pulmonary function equipment and the drawing and interpretation of arterial blood gases.

8 credits. 25 hrs. lab.

8684—CLINICAL PRACTICE IV (SP)

Clinical Affiliation. A continuation of Clinical Practice III specialized in advance studies of mechanical ventilation, pulmonary functions, blood gases, and adult or pediatric respiratory therapy.

†8603. 8 credits. 25 hrs. lab.

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†Prerequisites

Public Service Technologies

The course requirements for graduation and the required credits hours are included in the following Public Service Technologies:

TECHNOLOGY	GENERAL STUDIES	BASIC STUDIES	TECHNICAL STUDIES	TOTAL CREDITS
FIRE SCIENCE	22	22	58	102
LAW ENFORCEMENT	22	22	64	108
SOCIAL SERVICES	22	27	55	104

7021—COMMUNITY AFFAIRS I—LOCAL GOVERNMENT (A)

The role of local government in the community; its structure, organization, and responsibility. Local government politics and the community. Methods and principles of local budgeting. Urban, suburban, rural and community structure.

3 hours lec. 3 credits.

7022—COMMUNITY AFFAIRS II—PUBLIC RELATIONS (W)

The psychology of relations between public service employees and the general population. Policies and practices of community relations as they apply to public service agencies. Current national and local community problems.

3 hours lec. 3 credits.

7024—SUPERVISION OF PUBLIC SERVICE PERSONNEL (W)

Supervision techniques applied to public service personnel. The study of the need for job descriptions and job procedures, civil service requirements, report, oral and written directions, work evaluation, and conference leadership. Methods of instruction effective in teaching and motivating personnel.

3 hours lec. 3 credits.

7026—PUBLIC ADMINISTRATION (SP)

The contemporary local governmental agency, its functions, structure, and operational techniques. Principles of organization, staffing, budgeting, controlling, coordinating, planning and in research. The development and maintenance of liason between agencies.

4 hours lec. 3 credits.

7027—CRIMINOLOGY

A sociological approach to the crime problem. Some of the topics are: crime and the population, the handling of the problem, the role of the victim, explanation of crime, treatment methods.

3 hours lec. 3 credits.

7028—MUNICIPAL FINANCE (A)

An administrative view of municipal finance. A summary of budgeting, cost accounting, salaries, taxes, monthly allocations, balance sheets, operating expenses, purchasing and requisitioning are studied.

†7024,7026. 3 hours lec. 3 credits.

7041—AID-IN-CRISES

A study of the procedures in everyday crisis situations such as: sudden, unexpected, or unusual types of births and deaths; getting admitted to hospitals; getting bonds for both arrests and financial responsibility; hiring a lawyer; guardianships; getting facts about all areas of Social Security; the broad area of filling out job applications and civil service

† Prerequisites

forms; emergent health problems; and the trauma of accidents, rape, robbers, etc.
3 hours lec. 3 credits.

7042–BASIC FOOD FACTS

A course to acquaint the student with the basic food needs of persons of all ages. A study of nutritional deficiencies that may arise through poor eating habits, cultural and/or varying ethnic practices, and problems of insufficient money or lack of food budgeting.
3 hours lec. 3 credits.

7043–PERSONNEL TRAINING METHODS (W)

Methods of instruction, application of audio visual equipment, testing, and evaluation, and preparation of materials are introduced. Special emphasis is placed upon planning an organizational training program. Methods of evaluation.
4 hours lec. 3 credits.

7044–FAMILY SPENDING

A course aimed at the recognition and possible solution of problems which arise in correlating available money income with meeting current living needs. Studies include garnishments, interest rates, signature loans, chattel loans, home mortgages, income tax precedures, long range planning, rotation buying and shopping techniques.
3 hours lec. 3 credits.

Fire Science Technology

THE FIRE SCIENCE Technology is designed to provide professional training for technicians in municipal, county, state, federal, industrial and other fire protection agencies. It also offers practical instruction for inservice firefighters wishing to advance in fire service careers. This technology provides the skills, and knowledge required for successful careers in fire science technology.

The successful technician must have a good background in hydraulics, physics, chemistry, mathematics, and be familiar with city and state laws and codes applicable to fire science. He must understand building construction, electrical systems, electrical and gas appliances, and plumbing and heating systems. He must be proficient in summarizing and reporting.

Opportunities for Graduates

Skilled fire fighters are needed to cope with sophisticated fire fighting techniques and equipment. Newly developed combustible and toxic materials, changes in building construction, complex codes and ordinances require intelligent and knowledgeable fire fighters. A graduate in Fire Science Technology will have a working knowledge of recent building techniques, the basics of fire fighting, prevention, and property protection. Supervision and management principles also are taught. The technician will be prepared to be a fire fighter in a fire department, an insurance adjuster, a safety inspector in private industries or salesman for an equipment manufacturer.

Professional Advisory Committee

Wilbur Bills . . . . . Delaware Fire Department
Robert Cosner . . . . . .Columbus Fire Department
David Creviston . . . . . .Columbus Fire Department
Karl R. Davis . . . . . .Columbus Fire Department
Harmon Dutko . . . . . .Columbus Fire Department
Ray Fadley . . . . . .Columbus Fire Department
Charles W. Hovermale . . . . . Grandview Fire Department
Joseph E. Keefer . . . . . .Columbus Fire Department
Henry H. Litteral . . . . . .Upper Arlington Fire Department
David A. Lucht, P.E. . . . . Ohio State Fire Marshall

Fire Science Technology

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Sciences Department	9
General Education Division	3

CURRICULUM FOR PART-TIME EVENING CLASSES

COURSE	HOURS CLASS	HOURS LAB	CREDITS
First Quarter			
1001 Language Development or	5	0	3
1002 Beginning Composition	5	0	3
1522 Psychology	3	0	3
7901 Introduction to Fire Protection*	3	0	3
			9
Second Quarter			
1002 Beginning Composition or	5	0	3
1003 Essay and Research	5	0	3
1514 Sociology	3	0	3
7935 Building Construction*	3	0	3
			9
Third Quarter			
General Education Elective** or	3	0	3
1003 Essay and Research	5	0	3
1171 Public Service Mathematics	5	0	4
			7
Fourth Quarter			
1004 Technical Writing	3	0	2
1392 Basic Physics	3	2	3
7905 Fire Investigation Methods*	3	2	4
			9
Fifth Quarter			
1024 Speech	3	0	2
7909 Chemistry of Hazardous Materials I*	3	2	4
7021 Community Affairs I - Local Government	3	0	3
			9
Sixth Quarter			
7904 Fire Hydraulics*	3	2	4
7913 Chemistry of Hazardous Materials II*	3	2	4
			8

*Technical Course **As Approved by Advisor

Fire Science Technology

COURSE		HOURS CLASS	HOURS LAB	CREDITS
Seventh Quarter				
1515	Human Behavior	3	0	3
7902	Fire Prevention Practices	3	0	3
7932	Industrial Fire Protection	3	0	3
				9
Eighth Quarter				
1505	General Economics	3	0	3
7022	Community Affairs II – Public Relations	3	0	3
7912	Fire Protection Systems*	3	0	3
				9
Ninth Quarter				
7043	Personnel Training Methods	4	0	3
7914	Fire Fighting Command I*	4	0	4
				7
Tenth Quarter				
7024	Supervision of Public Service Personnel	3	0	3
7931	History of Fire Protection*	3	0	3
7933	Special Fire Fighting Problems*	3	0	3
				9
Eleventh Quarter				
7026	Public Administration	4	0	3
7916	Legal Aspects of Fire Protection*	3	0	3
	General Education Elective**	5	0	3
				9
Twelfth Quarter				
7911	Fire Fighting Tactics*	5	4	5
7934	Fire Insurance*	3	0	3
7936	Recent Developments in Fire Fighting*	3	0	3
				11

*These courses are electives and may be replaced with any other electives with no change in either class hours or credit hours.

TECHNICAL ELECTIVES

7915	Fire Fighting Command II	3	0	3
7916	Legal Aspects of Fire Protection	3	0	3
7924	Emergency Rescue Operations	3	0	3
7926	Fire Protection Seminar	3	0	3
7931	History of Fire Protection	3	0	3
7932	Industrial Fire Protection	3	0	3
7933	Special Fire Fighting Problems	3	0	3
7934	Fire Insurance	3	0	3
7936	Recent Development of Fire Fighting	3	0	3
	A Technical or Basic Course from another Technology			

*Technical Course **As Approved by Advisor

Fire Science Technology

COURSE DESCRIPTIONS

7901–INTRODUCTION TO FIRE PROTECTION*

Survey of fire protection: the role, history, and development of the fire service. Organization of the fire service. Other topics: fire equipment and apparatus, communications, records, and reports, insurance rating systems, and the law as it pertains to the fire service.
3 hours lec. 3 credits.

7902–FIRE PREVENTION PRACTICES*

A study of buildings and other structures with emphasis on fire protection procedures and practices. Fire ratings of materials. Inspection practices, explosive flammable storage, and codes and fire ordinances.
3 hours lec. 3 credits.

7904–FIRE HYDRAULICS*

An introduction to hydraulic theory. Drafting of water, velocity, and discharge, friction loss, engine and nozzle pressure, fire streams and pressure losses in flowing hydrants. Practice in application of hydraulic principles. Flow and pump testing as well as a study of water distribution systems.
†1171, 1341. 3 hours lec. 2 hours lab. 4 credits.

7905–FIRE INVESTIGATION METHODS*

A study of the principles of fire investigations including recognition, preservation, collection, and presentation of arson evidence. Arson laws, interrogation of witnesses, application of photography preparation of reports, and adjustment of insured losses. Estimation of loss due to fire, smoke, and water.
3 hours lec. 2 hours lab. 4 credits.

7909–CHEMISTRY OF HAZARDOUS MATERIALS I*

Concepts of Chemistry needed to understand hazardous materials.
3 hours lec. 2 hours lab. 4 credits.

7911–FIRE FIGHTING TACTICS*

Techniques and procedures of fire fighting with emphasis upon the role of the individual fireman. Methods of extinguishing fires, life saving procedures, special fire fighting equipment, salvage, prevention of rekindling and overhauling. Experienced fire fighters having graduated from a fire department academy, may receive credit for this course upon recommendation by the local fire department.
5 hours lec. 4 hours lab. 5 credits.

7912–FIRE PROTECTION SYSTEMS*

The design and operation of fire protection systems, including water distribution, direction, alarm and watchman services and protection systems

for special hazards. Carbon dioxide, dry chemical foam and water spray systems studied in detail. Standpipes and sprinkler systems and methods of re-establishment after use. Fire protection engineers serve as guest lecturers.
3 hours lec. 3 credits.

7913—CHEMISTRY OF HAZARDOUS MATERIALS II*
An analysis of chemical reaction as the causitive agent of fire. Topics discussed: redox reactions, reaction rates, toxic compounds, and hazardous combinations of chemicals. Hazards of radioactive materials, poisonous gases and LP gases. Methods of transportation of hazardous materials, DOT regulations and markings.
†7909. 3 hours lec. 2 hours lab. 4 credits.

7914—FIRE FIGHTING COMMAND I*
Group operations and command strategy at the company officer level. The training of the company to operate as a team. Methods implementing plans developed at the chief level.
4 hours lec. 4 credits.

7915—FIRE FIGHTING COMMAND II*
Group operations and command strategy as the chief officer level. Preplanning of firefighting operations, employment of personnel and equipment. Specific tactical problems analyzed. Operation and tactics including mutual and outside aid in fire fighting.
Elective. †7914. 3 hours lec. 3 credits.

7916—LEGAL ASPECTS OF FIRE PROTECTION*
Introduction to law, civil and criminal actions, and the judicial system. Municipal liability for acts of the fire department and its members. Pensions, salary and compensation, and termination. Duty owed by the public to members of the fire department. The initiation, operation, liability, and legal aspects of mutual aid, primary response contracts, and private contracts.
Elective. 3 hours lec. 3 credits.

7924—EMERGENCY RESCUE OPERATIONS*
Advanced first aid. Emergency rescue operations including the heavy rescue unit. Use of special tools and rigging. Study and practice of rescue operations on water, highways, and industrial locations. Relationships of the fire department and civil defense, auxiliary, and volunteer units.
Elective. 3 hours lec. 3 credits.

7926—FIRE PROTECTION SEMINAR*
Discussions of particular problems related to the fire fighting services. Students research and report on areas of special interest. Authorities invited to present special interest programs.
Elective. 3 hours lec. 3 credits.

**Technical Course † Prerequisites $ Lab Fee*

Fire Science Technology

7931—HISTORY OF FIRE PROTECTION*

Fire protection methods from early civilization through organization of fire departments. Reference to notable fires of history, their cause, course, damage, and result. An appreciation for the profession of fire fighting.

Elective. 3 hours lec. 3 credits.

7932—INDUSTRIAL FIRE PROTECTION*

The organizations and operations of in-plant fire companies; purchase of supplies and equipment, special fire fighting tactics, training of personnel, and relations to the municipal fire department.

Elective. 3 hours lec. 3 credits.

7933—SPECIAL FIRE FIGHTING PROBLEMS*

Methods of fighting aircraft and marine fires. Methods of fighting fires in industrial processes involving hazardous or unknown materials.

Elective. 3 hours lec. 3 credits.

7934—FIRE INSURANCE*

The history and principle of fire insurance. The principles and practices of inspection for the purpose of determining premium rates.

Elective. 3 hours lec. 3 credits.

7935—BUILDING CONSTRUCTION*

An introduction to the present practices of building construction. Local and state building codes and laws as applied to fire protection. An insight into the contents of concealed space, location of ventilation equipment, plumbing and electrical cut-offs. Relationships between construction materials and fire damage of a building.

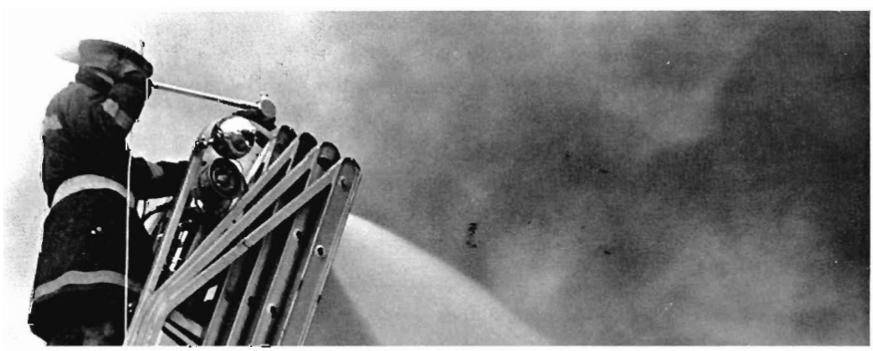
3 hours lec. 3 credits.

7936—RECENT DEVELOPMENTS OF FIRE FIGHTING*

A study of recent equipment developments and methods for extinguishing fires. Survey of new combustible materials and chemicals and methods for their handling.

Elective. 3 hours lec. 3 credits.

**Technical Course † Prerequisites $ Lab Fee*



Law Enforcement Technology

AS AMERICAN society becomes more complex, increasing demands for highly trained and educated personnel are made upon all areas of public service. Law enforcement is no exception.

The Law Enforcement Technology is designed to provide a broad background in education, and the special skills necessary for entry into a variety of careers in local, state, and federal law enforcement agencies, private protection agencies, and industrial plant security.

The Law Enforcement Technology provides an excellent background in chemistry, physics, mathematics, and the humanities, with technical courses covering administration, criminal evidence and procedures, investigation and interviewing, law enforcement, and crime prevention. Electives are provided to allow the student a degree of specialization according to his interests.

Opportunities for Graduates

The pressures of complex urban societies and problems of growing crime rates have stimulated the creation of many law enforcement programs in colleges, community colleges, and technical institutes across the nation. Law Enforcement Technology is one such program which is designed to fulfill the need for police professionalism. Law enforcement courses, coupled with the basic and general courses train a student to be familiar with law and society, science, and the humanities. The professional policemen has increased opportunities and salary. Retirement pensions, sick leave systems, and other fringe benefits make this career attractive. Graduates with the necessary experience, judgment and mental capacities may advance to administrative positions. Other opportunities exist in the fields of private investigation, plant and store security.

Law Enforcement Technology

Professional Advisory Committee

Lawrence Bigler . . . . . Columbus Police Department
L. E. Day . . . . . Westerville Police Department
Simon Dinitz . . . . . Ohio State University
Ralph Drown . . . . . Columbus Police Department
E. R. Krumm . . . . . Bexley Police Department
James Rutter . . . . . Columbus Police Department
Jess E. Moore . . . . . Reynoldsburg Division of Police

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS**	CREDITS
Communication Skills Department	10
Behavioral Sciences Department	9
General Education Division	3

The courses in this technology are offered both during the day and the evening schedules. The schedule below is that of the day. The same schedule will be followed for evening classes

FIRST YEAR

	COURSE	HOURS CLASS	HOURS LAB	CREDITS
First Quarter				
7021	Community Affairs I - Local Government	3	0	3
7801	Introduction to Law Enforcement*	4	0	3
7811	Criminal Evidence and Procedure I* ($1.00)	5	4	5
	Communication Skills Course**	—	—	3
	Behavioral Science Elective**	—	—	3
				17
Second Quarter				
7022	Community Affairs II - Public Relations	3	0	3
7802	Crime Prevention Techniques*	3	0	3
7812	Criminal Evidence and Procedures II* (1.00)	5	4	5
	Communication Skills Course**	—	—	3
	Behavioral Science Elective**	—	—	3
				17
Third Quarter				
1024	Speech	3	0	2
1131	Business Math	5	0	4
7813	Traffic Accident Investigation*	3	2	3
	Behavioral Science Elective**	—	—	3
	(2) Law Enforcement Electives***	—	—	6
				18

**Technical Course **As Approved by Advisor*

****The student of Law Enforcement Technology has the choice of selecting any of the following courses for his electives.*

Law Enforcement Technology

SECOND YEAR

COURSE		LAB FEES	HOURS CLASS	HOURS LAB	CREDITS
Fourth Quarter					
1342	Physical Science II		4	2	4
7825	Constitutional Law		5	0	4
7804	Juvenile Procedures*		5	0	4
7824	Investigation and Interviewing*		3	2	4
	(1) Law Enforcement Elective***		–	–	3
					19
Fifth Quarter					
7024	Supervision of Public Service Personnel		3	0	3
7043	Personnel Training Methods		3	0	3
7805	Ohio Criminal Code*		4	0	4
	Communication Skills Course**		–	–	2
	(2) Law Enforcement Electives***		–	–	6
					18
Sixth Quarter					
7026	Public Administration		4	0	3
7816	Case Preparation*		3	3	4
	General Education Elective**		–	–	3
	(3) Law Enforcement Electives***		–	–	9
					19
TECHNICAL ELECTIVES					
7803	Traffic Administration		3	0	3
7831	Police Photography ($4.00)		3	0	3
7832	Fingerprinting ($1.00)		3	0	3
7833	Police Department Intelligence		3	0	3
7834	Police Department Organization		3	0	3
7836	Juvenile Delinquency		3	0	3
7837	Police Communications		3	0	3
7838	Vice Squad Operations I		3	0	3
7839	Vice Squad Operations II		3	0	3
7841	Major Crime I		3	0	3
7842	Major Crime II		3	0	3
7844	Safety Education		3	0	3
7845	Penology		3	0	3
7846	History of Law Enforcement		3	0	3
7847	Police Records		3	0	3
7849	Crime Laboratory Techniques ($4.00)		3	0	3

*Technical Course **As Approved by Advisor

***The student of Law Enforcement Technology has the choice of selecting any of the following courses for his electives.

Law Enforcement Technology

7801—INTRODUCTION TO LAW ENFORCEMENT* (A)

A survey of law enforcement, its role, history, and development. English Common Law. An introduction to modern police practices and the functions of other agencies involved in the administration of criminal justice. Law enforcement officers ethics. An introduction to local, state, and federal court procedures.

4 hours lec. 3 credits.

7802—CRIME PREVENTION TECHNIQUES* (W)

Survey of the use of patrol procedures in crime prevention. Included are the purpose and types of patrol, deviant behavior, police communications including radio, teletype and computerized communication systems are examined. Observation and perception, identification and description of individuals and property, a summary of the use and types of weaponry and techniques by call. Required by requests for police service.

3 hours lec. 3 credits.

7803—TRAFFIC ADMINISTRATION*

An orientation to highway traffic administration. Discusses the responsibilities of agencies involved in the highway transportation system with emphasis on the police function. Included are supervision enforcement definitions and rates, accident prevention and control problems, basic principles of traffic law enforcements, and the federal standards for highway safety that have a direct bearing on police operations.

Elective. 3 hours lec. 3 credits.

7804—JUVENILE PROCEDURES* (A)

Organization, functions, and jurisdiction of juvenile agencies. Processing and detention of juveniles. Statutes and court procedures relating to juveniles. Police services for juveniles and neglected children. Rights and liabilities of minors and their parents.

5 hours lec. 4 credits.

7805—OHIO CRIMINAL CODE* (W)

The study of the statutes of Ohio to crime and criminal procedures with emphasis on the specific elements necessary to constitute individual crimes. An introduction to civil law as it relates to the law enforcement officer.

5 hours lec. 4 credits.

7811—CRIMINAL EVIDENCE AND PROCEDURES I* (A)

Analysis of statutes and court decisions on the accumulation, presentation, and admissibility of criminal evidence. The origin, development, and philosophy of the rules of evidence. Laboratory includes the recognition, collection, and preservation of evidence and its preparation

for court presentation. An introduction to fingerprinting and its classifications.
5 hours lec. 4 hours lab. 5 credits. $1.00 lab fee.

7812—CRIMINAL EVIDENCE AND PROCEDURES II* (W)
Tests for admissibility of evidence and types of evidence. Arrest, search, entrapment, and opinion testimony. Laboratory includes an introduction to identification processes for fire-arms and bullets, tool marks, blood and hair analysis and photography.
†7811 5 hours lec. 4 hours lab. 5 credits $1.00 lab fee.

7813—TRAFFIC ACCIDENT INVESTIGATION* (SP)
An in depth study of the procedure and objectives in accidents, gathering facts from road, vehicle and witnesses, hit and run investigation, measurements and diagrams, utilization of skid marks evidence, proper method of recording accident data, use of accident template and a practical application of the recommended method of submitting the Ohio State Traffic Crash report.
3 hours lec. 2 hours lab. 3 credits.

7816—CASE PREPARATION* (SP)
A study of the necessary reports, review of case and conference with prosecutor, witnesses and technical reports. Proper submission of physical evidence, psychology of courtroom testimony. Participation in mock trials followed by actual courtroom trial visitations.
3 hours lec. 3 hours lab. 4 credits.

7824—INVESTIGATION AND INTERVIEWING*
An analysis of the use of interviewing as a tool in investigation. Covering preparation of an interview, types of interviews, interview techniques and their psychological application to obtaining accurate and admissible statements.
3 hours lec. 2 hours lab. 4 credits.

7825—CONSTITUTIONAL LAW
A study of Federal and State Constitutional Law and the Bill of Rights with emphasis on the rights to due process of law, equal protection of the law, jury trial, and assistance of counsel. Interpretation of the Constitution by the United States Supreme Court as given in their decisions.
5 hours lec. 4 credits.

7831—POLICE PHOTOGRAPHY*
Photography at specific crime scenes. Photography of criminal evidence. Micro and macrophotography. Preparing the court exhibit. Darkroom techniques. Use and care of photographic equipment.
Elective. 3 hours lec. 3 credits. $4.00 lab fee.

**Technical Course † Prerequisites $ Lab Fee*

Law Enforcement Technology

7832—FINGERPRINTING*

A study of fingerprinting recognition and classification procedures. Analysis of distinguishing features of fingerprint patterns. Instruction in photography of latent prints prior to listing. Proper methods of lifting and preserving evidence.

Elective. 3 hours lec. 3 credits. $1.00 lab fee.

7833—POLICE DEPARTMENT INTELLIGENCE*

The collection and evaluation of information dealing with security and safety of the municipality. Methods of observation of criminal and subversive organizations, checking on rumors, intro-police communications, and the use of informants.

Elective. 3 hours lec. 3 credits.

7834—POLICE DEPARTMENT ORGANIZATION*

An introduction to the principles governing the organization and administration of law enforcement organizations. Included for study are: functions and activities, development of policy, significance of community relations in effective police work, and training and control of police forces.

Elective. 3 hours lec. 3 credits.

7836—JUVENILE DELIQUENCY*

The philosophy and methods of police programs for the prevention and control of juvenile delinquency and youth crime. Emphasis on specific techniques and consideration of the issues and problems to be resolved by police, desirable principles and practices based upon prevailing professional thinking, public policy, existing law, juvenile rights and knowllege of current delinquent behavior theories.

Elective. 3 hours lec. 3 credits.

7837—POLICE COMMUNICATIONS*

Analysis of various communication devices. Care and proper use of equipment. Types of information needed and proper procedures for transmission.

Elective. 3 hours lec. 3 credits.

7838—VICE SQUAD OPERATIONS I*

Methods of law enforcement related to illegal traffic in liquor, gambling, morals, and prostitution.

Elective. 3 hours lec. 3 credits.

7839—VICE SQUAD OPERATIONS II*

A study of narcotics and hallucinogenics, with emphasis on the addict, the drugs, controls, local, state, and federal and United Nations efforts to control drugs. The illegal sale and use of drugs, and drug addiction.

Elective. 3 hours lec. 3 credits.

7841–MAJOR CRIME I*

Principles and techniques of investigation and prosecution of major crimes. Emphasis on methods involving homicide, suicide, assault, and rape. Human physiology as applied to police investigation.
Elective. 3 hours lec. 3 credits.

7842–MAJOR CRIME II*

Principles and techniques of investigation and prosecuting of major crimes. Emphasis on methods involving auto theft, burglary, and grand larceny. "Methods of Operation" techniques.
Elective. 3 hours lec. 3 credits.

7844–SAFETY EDUCATION*

Methods of motivation and instruction of children and adults with emphasis on the subject of safety education. Principles of automobile, bicycle, motorcycle, predestrian, and firearm safety.
Elective. 3 hours lec. 3 credits.

7845–PENOLOGY*

A study of the admitting, quartering, and releasing of prisoners. Emphasis on city and county systems, for handling prisoners.
Elective. 3 hours lec. 3 credits.

7846–HISTORY OF LAW ENFORCEMENT*

A study of law enforcement from early civilization through the modern police department. Reference to notable crimes in history, their particulars, and results in law enforcement procedures change Scientific advances and their role in law enforcement. An appreciation for the profession of law enforcement.
Elective. 3 hours lec. 3 credits.

7847–POLICE RECORDS*

The necessity, techniques, and details of keeping records in a police department. Criminal records, filing, and cross-reference system. Officer report writing.
Elective. 3 hours lec. 3 credits.

7849–CRIME LABORATORY TECHNIQUES*

A study of special chemical and physical procedures used in the crime laboratory. The use of specialized instrumentation: microscope and micro-photography, x-ray equipment, and spectrophotometers.
Elective. 3 hours lec. 3 credits. $4.00 lab fee.

**Technical Course $Lab Fee*

Social Services Technology

THE SOCIAL SERVICES Technology program provides a two-year college-level program for high school graduates interested in working with the people of the local community and in helping them with their daily problems. The social services technician is a person who recognizes, refers, and follows-up on difficulties experienced by people living in the community. He works with professionals in the health, education, legal, and vocational areas.

Opportunities for Graduates

The social services technician is able to recognize problems of a physical and mental health nature; also those in educational, social, legal, vocational and financial areas. He then refers the problem to the proper professional in an appropriate community agency for solution. The technician, or aide as he is also termed, provides follow-up services to see that the problem is alleviated.

Currently, Social Services Technicians are employed by several community service agencies operating in Columbus and Central Ohio. Graduates of the Social Services Technology are qualified to function in this capacity.

Professional Advisory Committee

Mr. Marvin Boyles . . . . . Student
Ms. Billie Brown . . . . . Director, Neighborhood House
Mr. Douglas Comer . . . . . Director, Model-Cities BVR
Mr. Fred Fitzer, M.S.W. . . . . Staff Development
Franklin County Welfare Department
Ms. Margo Floyd . . . . .
Ms. Sandra Ford . . . . . Supervisor, Friends-in-Action
Mr. Joseph Friend . . . . . Consultant
Mr. J.D.P. Knight . . . . . Neighborhood House
Dr. Henry Leland, Ph.D. . . . . Chief of Psychology, Nisonger Center
Mr. Raymond E. Lowry Jr. . . . . Chairman, East Central Citizens Organization
Ms. Ardath H. Lynch . . . . . Director, Franklin County Council on Aging
Ms. Mary E. Harris . . . . . Executive Director,
Planned Parenthood Association

Social Services Technology

Mrs. Dolores C. Ransom . . . . . Education Planner, Model Cities
Ms. Mary Sloan . . . . . Planned Parenthood
Ms. Leslie Summers . . . . . .Career Development Officer, CMACAO
Mr. Bob Wilson . . . . . .Director, Open Door Clinic

COURSE REQUIREMENTS FOR GRADUATION

GENERAL STUDIES REQUIREMENTS	CREDITS
Communication Skills Department	10
Behavioral Sciences Department	9
General Education Division	3
Basic Course Requirements	24
Technical Courses Requirements	55

FIRST YEAR

	SUGGESTED COURSE OF STUDY	CLASS	LAB HOURS	CREDITS
First Quarter				
1001	Language Development (If required by test)* OR			
	General Education Elective	5	0	3
1522	Psychology, or another	3	0	3
	Behavioral Science Elective			
7502	Occupational Services*	3	0	3
7511	Community Services Organization*	3	0	3
7521	Interview Techniques*	3	0	3
				15
Second Quarter				
1002	Communication Skills II	5	0	3
	Behavioral Science Elective	3	0	3
1531	Child Development I	3	0	3
1544	Black Culture	3	0	3
7505	Categorical Disabilities*	3	0	3
7512	Concepts of Counseling*	3	0	3
				18
Third Quarter				
1003	Communication Skills III	5	0	3
	Behavioral Science Elective	3	0	3
1532	Child Development II	3	0	3
7516	Home Nursing Services*	3	0	3
7516	Family Counseling *	3	0	3
7533	Field Experience Seminar III*	1	0	1
7583	Field Experience III*	0	9	3
				19

*Technical Course **As Approved by Advisor

SECOND YEAR

SUGGESTED COURSE OF STUDY	CLASS	LAB HOURS	CREDITS
Fourth Quarter			
1014 Business Communications	3	0	2
1518 Urban Sociology	3	0	3
7504 Case Work Practices*	3	0	3
7501 Public Health Services*	3	0	3
7507 Social Ecology*	3	0	3
7534 Field Experience Seminar IV*	1	0	1
7584 Field Experience IV*	0	9	3
			18
Fifth Quarter			
1024 Speech	3	0	2
7041 Aid-in-Crises	3	0	3
7503 Family Planning Services*	3	0	3
1535 Speech and Audiology	3	0	3
7515 Case Recording*	3	0	3
7535 Field Experience Seminar V*	1	0	1
7885 Field Experience V*	0	9	3
			18
Sixth Quarter			
General Education Elective (If needed)**	3	0	3
7042 Basic Food Facts	3	0	3
7044 Family Spending	3	0	3
7506 Mental Hygiene Services	3	0	3
7536 Field Experience Seminar VI*	3	0	3
7586 Field Experience VI*	0	9	3
			13 or 16

COURSE DESCRIPTIONS

7501—PUBLIC HEALTH SERVICES* (A)

The organization of Public Health Departments and the services provided to the community. The relationship of the technician to the Department.
3 hours lec. 3 credits.

7502—OCCUPATIONAL SERVICES* (A)

The development of vocational information and career development information. The development of kits with necessary application forms, etc. Instruction on how the technician can help families complete these forms and transmit them to the appropriate people.
3 hours lec. 3 credits.

7503—FAMILY PLANNING SERVICES* (W)

Instruction in the broad lines of family planning with special emphasis on development of resource personnel and resource information and the giv-

ing of immediate help to families who seem to present immediate problems. Directed primarily through representatives of family planning agencies.
3 hours lec. 3 credits.

7504–CASE WORK PRACTICES* (A)
A study of the varying and most appropriate methods by which the social worker investigates problem situations. Case studies and practicums in the areas of personal problems and family maladjustments. Studies of local casework agencies.
†7513. 3 hours lec. 3 credits.

7505–CATEGORICAL DISABILITIES* (W)
A study of the many areas of disabilities as they may affect individuals of all ages. Research into the causation of psychological, social, and physical trauma; extent of manifestations within the general population; and examination of available services for those so afflicted.
3 hours lec. 3 credits.

7506–MENTAL HYGIENE SERVICES* (S)
Recognition and early identification of mental hygiene problems with special emphasis on general counseling aides and ways of transmitting the information to appropriate mental health resources for early intervention.
3 hours lec. 3 credits.

7507–SOCIAL ECOLOGY* (A)
A general course of instruction on recognition of high risk situations, general housing problems and the general patterns of the relationship between specific living conditions and the family in question.
3 hours lec. 3 credits.

7511–COMMUNITY SERVICES ORGANIZATION* (A)
A basic orientation course for the whole program, designed to inform the technician how to instruct families as to their rights of participation in community affairs. A study of agencies to contact, the various services provided, and the general lines of community activities available. Types of agencies include health, education, recreation, legal, and general welfare.
3 hours lec. 3 credits.

7512–CONCEPTS OF COUNSELING* (W)
An introduction to the field of counseling. A broad approach which involves how best to advise others to deal with their problems. Areas include health, education, economic and social approaches.
†7521. 3 hours lec. 3 credits.

7513–FAMILY COUNSELING* (S)
An in-depth approach on how to advise families to deal with specific problems. Students use resource materials to counsel actual families. A

special emphasis on how one gains specific information to meet emergent needs; how to put this into action.
†7512. 3 hours lec. 3 credits.

7515—CASE RECORDING* (W)

Training and experience in assessing pertinent information and becoming proficient in preserving necessary facts. Exercises with and study of agency forms currently in use. Practice in the use of recording equipment.
†7504. 3 hours lec. 3 credits.

7516—HOME NURSING SERVICES* (S)

Recognition, prevention and remediation of nursing and hygiene problems in the home. Patterns of recognition of potential areas of difficulty and sanitation risks as well as lines of long range prevention to maintain control of disease and undesirable living conditions.
3 hours lec. 3 credits.

7521—INTERVIEW TECHNIQUES* (A)

How to interview, how to use a previously prepared check list in gaining specific information, how to ask questions, how to observe, how to gain rapport and confidence in the families being contacted.
3 hours lec. 3 credits.

7533—7536—FIELD EXPERIENCE SEMINARS III, IV, V, VI* (S)

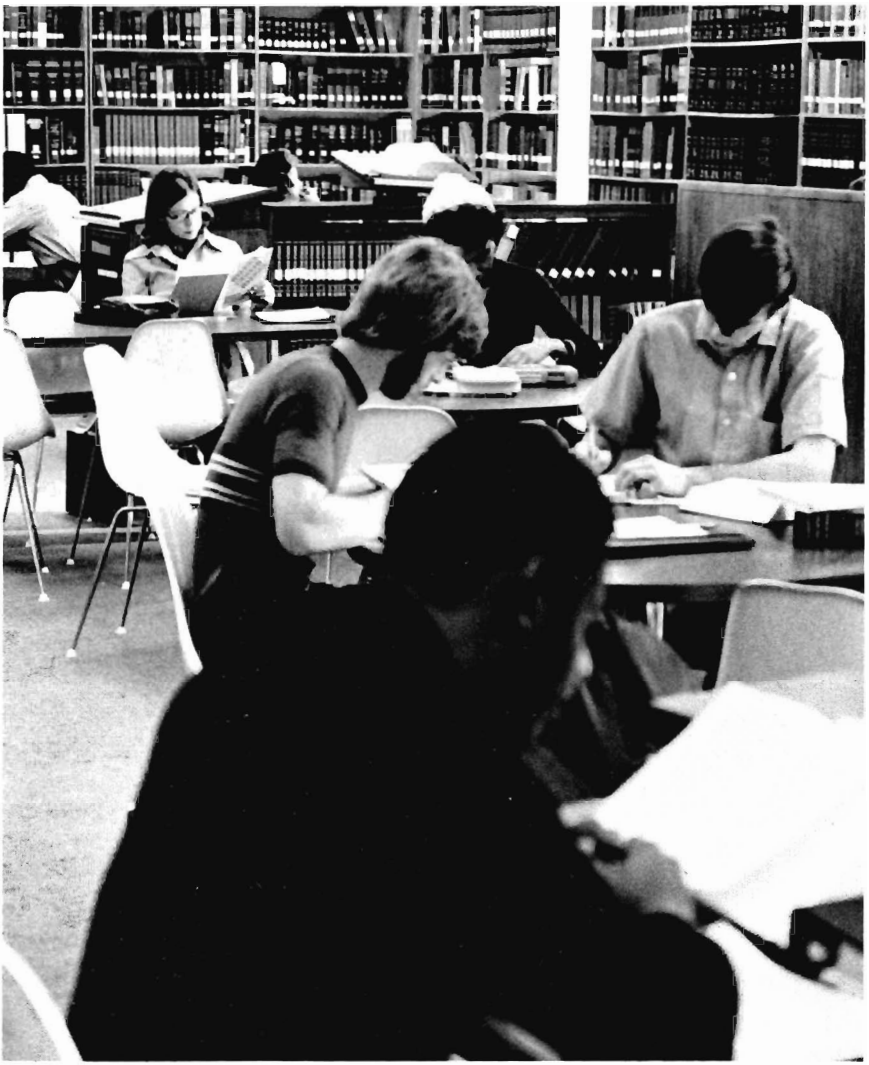
Group discussions of experiences arising during Field Experiences. Integration of theory and practice. Individual reports. These seminars run concurrently with Social Service Field Experience III, IV, V, VI.
1 hour lec. 1 credit. (each).

7583—7586—SOCIAL SERVICES FIELD EXPERIENCES III, IV, V, VI* (S)

These courses involve the student in applying his classroom studies in the field. Students are accepted by local social service organization administrators and supervisors, usually on a part-time volunteer basis. These professionals guide and evaluate the student performance.
9 hours lab. 3 credits (each).

**Technical Course †Prerequisites*

Social Services Technology



Division of Continuing Education

Division of Continuing Education

Director: Carol A. Fought
Office: Room 113, Administration Building
Telephone: 221-6743, Extension 244 or 245

CONTINUING EDUCATION is for the rest of your life, and adults in the Central Ohio Area prove this is true by their response and enrollment in educational programs through The Division of Continuing Education. Adults from all backgrounds take advantage of educational opportunities at Columbus Tech which provide a "continuous" opportunity for furthering their education at all stages of life. Among them are adults considering a change in careers, advancement in their present position, completion of a degree program, taking a refresher course, taking a course for personal enrichment, as well as graduates having completed degree programs returning for refresher or retraining courses. Through The Division of Continuing Education, Columbus Tech provides educational opportunities needed and requested by citizens at varying stages of employment, upgrading and career mobility, as well as special interest courses.

The primary purpose of The Division of Continuing Education is to provide educational programs to serve the needs of citizens not traditionally met through educational programs designed for "traditional" life style patterns. Continuing education programs attempt to serve the needs of adults at any point in their life when they are faced with a decision of redirection, reentry, or renewal of education. With this basic philosophy, continuing education at Columbus Tech provides varied opportunities and directions for students. The following are examples of the diversified programs from which the student may select:

Evening Credit Courses – Associate Degree Programs
Credit Courses for Non-Credit
Non-Credit Special Courses
Custom Tailored Courses for Business and Industry
Professional Associations – Columbus Tech, Cooperative Programs
One-Year Certificate Programs
Counseling and Resource Center for Women
"Good As Gold Educational Program" – Senior Citizens
Conferences, Seminars, and Workshops

Evening Credit Courses – Associate Degree Programs

Opportunities are available for students to enroll in credit evening courses and to complete an Associate Degree in selected fields of study. Evening classes

provide equivalent academic standards and requirements as the day classes. Students are able to transfer or combine studies from the day or evening schedule depending on their employment or home responsibilities.

Admission and registration requirements for evening degree programs are the same as those for degree programs completed during the day, and have been simplified for the students' convenience. A one-stop enrollment and registration service is offered, with counselors available Monday through Thursday, 8:00 a.m. through 8:00 p.m.; Friday, 8:00 a.m. through 6:00 p.m.; and Saturday, 9:00 a.m. – noon, for career counseling and information relative to Columbus Tech's educational programs.

For admission, the student needs:

1. An application and $35.00 matriculation fee
2. A high school transcript or G.E.D. Scores
3. A college transcript (if transfer credit is requested)
4. Medical Health Statement (for certain technologies only)
5. Career Planning Profile Scores (optional).

For additional information on admission procedures, see pages 5 through 10.

Tuition costs vary according to the number of courses selected and the total number of credit hours scheduled. Class schedules also vary depending upon the requirements of each course, with some classes meeting one evening while other require two or three evenings for classes. The usual academic load is one-half the daytime load with a proportionate extension of time required to complete the program.

Credit course locations are not limited to the Columbus Tech Campus. The opportunity exists for courses to be conducted at on-site locations throughout the community.

Students undecided as to their major field of study may enter general courses and explore various opportunities while deciding upon a definite career field. Counselors are available for appointments to discuss the various degree programs and credit courses conducted through The Division of Continuing Education Evening Degree Programs. An appointment may be scheduled by calling 221-6743, extension 244 or 245.

Benefits Available to Veterans

All of the credit evening degree courses and many of the non-credit courses offered at Columbus Tech qualify under the Veterans Administration G.I. Bill. The V. A. Coordinator, who is available in the Student Services Office, Monday through Friday from 9:00 a.m. to 4:00 p.m., maintains a list of V. A. approved non-credit courses. He will assist individuals in determining benefits to which they may be entitled. For further information, the V. A. Coordinator may be contacted by calling 614/ 221-6743, extension 200.

Credit Courses for Non-Credit

All credit courses may be taken on a non-credit basis. Students enrolling for credit courses on this basis need not complete formal admission procedures required of degree-oriented students. Adults employed in business and industry,

or those already awarded a college degree, may benefit from enrolling in evening credit courses on a non-credit, non-degree status. Costs vary according to the course contact hours and lab fees.

Upon successful completion of the courses, a certificate is awarded, but no official record or transcript is maintained. The student may later petition to convert these courses to credit by completion of the formal admission requirements, payment of matriculation fees, evaluation of courses completed by the appropriate department chairperson, and payment of fee differential between credit and non-credit cost.

Non-Credit Special Courses

Columbus Tech's Division of Continuing Education offers custom tailored courses to meet the needs and requirements of local business, industries, professional associations, community agencies and the general public. Each course varies in educational goals, cost, and length of training. Courses may be conducted on the Columbus Tech Campus, at community sites or at employment training centers most accessible to the class members. Non-credit courses may be taken without formal enrollment at Columbus Tech. A written or telephone application with advance payment of fees is requested.

Food and Nutrition Courses. Specialized programs are developed for a variety of areas within food service operation, and nutrition for community-coordinated groups. Classes generally are scheduled within the evening hours from 4:00 p.m. to 9:00 p.m., Monday through Thursday. Upon request of the employer or agency, specially developed programs will be provided during the day within the organization's facility.

The Department is offering a 90 hour Dietetic Assistants' Program to meet Health, Education, and Welfare's requirements for Nursing Home—Health Care food service supportive personnel.

Continuing Education is also being provided for the State Department Rehabilitation and Correction and State Department of Mental Health.

Business and Industry Courses. Special non-credit courses serving business and industry in the Central Ohio Area include a concentration of courses in the Real Estate, Business and Industry areas.

1.) Real Estate Courses. Courses include those designed to satisfy the State of Ohio post-license requirements and to provide licensed real estate brokers and sales personnel an opportunity for increasing professional skills and financial success. Courses offered through the Division of Continuing Education include the following:

Real Estate Principles and Practices I
Real Estate Principles and Practices II
Real Estate Law
Real Estate Finance
Real Estate Appraisal
Special Topics (Real Estate Seminar)

Division of Continuing Education

Successful completion of all six courses are required for the Graduate Realtor's Institute (G.R.I.) designation. These courses may also be taken for credit, applicable toward an Associate Degree in Business.

2.) General Business and Industry Courses. These courses are designed to serve the educational needs of the business and industrial firms within the Metropolitan Columbus Area. Courses are offered to fulfill in-service or continuing education needs of their employees. Courses previously offered include among others:

- Industrial Supervision
- Industrial Management
- Personnel Management
- Technical Report Writing
- Business Communications for Secretaries
- Labor Relations
- Industrial Health and Hygiene
- Refrigeration Design
- Temperature Control Systems
- Airhandling-Duct Systems
- Safety and Health in Industry (OSHA)
- Metric System
- Better Photography
- Tax Shelter Investing
- Practical Mathematics for Instrument Technicians
- Executive Housekeeping
- Business Management for Dental Lab Owners
- Private Police School
- Small Boat Engines
- Certified Professional Safety (National Examination Prerequisite)

Special Interest Courses. A wide selection of "how to" non-credit courses for professionals and volunteers engaged in community service and for those citizens interested in courses for personal enrichment are offered quarterly at Columbus Tech. These special interest courses require no prerequisites for admission. Example of such programs include:

- Backyard Gardening
- Home Buyers Course
- Income Tax Preparation
- Children with Special Needs
- Home Maintenance and Repair
- Interpersonal Relationships: As We Live and Work with Older People
- Self Defense
- Proposal Writing Workshop
- Reading Improvement
- Basic Gerontology
- Care and Health of Pets
- Language Development of the Young Child

Professional Associations—Columbus Tech, Cooperative Programs

Cooperative educational relationships have been formed between Columbus Tech and several professional associations in the Columbus Area such as the American Institute of Banking, Central Ohio Management Association, and The Columbus Industrial Association. These programs enable students to earn professional certificates and/or college credit simultaneously. Columbus Tech awards credit for courses taken under the sponsorship of these professional associations upon formal enrollment at Columbus Tech, and evaluation of courses as applicable to degree programs. If the student chooses to enroll in the courses on a non-credit basis, he may petition to convert these courses to credit by completion of formal admission requirements, payment of matriculation fees,

evaluation of courses by the appropriate department chairperson, and payment of fee differential between credit and non-credit costs.

The door is open to other professional associations to affiliate their educational programs with Columbus Tech, and several other programs are currently being developed.

One-Year Certificate Programs

One-year certificate programs are available in the areas of Electronic Service Technology (preparation for an occupation in maintenance and repair of television, radio, inter-communication systems, and other types of home and commercial music systems) and in Mechanical Drafting Technology (preparation for a position as a Mechanical Draftsman).

These programs consist of four quarters of classes with a heavy emphasis on laboratory and practical application of studies.

Counseling and Resource Center For Women

Through The Division of Continuing Education, Columbus Tech provides opportunities for women of the Columbus Area to explore and avail themselves of educational and career opportunities. Concern for the individual woman and her goals are the main objectives of the program. To optimize the attainment of these goals, the Center offers the following services:

- Individual counseling
- Career exploration workshops
- Community contacts
- Career testing
- Speakers bureau
- Pre-admissions counseling
- Special seminars and non-credit courses
- Degree oriented credit courses
- Library resources

For further information, registration or appointments contact Dr. Carol A. Fought, Director, Division of Continuing Education, 614/ 221-6743, extension 244 or 245.

"Good As Gold Educational Program"

As a community service, Columbus Tech offers Senior Citizens, 60 years old and above, fully retired, the opportunity to enroll in credit or non-credit courses tuition free on a space available basis. To register for credit courses applicable to an Associate Degree, Senior Citizens pay a matriculation fee of $10.00, course lab fees, and the cost of books. Contact the Division of Continuing Education, 221-6743, extension 244 or 245 for information and counseling.

Conferences, Seminars and Workshops

Columbus Tech is equipped to assist with your conference, workshop and seminar needs. Facilities can accommodate groups of several hundred, and educational programs are designed to your specifications.

Division of Continuing Education

Community groups, businesses, and industry find the Columbus Tech campus a convenient location to schedule conferences, club meetings, and testing sessions. There is a nominal room rental, with free parking facilities for short-term programs.

Columbus Tech Brings Education To You . . . . . .

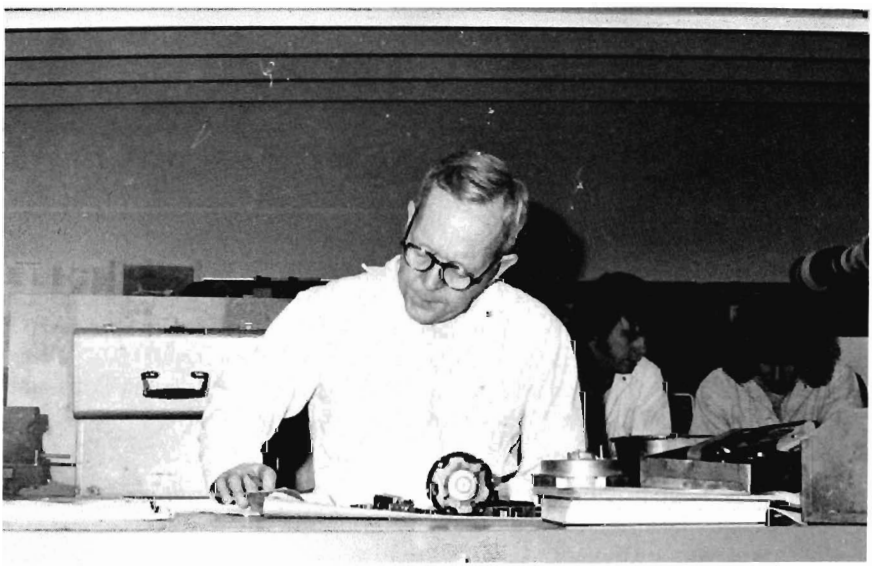
- Neighborhood Seminars
- On-site Courses for Business and Industry
- Speakers Bureau
- Community Out-Reach Programs
- Volunteer Training
- Career Education
- Specialized Counseling for Women
- Community Non-Credit Special Courses

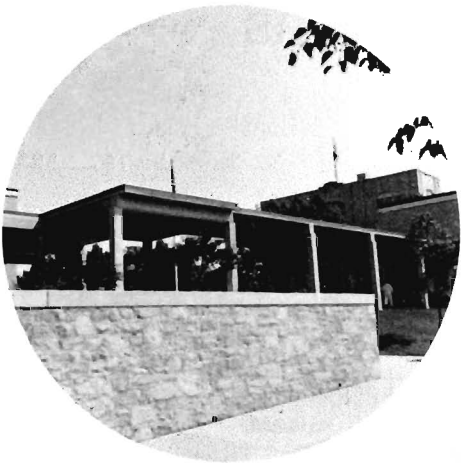
Let Us Know Your Continuing Education Needs —
We'll Program For You ! ! !

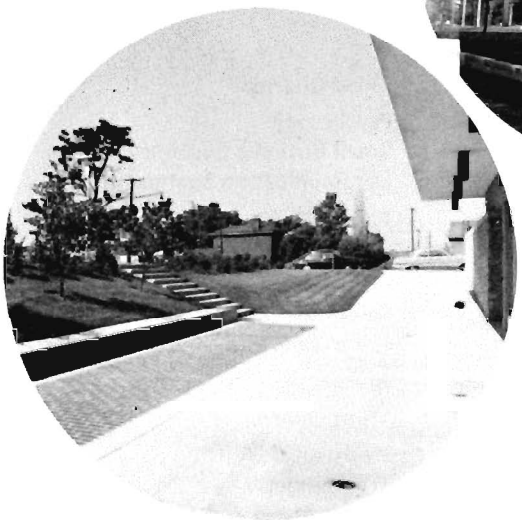
Persons interested in learning more about program offerings in their specific area of interest should contact the Division of Continuing Education at 614/221-6743,

Extension 244 and 245 — General Information and Evening Credit Degree Programs
Extension 208 — Business, Industry and Real Estate Courses

Extension 266 — Special Interest Courses
Extension 219 — Food and Nutrition Courses







One Year Certificate Programs

One Year Certificate Programs

ELECTRONICS SERVICE CERTIFICATE PROGRAM
MECHANICAL DRAFTING CERTIFICATE PROGRAM
WATER POLLUTION CONTROL PLANT OPERATOR TRAINING PROGRAM

Certificate Programs

One-year certificate programs are available in Electronics Service, Mechanical Drafting, and Water Pollution Control Plant Operator Training. These programs require the same admission standards as the Associate Degree Programs. Courses for each program are as follows:

Electronics Service Certificate Program

First Quarter
Communication Skills II
Basic Electronics Mathematics I
Basic Electronics

Second Quarter
Communication Skills IV
Basic Electronics II

Third Quarter
Psychology
Small Business Systems
Communication Systems

Fourth Quarter
Speech
Human Behavior
Salesmanship-Customer Relations
Color Television

Mechanical Drafting Certificate Program

First Quarter
Mechanical Drafting I
Machine Tools
Shop Math I
Physics (Mechanics)
Beginning Composition

Second Quarter
Mechanical Drafting II
Geometry
Materials of Industry
Essay and Research

Third Quarter
Mechanical Drafting III
Trigonometry
Welding (Gas and Electric)
Quality Control
Speech

Fourth Quarter
Casting and Forging Control
Metallurgy (Heat Treating)
Algebra (Related to Manufacturing)
Mechanical Drafting IV

Water Pollution Control
Plant Operator Training Program

THE PROGRAM'S technical content is intended to supply the trainee with a background of knowledge in the diverse areas of applied technologies which relate to water pollution treatment. It offers a firm foundation in bio-bacteriology, physics, math and basic hydraulics during the first phase. The second phase builds directly on this background, and also introduces many additional subject areas, such as sanitary chemistry and biology, wastewater collection and treatment, and water pollution control. The methods used for analysis and control become more sophisticated and involved as the trainee progresses.

Graduates of this program can expect to find employment as plant operators in many municipal, industrial, or private treatment facilities throughout the State of Ohio; also, in various municipal treatment plants around the country.

The program requires 44 weeks of intensive training. One-third of the time will be involved with on-the-job training in various treatment plants plus field trips to many different types of treatment facilities.

Curriculum

First Quarter

Public Service Mathematics
Physics (Mechanics)
Communication Skills
Introduction to Environmental Control

Second Quarter

Technical Graphics I
Basic Hydraulics
Applied Chemistry
Principles of Water Pollution Control I
Field Service Experience I
Principles of Water Quality Control I (Optional)

Third Quarter

Water Purification (Optional)
Human Behavior
Field Service Experience II
Bio-Bacteriology (Lab Analysis)
Principles of Water Pollution Control II

Fourth Quarter

Instrumentation and Controls
Management and Administration
Field Service Experience III
Orientation to Employment
State Examination Refresher
Principles of Water Pollution Control III
Principles of Water Quality Control II (Optional)

The above curriculum will provide the trainee with an opportunity to compete in Ohio State Examinations For Certification in the fields of both Water Pollution Control (Class I or II) and Water Quality Control (Class I).

General Education Division

General Education Division

THE GENERAL EDUCATION Division is responsible for the instruction of all the courses in general studies and most of the courses in basic studies.

The general studies include communication skills, social studies, and humanities. The curriculum of each technology contains a minimum of 22 credits in general studies. These courses have a dual purpose in the education of the technician. One goal is to develop an individual who can listen, speak and write so he can communicate with his fellow workers and especially with his supervisor. The other goal is to provide the technician with an understanding of himself and his fellow man. The Communication Skills and Behavioral Sciences are the two departments within the division whose main responsibility is to achieve these goals.

The curriculum of all the technologies have a minimum of 22 credits in basic studies. The Basic Sciences and Mathematics Departments of the General Education Division furnish the instruction for a good portion of these basic studies. Courses in these two departments include the physical sciences, biological sciences, and mathematics. Through these courses the student develops a proficiency in mathematical operations and a scientific background upon which to base his technical knowledge. A broad background in these fundamentals is a necessity for an efficient technician.

While working toward the fulfillment of the objective listed, the division also furnishes the student with an opportunity to do some critical thinking. The development of a student's ability to analyze and make use of the scientific method are additional objectives of each department within the division.

Most of the courses within the division are transferrable to the four-year universities and colleges. There is a growing number of students who enroll at Columbus Tech, whose main purpose is to acquire transfer credit. The division will continue to expand to provide instruction for these students, but only within the framework of the philosophy of the institute.

General Education Division

BASIC SCIENCES DEPARTMENT

1311—BASIC INORGANIC CHEMISTRY (A,SP)

An introductory course in fundamental chemical concepts and laboratory techniques. Atomic structure, periodic classification of elements, chemical equations, chemical calculations, solutions, acids and bases, oxidation-reduction reactions, and the gas laws.

5 hours lec. 4 hours lab. 5 credits. $8.00 lab fee.

1312—INTRODUCTION TO ORGANIC CHEMISTRY (W,SU)

A course in fundamental organic chemistry. The study of carbon compounds: aliphatic hydrocarbons, alcohols, ethers, aldehydes, ketones, organic acids, esters, amines, and aromatic compounds. An introduction to carbohydrates, lipids, and proteins. Related laboratory.

†1311. 5 hours lec. 4 hours lab. 5 credits. $8.00 lab fee.

1315—GENERAL MICROBIOLOGY (W)

Host parasite relationships as pertain to laboratory safety. A study of bacteria and bacteriological techniques for cultivation and isolation in pure culture, including primary, enrichment and secondary culture. Microscopic techniques. Preparation and sterilization and quality control of culture media and glassware. Preparation and use of various stains and certain reagents used in biochemical techniques for identification. Effects of physical and chemical agents. Anaerobic techniques. Other specialized methods including concentration of mycobacteria, blood cultures, water, milk, and food cultures, and antibiotic sensitivity tests. Collection of human blood specimens for bacterial culture.

†1312, 1322. 5 hours lec. 6 hours lab. 6 credits. $20.00 lab fee.

1321—PHYSIOLOGY AND ANATOMY I (A, SP)

Explanation of the basic functioning mechanisms of bacteria and viruses, animal tissues, organs, and systems.

3 hours lec. 4 hours lab. 4 credits. $6.00 lab fee.

1322—PHYSIOLOGY AND ANATOMY II (W,SU)

Familiarization of the health technology student with the various systems of the body. Systems covered: skeletal, muscular, circulatory, respiratory, urinary, nervous, digestive, and reproductive.

†1321. 4 hours lec. 2 hours lab. 4 credits. $6.00 lab fee.

1323—GENERAL HEALTH PROBLEMS (W)

A basic health course. A study of factors affecting the general health of people. This includes drugs, alcoholism, emotional and environmental diseases.

5 hours lec. 4 credits.

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† Prerequisites $ Lab Fee

1341—PHYSICAL SCIENCE I (W, SU)

Basic concepts of the physical sciences with an emphasis on the physical and chemical properties of matter. Related laboratory work and demonstrations.

4 hours lec. 2 hours lab. 4 credits. $5.00 lab fee.

1342—PHYSICAL SCIENCE II (A, SP, SU)

Emphasis is placed on the various forms of energy and their utilization. Forms of energy studied include heat, wave, sound, light, and electrical. The basic principles of Newton's Laws are also introduced. Related laboratory work and demonstrations.

4 hours lec. 2 hours lab. 4 credits. $3.00 lab fee.

1343—INTRODUCTION TO BIOLOGICAL AND PHYSICAL SCIENCES (SU)

Fundamental principles of scientific methodology as applicable to any science but especially to the biological sciences. Solutions, colloids, buffers, enzymes, oxidation and reduction (energy production), principles of electricity as applied to the neuromuscular system, and cell anatomy and physiology.

5 hours lec. 4 credits.

1344—INTRODUCTION TO ANATOMY AND PHYSIOLOGY (A)

A general overview of normal human anatomy and physiology.

3 hours lec. 3 credits.

1351—BIOLOGICAL AND PHYSICAL SCIENCES I (A, SP)

A general overview of the human body with emphasis on the anatomy of each system, as well as superficial treatment of the physiology of the body.

5 hours lec. 3 hours lab. 7 credits. $5.00 lab fee.

1352—BIOLOGICAL AND PHYSICAL SCIENCES II (W, SU)

Stresses the physiology of the digestive system and reproductive system with chemistry, genetics, and embryology included.

†1351. 5 hours lec. 3 hours lab. 7 credits. $5.00 lab fee.

1353—BIOLOGICAL AND PHYSICAL SCIENCES III (A, SP)

Stresses the physiology of movement, circulation, urinary system, nervous system, and endocrine system with chemistry and physics included.

†1352. 5 hours lec. 3 hours lab. 7 credits. $5.00 lab fee.

1371—PHYSICS AND TECHNOLOGY (on demand)

A study of the development of physics and technology from antiquity to the present. Diverse attitudes of many scientists, writers and philosophers toward physics and technology, particularly in the nineteenth and twen-

tieth centuries, are presented. Students are encouraged to look at all sides of controversial questions concerning present-day physics and technology. 4 hours lec. 3 credits.

1381—PHYSICS I (MECHANICS) (A,W,SP)

A course in the basic principles of mechanics. Major topics include equilibrium of rigid bodies, particle motion, Newton's laws of motion, work and energy, conservation principles, and rotational motion. Related laboratory and demonstrations.
4 hours lec. 2 hours lab. 4 credits. $1.00 lab fee.

1382—PHYSICS II (ELECTRICITY AND MAGNETISM) (W)

A course in the basic principles of electricity and magnetism. Major topics include electric charge and fields, capacitance and resistance, currents, DC circuits, magnetic forces and fields, magnetic properties of matter, induced electromotive force, and alternating current. Related laboratory and demonstrations.
†1381. 4 hours lec. 2 hours lab. 4 credits. $1.00 lab fee.

1383—PHYSICS III (HEAT, MATTER, AND WAVES) (A,SP)

A course in the basic principles associated with the mechanical and thermal properties of matter. Major topics include elasticity, fluid mechanics, heat and temperature, energy transformations, heat transfer, ideal and real gases, thermodynamics, vibrations and wave motion. Related laboratory and demonstrations.
†1381. 4 hours lec. 2 hours lab 4 credits $1.00 lab fee.

1384—PHYSICS IV (LIGHT AND MODERN PHYSICS) (on demand)

A course in the basic principles of electromagnetic waves, physical and geometric optics, and atomic theory. Applications of the principles to optical instrumentation, electron vacuum tubes, solid state electron devices, X-ray tubes, and lasers are featured. Related laboratory and demonstrations.
4 hours lec. 2 hours lab. 4 credits. $1.00 lab fee.

1392—MEDICAL PHYSICS I (MECHANICS AND HEAT) (W)

A course in the basic principles of mechanics and heat. The relationship between theory and experiment is emphasized through problem-solving, laboratory exercises and demonstrations. Applications to physiology are featured, and include such topics as biomechanics, circulation, respiration, body heat production and heat transfer.
4 hours lec. 2 hours lab. 4 credits. $1.00 lab fee.

1393—MEDICAL PHYSICS II (ELECTRICITY, MAGNETISM, AND OPTICS) (A, SP, SU)

A course in the basic principles of electricity, magnetism, and optics which emphasizes the relationship between theory and experiment. Laboratory exercises and demonstrations are intended to provide

practical experience in the use of measuring instruments, particularly those of the medical sciences.
4 hours lec. 2 hours lab. 4 credits. $1.00 lab fee.

$Lab

General Education Division

BEHAVIORAL SCIENCES DEPARTMENT

1501—BEGINNING PHILOSOPHY (A, SP)

A study of the definitions of philosophy and its historical development. A survey of the great thinkers, systems of logic and scientific method. A survey of Existentialism. An emphasis on the student gaining awareness of his own philosophy.
3 hours lec. 3 credits.

1505—GENERAL ECONOMICS (A, W, SP, SU)

An introductory course designed to help the student gain an understanding of basic economic issues and of fundamental problems pertaining to our market economy. The students are exposed to major tools and principles used in making economic decisions and for analysis of economic problems and issues. Students are presented opportunities to acquire skill in using the tools and principles in economic analysis.
3 hours lec. 3 credits.

1514—GENERAL SOCIOLOGY (A, W, SP, SU)

An introductory course which draws heavily from the mainstream of empirical literature incorporating the use of sociological method and logic with emphasis on obtaining knowledge about what IS. Emphasis on fundamental concepts of human society and factors affecting its development.
3 hours lec. 3 credits.

1515—HUMAN BEHAVIOR (A, W, SP, SU)

An introductory course designed to help the student develop his awareness of human behavior patterns, interpersonal communication and realization of self and other's interaction.
3 hours lec. 3 credits.

1516—POLITICAL SCIENCE (A, W, SP, SU)

An introductory course emphasizing the relationship between citizens and government, and the roles played by each in policy making decisions. Five themes are expanded in the study of political behavior: political participation, political thinking, political feelings, political persuasion and political change.
3 hours lec. 3 credits.

1518—SOCIOLOGY OF URBAN LIFE (SP)

An introduction to the history, nature and problems of modern urbanism with an emphasis on social trends and life styles of the people of the city and their contributions to American society. A look at the evolution and

future trends of urbanism with its influences, consequences and ramifications for mankind.
3 hours lec. 3 credits.

1522—GENERAL PSYCHOLOGY (A, W, SP, SU)
An introductory course demonstrating application of the scientific method in treatment of traditional topics as well as the presentation of research procedures and modern findings in the fields of general psychology.
3 hours lec. 3 credits.

1523—CHILD AND ADOLESCENT PSYCHOLOGY (W, SU)
A course encouraging the student to examine and experience psychological aspects of the developmental stages of childhood and adolescence. Attempts to bring together the results of significant research of how children develop from infancy through adolescence. While "normal" development is emphasized a wide range of behavior is included in the concept of normality.
4 hours lec. 4 credits.

1524—ADULT PSYCHOLOGY (A, SP)
A course encouraging the student to examine and experience psychological aspects of the developmental stages of adulthood from young adulthood through old age. Attempts to bring together the results of significant research of how adults develop from youthhood through the aged, terminal illness, death and dying. While "normal" development is emphasized a wide range of behavior is included in the concept of normality.
4 hours lec. 4 credits.

1525—MARRIAGE AND FAMILY RELATIONS (W, SU)
An examination of the impact of modern culture upon the family as to courtship, size of family, member relationships, economic problems and stability factors associated with success in marriage. Includes a survey of family types and relationships of the modern world.
3 hours lec. 3 credits.

1531—CHILD DEVELOPMENT I (W)
A study of the developmental patterns of children from conception to age six with emphasis on physical, social and emotional maturation, environmental influences and guidance. Observation of children with the use of objective techniques is an integral part of this course.
3 hours lec. 3 credits.

1532—CHILD DEVELOPMENT II (SP)
A study of the growth and development of children from the age of six through adolescence with emphasis on developmental patterns and individual differences. Observation of children with the use of objective

techniques is an integral part of this course.
†1531 or permission of instructor. 3 hours lec. 3 credits.

1533—PHYSICAL HANDICAPS (A)
Orientation of the most common disabling conditions from infancy through aging. The study of etiology, physical manifestations, and basic rehabilitation concepts; available community resources and procedures for referral; basic ADL (Activities of Daily Living) modifications that can be made within the home to assist the rehabilitation process.
3 hours lec. 3 credits.

1535—SPEECH AND AUDIOLOGY (On Demand)
A study of the distinctions between speech, hearing and language with emphasis on the normal course of speech sound development. Recognition of "different" versus "deficient" speech patterns and hearing malfunctions.
3 hours lec. 3 credits.

1541—COMMUNITY SOCIOLOGY (On Demand)
A study of the community and its influence upon the individual and the individual upon the community. The influences that mores, education, employment, friends, attitudes, history, values, etc., have upon the American society.
5 hours lec. 4 credits.

1542—SOCIAL PSYCHOLOGY I (On Demand)
A study of understanding behavior through the socio-cultural approach to psychological phenomena. This course will explore how groups and subgroups reinforce behavior; what behavior they reinforce; stress on the individual when changing between groups with divergent norms; group mind; mob psychology; communication between group and individual, and between groups; evolution of role definitions. Group dynamics is an integral part of the course.
5 hours lec. 4 credits.

1543—SOCIAL PSYCHOLOGY II (On Demand)
Students experience how to be a sensitive participant in a group. Group dynamics is incorporated with emphasis on understanding how one is perceived by the participant and observer.
†1542 or permission of instructor. 5 hours lec. 4 credits.

1544—PERSPECTIVES ON BLACK CUTLURE (W, SU)
A course designed to help the student understand the historical and cultural roots of Black Americans and to illuminate the nature of the struggle of Black People.
3 hours lec. 3 credits.

1573—ADAPTIVE BEHAVIOR I (A)

An overview of the anthropology, genetics, sociology and psychology of man's learning to cope with the natural and social demands of his environment. The course includes discussions on coping processes from birth through infancy, childhood, adolescence, adulthood and geriatrics.
3 hours lec. 3 credits.

1574—ADAPTIVE BEHAVIOR II (W)

An overview of problems of exceptionality, defect and maladaptive behavior as reflected by the failure to develop appropriate coping strategies. The course includes discussion of behavior modification and rehabilitation for all age groups.
†1573 or permission of instructor. 3 hours lec. 3 credits.

1575—INDUSTRIAL PSYCHOLOGY

A course emphasizing organization behavior, group behavior, and individualized adjustments. The personnel-psychology aspects of selection, training, supervision and labor-management relations of front-line management. Development and use of personnel statistics and application to the production process. The satisfaction of human needs in both work and living.
3 hours lec. 3 hours credit.

INDEPENDENT STUDIES (On Demand)

Course No. 1591 Independent Study I	1 credit
Course No. 1592 Independent Study II	2 credits
Course No. 1593 Independent Study III	3 credits

Each of the above is an individualized, student-structured elective course that permits the student to pursue his own interests within the context of a faculty-guided program.

Prerequisite — one course in Psychology or Sociology or related subject and approval by instructor.

†Prerequisite

General Education Division

COMMUNICATION SKILLS DEPARTMENT

1001—LANGUAGE DEVELOPMENT (A, W, SP, SU)

A course aimed at developing confidence in speaking, writing, reading, and listening. Concentration on English essentials for writing.
†placement as a result of essay placement test. 5 hours lec. 3 credits.

1002—BEGINNING COMPOSITION (A, W, SP, SU)

A course aimed at developing skills in writing paragraphs developing toward the theme.
†1101 or placement. 3 hours lec. 2 hours lab. 3 credits.

1003—ESSAY AND RESEARCH (A, W, SP, SU)

A continuation, in part, of Communication Skills 1002, expanded to include expository narration and research techniques and papers.
†1002 or placement. 3 hours lec. 2 hours lab. 3 credits.

1004—TECHNICAL WRITING (A, W, SP, SU)

Principles and practice in writing required of engineering and scientific technicians, including resumes, letters, memos, and various technical reports as required of a student's technology.
†1003 and at least three quarters or equivalent in the technology. 3 hours lec. 2 credits.

1007—CREATIVE WRITING (SU)

A discussion and in-depth study of the techniques of creative writing, and the actual writing of poetry, or short stories, or plays.
†1003. 3 hours lec. 3 credits.

1010—TECHNICAL TERMINOLOGY FOR THE HEARING IMPAIRED (SU)

Emphasis on building a strong technical vocabulary. Learning definitions of words students will be confronted with in his technology and their usage. Course content includes a variety a methods: sound, coined signs, and lipreading.
†5 hours lec. 3 credits, not applicable toward graduation.

1014—BUSINESS COMMUNICATIONS (A, W, SP, SU)

Emphasis on learning to write business letters by doing. Grammar and mechanics of writing are integrated with instruction and practice in writing business letters and other business communications. Business etiquette, written and oral reports.
†1003 and at least three quarters in a technology. 3 hours lec. 2 credits.

1024—SPEECH (A, W, SP, SU)

The stimulation of the imagination and its application to the spoken word through the student's practice of the tools of effective communication in a supervised classroom situation.

3 hours lec. 2 credits. $1.00 lab fee.

1027—CONFERENCE TABLE AND DEBATE (On Demand)

A course in argument and debate using the various conference forms and parlimentary procedures.

†1002 and 1024. 3 hours lec. 3 credits.

1037—TWENTIETH CENTURY AMERICAN LITERATURE (On Demand)

The study of modern essays, short fiction, poetry, and the novel or drama with emphasis on appreciation of literature.

†1002. 3 hours lec. 3 credits.

1039—SURVEY OF WORLD LITERATURE (On Demand)

Survey course in literature of African, Asian, and European countries, Emphasis on the beauty of literature of these countries and how it reflects the history and culture of the people.

†1002. 3 hours lec. 3 credits.

1041—JOURNALISM (On Demand)

An introduction to mass media, centered on the newspaper. Lab work on the TECHNIGRAM in one or more of the following: reporting, news writing, feature writing, editing, make-up, and critical writing.

†1002. 3 hours lec. 3 credits.

1051—LANGUAGE DEVELOPMENT FOR THE HEARING IMPAIRED (SU)

This course emphasizes language development for the hearing impaired. Course content includes a review of basics that the hearing impaired need before entering composition.

†5 hours lec. 3 credits.

1061—SURVEY OF MODERN DRAMA (On Demand)

Emphasis on drama as a unique form of literature in that it is written with the specific purpose of being seen. Plays will be read and studied; these plays will be selected from world authors of the last 60 years. When appropriate, the class will act out portions of the play to see the story from the eye of the characters.

†1002. 3 hours lec. 3 credits.

1071—POETRY (On Demand)

An intense study of the soul, sound, and structure of rhymed, blank, and free verse.

†1002. 3 hours lec. 3 credits.

1090—DEVELOPMENTAL READING (A, W, SP, SU)

For development of reading skills, comprehension, vocabulary, and study

skills. Placement as a result of the reading test. Developmental reading may be elected for one or two credits during a quarter. A student may register for no more than three credits of 1090 during his career at Columbus Tech.
Credits – not applicable toward graduation. $1.00 lab fee.

GENERAL COURSES

0901–CAREER PLANNING

A course aimed at exploring career attitudes and objectives with emphasis on theories of career choices, sources of career information and the problems involved in choosing a career.
2 credits. 3 class hours. Lab fee $2.00.

0902–CAREER OPTIONS FOR WOMEN

A course designed to assist women explore career opportunities that have traditionally been closed to them, as well as the educational opportunities for support of these careers.
3 credits. 3 class hours.

$ Lab Fee

MATHEMATICS DEPARTMENT

1100—REVIEW OF ALGEBRA — I (D-SU) (E-A, W, SP, SU)
Fundamentals from arithmetic to algebra; signed numbers; elementary algebraic operations; simple linear equations and formulas; problem solving by equation; factoring.
5 hours lec. 4 credits.

1101—MATHEMATICS FOR B.D.P. — I (D-A) (E-A,W)
A study of the definitions, symbols, and operations of set theory. Basic algebraic operations. Linear equations and inequalities in one and two variables. Relations and functions. Trigonometric ratios and right triangle trigonometry.
5 hours lec. 4 credits.

1102—MATHEMATICS FOR B.D.P. — II (D-W) (E-W, SP)
Exponential, Logarithmic, and Trigonometric Functions. An introduction to the Theory of Equations. A comparison of base 10 and octal, hexadecimal, and binary number systems. Determinants and determinant solutions of simultaneous systems of equations.
†1101. 5 hours lec. 4 credits.

1103—MATHEMATICS FOR B.D.P. — III (D-SP) (E-SP, SU)
Matrices and Matrix solutions of simultaneous systems of equations; linear programming solutions by graphing, algebraic, matrix, and simplex methods; series, sequences; boolean algebra; and a study of logic.
†1102 5 hours lec. 4 credits.

1104—MATHEMATICS FOR B.D.P. —IV* (D-A) (E-A)
Analytic geometry including straight line properties, conic sections, and polar coordinates. Third and fourth degree equations and curves. Average rates.
†1103. 5 hours lec. 4 credits.

1105—CALCULUS FOR B.D.P.* (D-W) (E-W)
An introduction to differential and integral calculus. Limits, derivatives, linear motion. Maxima and minima, application to curves. Related rates. Inegrals, and the integral as an area, linear motion.
†1104. 5 hours lec. 4 credits.

1110—INTRODUCTION TO TECHNICAL MATHEMATICS (D-A, SU) (E-A, W, SP, SU)
Algebraic fractions and operations; exponents, roots, and radicals. Solutions of equations: quadratic; systems of linear. Graphs. Logarithms. Right traingle trigonometry, vectors, and radian measure.
5 hours lec. 4 credits.

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† Prerequisites $ Lab Fee

General Education Division

Mathematics Department

1111—TECHNICAL MATHEMATICS I (D-A, W, SU) (E-A, W, SP, SU)

Algebraic expressions and operations. Linear equations in one variable. Dimensional analysis. Cartesian coordinate plane and the trigonometry of right triangles. Graphs of the trigonometric functions.
†5 hours lec. 4 credits.

1112—TECHNICAL MATHEMATICS II (D-A, W, SP, SU) (E-W, SP, SU)

Exponents, oblique triangles, linear equations, graphing, complex numbers, logarithms, and the binomial expansion.*
†1111. 5 hours lec. 4 credits.

1113—TECHNICAL MATHEMATICS III (D-W, SP)(E-A, W, SP, SU)

Quadratic equations and approximation of roots. Polar coordinates. Linear equations and determinants. The straightline, circle, and conic sections. Trigonometric identities. Progressions.
†1112. 5 hours lec. 4 credits.

1114—TECHNICAL MATHEMATICS IV (E-A, SU)

The nature of calculus — What it is all about. Differential calculus and comprehensive applications. Maxima and minima and applications. The integral and area under a curve. Volumes and volumes of revolution.
†1113. 5 hours lec. 4 credits.

1115—TECHNICAL MATHEMATICS V (E-A, W)

Centroids and moments; centroids of two or more areas and centroids of volumes. First and second moments; moments of inertia. Infinite, Maclaurin, Taylor, and Fourier Series. Elementary differential equations.
†1114. 5 hours lec. 4 credits.

1120—SLIDE RULE OPERATION (D-SU) (E-SU)

Multiplication and division. Squares, cubes, roots. Trigonometric functions, logarithms, complex numbers and vectors.
2 hours lec. 1 credit.

1124—CALCULUS FOR ELECTRONICS 1* (D-A) (E-A)

Practical application of differential calculus to electronic circuitry. Functions, limits, algebraic differentiation, differentials, higher derivaties, maxima and minima, and introduction to integrals.
†1113. 3 hours lec. 3 credits.

1125—CALCULUS FOR ELECTRONICS II* (D-W) (E-W)

A continuation of Calculus for Electronics 1. Definite integrals, trigonometric functions, lotharithmic and exponential functions, hyperbolic functions.
†1124. 3 hours lec. 3 credits.

1126—CALCULUS FOR ELECTRONICS III* (D-SP) (E-SP)

A continuation of Calculus for Electronics II. Partial derivative, integration techniques, double integrals, Maclaurin's series, Taylor's series.

Fourier series. Introduction to differential equations.
†1125. 3 hours lec. 3 credits.

1131—BUSINESS MATHEMATICS (D-A, W, SP, SU) (E-SP, SU)
Fundamental arithmetic processes emphasizing common and decimal fractions. Percentage methods are applied to cash and trade discounts, commissions, markup and depreciation. Simple interest on promissory notes and unpaid balances. Bank discount, compound interest, tables and formulas. Payroll computations. Income statement and balance sheet analysis. Statistics and graphs.
5 hours lec. 4 credits.

1141—INTRODUCTION TO BUSINESS STATISTICS
Fundamental concepts of probability distributions, sample statistics, estimation and testing hypotheses, with applications to business problems.
5 hours lec. 4 credits.

1155—COMPUTER APPLICATION TO MATHEMATICS (on demand)
Basic language, using terminals, writing computer programs in Basic, solving typical mathematical problems, and writing programs related to the student's own technology.
3 hours study, 3 credits. $10.00 lab fee.

1171—PUBLIC SERVICE MATHEMATICS (on demand) (E-A, SP)
The review of arithmetic including definitions, laws, common and decimal fractions, percentage, ratio, proportion, powers and roots. Basic algebra: notations, definitions, operations, equations and fractions. Geometry: triangles, circles, cylinders, spheres and other figures. Trigonometry: right triangles and vectors.
5 hours lec. 4 credits.

1180—BASIC MATHEMATICS FOR NURSES (D-SU) (E-A, W, SP)
Review of fundamental arithmetic including whole numbers, common and decimal fraction operations. Work with percentages, ratio, proportions, measurements and applications. An introduction to algebraic concepts using the field properties leading to the solving of linear equations.
5 hours lec. 4 credits.

1181—MATHEMATICS FOR HEALTH TECHNOLOGIES I (D-A, SP)
Scientific notation and slide rule operations; ratio proportion; algebraic expressions and operations and linear equations in one variable; logarithmic function and operations; cartesian plane.
5 hours lec. 4 credits.

General Education Division

Mathematics Department

1182-MATHEMATICS FOR HEALTH TECHNOLOGIES II (D-W, SU)

Further work in ratio-proportion; exponents and the exponential function; linear equations in two variables; right-triangle trigonometry. †1181. 3 hours lec. 3 credits.

†Prerequisites

Programs for Students with Physical Disabilities

Programs for Students with Physical Disabilities

The Columbus Technical Institute is aware of the need of technical education for high school graduates with hearing or visual impairments. In order to fill this need, the Institute offers innovative programs to help prepare these students for successful careers in business, industry, health, and public services. Supplementary academic resources, counseling, and job placement services are made available to hearing or visually impaired students. Impaired students are generally integrated with hearing and sighted students in classroom and laboratory situations. This teaches them to be independent in the hearing and seeing world and allows hearing and seeing people to become aware of the problems of deafness and blindness.

Program of Technical Education for the Hearing Impaired

Supplemental services will be provided hearing impaired students seeking degrees in Accounting, Architecture, Business Data Processing, Dental Laboratory, Food Service Mid-Management, Graphic Communications, Medical Laboratory, and Social Services. Students with sufficient residual hearing may enroll in any other of Columbus Tech's degree programs. The supplemental services provided students in the programs listed above include: interpretive service, note-taking service, counseling, college preparatory program, and job placement.

Interpreters, using sign language and precise mouthing of words for those who read lips, translate the instructors' lectures. The interpreting staff has designed unique signs for the many technical terms used during a lesson presentation. Hearing impaired students learn the new signs by means of video tape programs. Hearing students take lesson notes in special notebooks, producing copies for themselves and a deaf student. This permits the deaf student to devote full attention to the interpreter and instructor.

In addition to interpretive services, there are also special counseling services available to deaf students. A full-time counselor is available to impaired students, serving as liaison between the student and his instructors. He provides assistance in personal, social, academic, and housing problems. For students with academic difficulties, tutors are provided free of charge. A major service is job placement. Seminars are offered, stressing the fine points on interviewing plus information on where and how to apply for jobs.

Programs for Students with Physical Disabilities

A "pre-tech" program is offered to all students prior to enrollment in degree courses. This program includes the study of basic grammar, mathematics, and science and reading development. Special courses for hearing impaired students include courses in technical terminology and language development. Seminars on becoming oriented to college life and study are also provided prior to degree study.

Program of Technical Education for the Visually Impaired

Supportive services are provided visually impaired students seeking degrees in Business Data Processing, Social Services, General Business Management (with options in wholesaling, retailing, and marketing) and Food Service Mid-Management. Students may enroll in other degree programs depending on need, demand and feasibility. A non-degree program in business data processing is offered to qualified baccalaureate graduates. Supportive services provided the visually handicapped include reader services, study material in various formats, counseling and job placement

Columbus Tech students and other members of the community read lesson material and examinations to blind students and may also act as tutors. Text books, manuals, and class-room handout materials are produced in Braille, large print, or as cassette recordings as required by individual students. These materials are produced and housed in a Resource Center that also provides the visually impaired student a place to study and the use of Braille, large print, standard typewriters and key punch machines. Students enrolled in the computer programming courses receive Braille printouts of their programs. A flow-charting program makes it possible for students to draw their own flow-charts.

Visually impaired students are provided with supplementary counseling services. Special attention is given to helping blind students find housing. There is a full-time counselor to help handicapped students in job placement. After graduation, there is a follow-up service designed to help graduates keep up to date in their technology. The Resource Center will duplicate tape and cassette recordings of manuals, textbooks, and other Braille materials in addition to making available software programs which produce Braille output for graduates.

Program Support

Columbus Tech's programs of Technical Education for the Hearing and Visually Impaired are supported by the Ohio State Department of Vocational Education, Special Needs Division and the Ohio Rehabilitation Services Commission. Both agencies have provided substantial assistance, advisory and monetary, without which the program could not continue to be offered. The programs for the hearing and visually impaired are guided by advisory committees consisting of professionals and others interested in working with the deaf and blind.

The program for the visually impaired is endorsed by the Ohio Bureau of Services for the Blind, the Vision Center of Central Ohio, and SIGCAPH, a special interest group for the visually handicapped within the Association for Computing Machinery.

Programs for Students with Physical Disabilities

Admission Requirements

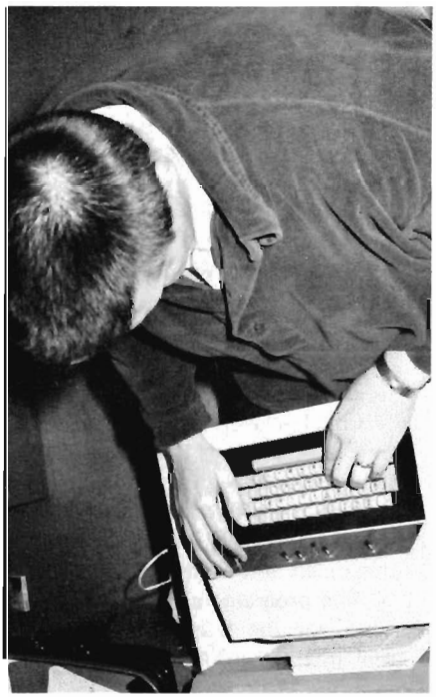
Persons interested and qualified for special assistance under the programs for disabled should refer to the portion of this catalogue dealing with admission to the institute. In addition to those requirements, applicants for both programs should provide psychological testing results through their local Vocational Rehabilitation Office as well as recommendations from a Rehabilitation Counselor.

Blind applicants, if they are disabled beyond a capacity to use large print, should be qualified in Grade II Braille and must show evidence of independence in mobility.

Hearing impaired candidates are required to submit audiological and medical evidence of deafness, a reading achievement test results, and psychological testing reports which provide evidence that communicative and educational problems are due to the disability.

Further information about these programs can be obtained by contacting:

Mr. William Otis, Supervisor
Technical Education for the Hearing Impaired
or
Mr. James Taylor, Supervisor
Technical Education for the Visually Impaired



ROTC Curriculum

ROTC Curriculum

THE CURRICULUM of the Air Force ROTC program provides pre-professional education to futher officers in much the same way a pre-medical program serves the future physician. One basic purpose is to give the student an overview of military knowledge and skills. When commissioned as an Air Force second lieutenant, he or she is expected to apply the total college experience toward responsible service as an officer.

The curriculum is divided into two major courses—the General Military Course (GMC) and the Professional Officer Course (POC). The GMC is usually offered during the freshman and sophomore years. Course work in the GMC deals with the structure and posture of United States military forces, their relationship to the military of other nations, and their present and future implications. It is taught on campuses offering the four-year AF-ROTC program and during the six week summer Field Training for the two-year program.

The first year of the POC is a survey of United States airpower and space development, concepts, doctrine and employment; past, present and future. The final year is a study of leadership theory and practice, professionalism, the military justice system, Air Force management theory and practice, and other aspects of being an officer.

Columbus Tech has entered into a cooperative agreement with Detachment 646 Air Force ROTC, located on the campus of Capital University. Columbus Tech students may enroll for courses in the department of Studies in Aerospace during their studies toward an Associate Degree. Upon transfer to Capital University, students may complete the final two years of the Air Force ROTC program. Commission as a Second Lieutenant in the United States Air Force will coincide with graduation from Capital.

Aerospace courses will be offered on the Columbus Tech campus and will be conducted by Air Force Officers on the Capital faculty and advanced Air Force ROTC cadets. Three of the credits awarded may be used to meet three credit education elective requirements for graduation.

Columbus Tech students may apply for an Air Force scholarship during the first year he is enrolled in the AFROTC program. If granted, the scholarship will provide funds for fees, books, and $100 per month during the student's second year at Columbus Tech and for two years at Capital University.

How Do I Enroll in Air Force ROTC?

Students applying for the program register in the same manner and at the same time as they register for their other college courses.

During the two years of study in the Air Force Program at Columbus Tech, a student has no obligation to the Air Force. A student may withdraw from the course work at anytime that is consistent with the Columbus Tech policies.

COURSE DESCRIPTIONS

0201—WORLD MILITARY SYSTEMS I

A study of the doctrine, mission and organization of the United States Air Force. United States strategic offensive and defensive forces.
2 credits. 3 class hours.

0202—WORLD MILITARY SYSTEMS II

Aerospace defense; missile defense; civil defense. United States general purpose and aerospace support forces.
†0201. 2 credits. 3 class hours.

0203—WORLD MILITARY SYSTEMS III

The mission, resources, and operation of tactical air forces.
†0202. 2 credits. 3 class hours.

0204—WORLD MILITARY SYSTEMS IV

Defense policies; theories of general war; nature and context of limited war.
†0203. 2 credits. 3 class hours.

0205—WORLD MILITARY SYSTEMS V

Policies and strategies of the Soviet Union and China.
†0204. 2 credits. 3 class hours.

0206—WORLD MILITARY SYSTEMS VI

Defense organization and decision making; organization and function of the Department of Defense; role of the military in the United States' national policies.
†0205. 2 credits. 3 class hours.

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† Prerequisites $ Lab Fee

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Board of Trustees and Columbus Tech Staff

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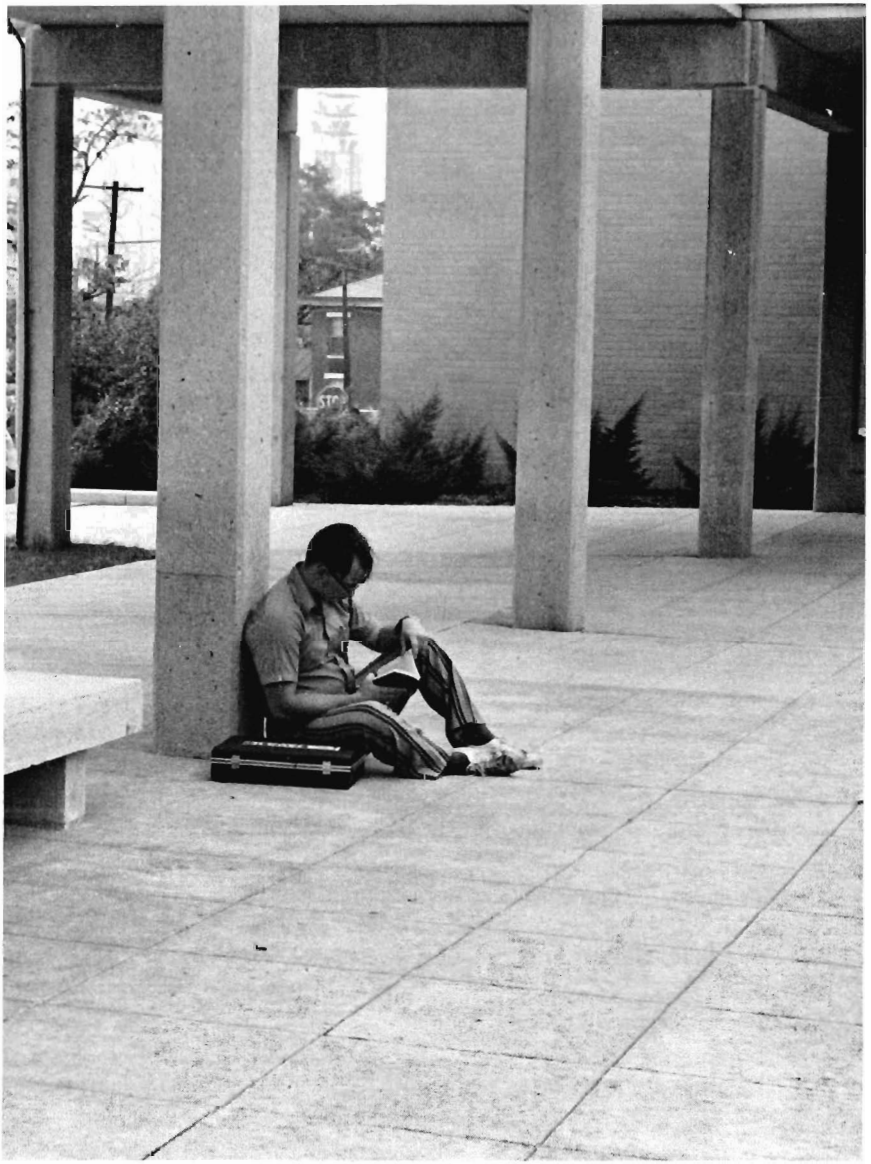

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BUSINESS DATA PROCESSING	Associate Degree In Applied Business
CONSUMER FINANCE MID-MANAGEMENT	Associate Degree In Applied Business
FOOD SERVICE MID-MANAGEMENT	Associate Degree In Applied Business
GENERAL BUSINESS MANAGEMENT	Associate Degree In Applied Business
GRAPHIC COMMUNICATION MANAGEMENT	Associate Degree In Applied Business
RETAIL MID-MANAGEMENT	Associate Degree In Applied Business
SALES MARKETING	Associate Degree In Applied Business
SECRETARIAL SCIENCE	Associate Degree In Applied Business
WHOLESALE MID-MANAGEMENT	Associate Degree In Applied Business

ENGINEERING TECHNOLOGIES

ARCHITECTURE	Associate Degree In Applied Science
AVIATION MAINTENANCE	Associate Degree In Applied Science
AVIATION ADMINISTRATION	Associate Degree In Applied Science
CIVIL ENGINEERING	Associate Degree In Applied Science
ELECTRONIC ENGINEERING	Associate Degree In Applied Science
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MECHANICAL ENGINEERING	Associate Degree In Applied Science

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RESPIRATORY THERAPY	Associate Degree In Applied Science

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LAW ENFORCEMENT	Associate Degree In Applied Science
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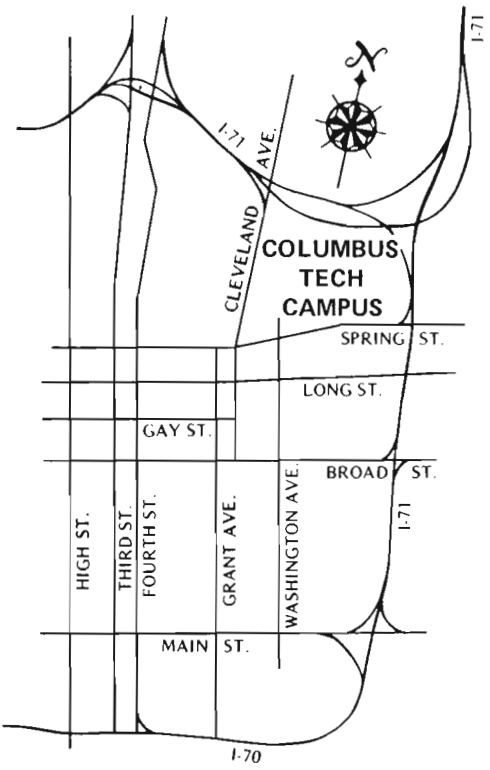

COLUMBUS TECHNICAL INSTITUTE
APPLICATION FOR ADMISSION

Complete this application and return it with the $35.00 (foreign students, $85.00) matriculation fee (non-refundable) to the Business Office, Columbus Tech, 550 E. Spring Street, Columbus, Ohio 43215. Phone: 221-6743. (Checks should be made payable to Columbus Technical Institute.)

Social Security Number _____

Name _____
Last First Initial

Address _____
Number Street

_____
City State Zip

Phone number (____) _____ Technology _____
area code area

County _____ No. of years at above address _____

Quarter I intend to enter Columbus Tech: ☐ Autumn ☐ Winter ☐ Spring ☐ Summer 19

19___ ☐ Day ☐ Evening ☐ Full-time ☐ Part-time

Birth Date _____ Marital status: Married or Single ____ Sex: Male or Female _____

Please check one of the following: (Required for Federal Reports by the Civil Rights Act of 1964.) ☐ AfroAmerican/Black ☐ Caucasian/White ☐ American Indian
☐ Mexican/Spanish American ☐ Oriental American ☐ All Others

High School Attended _____

Address of High School _____

Year of High School graduation _____ High School equivalency ☐ Yes ☐ No

Former college attended (if any) _____

Do you expect to receive G.I. benefits? _____ Citizen of U.S.? ☐ Yes ☐ No

Type of VISA _____

Housing arrangement (see code) 1 or 4 Residence (see code) 0 1 2 3 4

In case of emergency call: _____ Phone _____

Do you have any physical limitations that may affect your activity in the above technology or require special facilities? ☐ Yes ☐ No If so, please explain on the back of this application.

Residency Code		**Housing Arrangement Code**	
Columbus Tech District (coincides with Columbus School District	0	Commuting from permanent address	1
Ohio-outside Columbus Tech District	1	Other	4
Out-of-State	2		
Other National	3		
Foreign (Student VISA)	4		

_____
Date Signature of Applicant

High School Transcript Request Form

Instructions to Applicant:
Take or mail this form to your High School after completing Section I.

SECTION I – To Be Complete by Applicant

Name _____
LAST FIRST MIDDLE

Home Address _____
STREET

_____
CITY STATE ZIP

High school _____ ☐ Graduated ☐ Will Graduate ☐ Withdrew _____
MONTH YEAR

Technology Applied for _____

SECTION II – To Be Completed By High School Principal or Counselor

Please send:
1. A copy of the student's *academic record:* (Transcript)
2. A copy of the student's *personality check list* and *activity list,* if available.
3. All recent test data if not on the above transcript.

Applicant ranks (number) _____ in graduating class of _____ students.
His/her grade point average is _____.

A. General Statement of qualifications and suitability for this technology:

B. Personal recommendation if well acquainted:

_____ _____ _____
DATE SIGNATURE TITLE

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