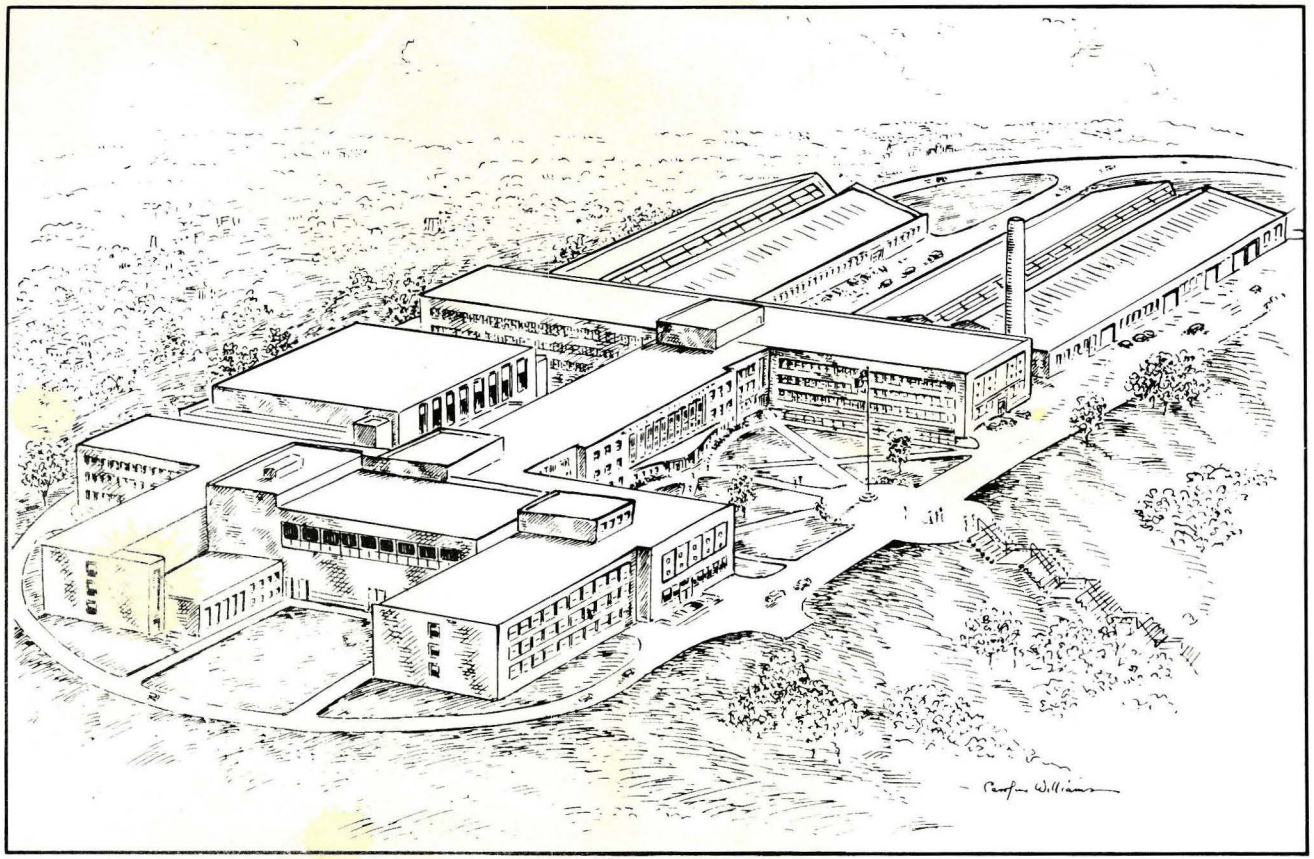
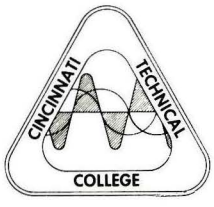
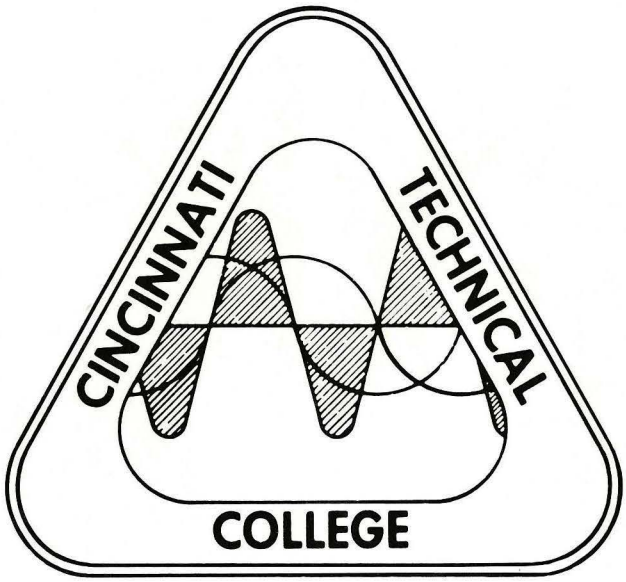
Cincinnati Technical College



NATIONAL LEADER IN COOPERATIVE EDUCATION


CINCINNATI TECHNICAL
COLLEGE

R. SCHLUETER



CINCINNATI TECHNICAL COLLEGE

3520 Central Parkway
Cincinnati, Ohio 45223
(513) 681-3320

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CINCINNATI TECHNICAL

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Term expires: Sept. 14, 1975

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Term expires: Sept. 14, 1974

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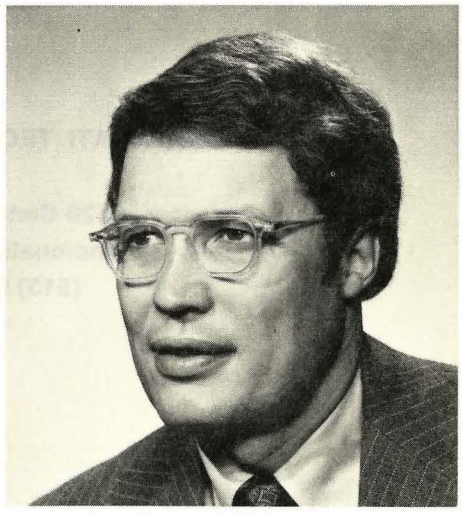

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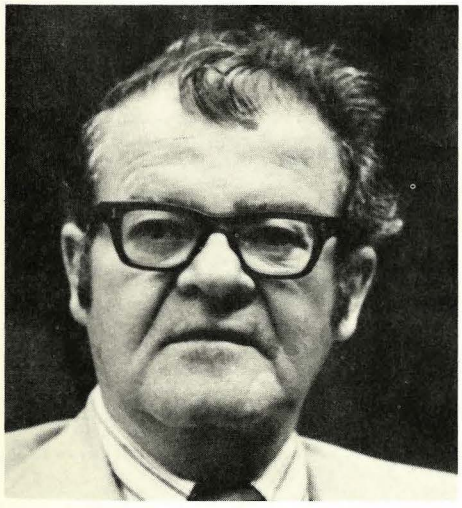

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Term expires: Sept. 14, 1976

Mr. Clifford R. House
President

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As to their studies, it would be well if they could be taught everything that is useful and everything that is ornamental. But art is long and their time is short. It is therefore proposed that they learn those things that are likely to be most useful and most ornamental, regard being had to the several professions for which they are intended."

— Benjamin Franklin

MISSION OF THE CINCINNATI TECHNICAL COLLEGE

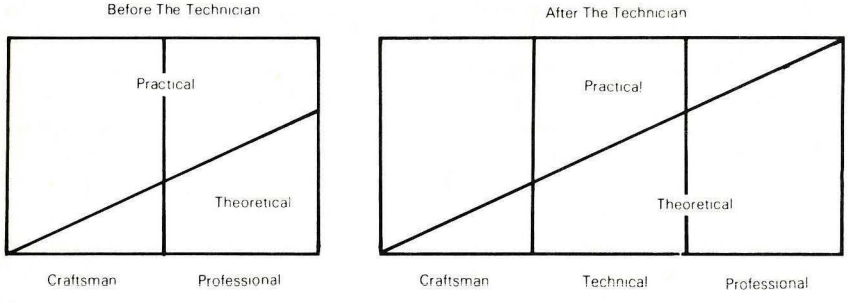
The Cincinnati Technical College has a vital and distinctive educational mission to perform in the interests of the educational and economic welfare of metropolitan Cincinnati. An understanding of the precise nature of this mission requires an appreciation of these three facts:

(1) Technical education is a distinctive, relatively new and urgently needed type of higher education.
(2) A technical college is a distinctive kind of college with the special type of expertise required to meet the need for technical education.

(3) Cincinnati Technical College has a distinctive "co-opportunity" plan which enables it to serve students and employers with needs which would not otherwise be met.

Each of these facts deserves elaboration.

CHANGING ROLE OF THE PROFESSIONAL



Why the need for technical education has arisen.

A scientific revolution, underway the last several decades, has quickened the pace of change in all of the professions and transformed the occupational role and the educational requirements of the professionally trained employee. In the past, the professional — the product of four or more years of college — had the time, the training and the duty to perform many practical functions in his work. An engineer, for example, might spend hours drawing or routinely testing a new product. New scientific discoveries and technological advances have so enlarged the body of theoretical knowledge underlying many of the professions that now there is too little precious time in the professional curricula to develop practical skills. The mastery of theory has become the first priority of the professional. The use of this theoretical knowledge has become the dominant function of the professional in his day-to-day work.

As a consequence, the professional needs the assistance of a new member of the employment team, the technician or semi-professional. And, to prepare him to work with the scientist, or the engineer or the medical specialist, the technician requires a new type of college education.

He must master, to some extent, the theoretical principles relating to the technology in which he specializes and develop the practical abilities the specialty requires. Such educational preparation is above the high school level, but does not require the four or more years of college needed by the professional. An intensive program, usually of two years duration and designed to prepare the student for immediate and effective employment upon graduation, suffices. Such a program is technical education.

The need for technicians, already great, is growing rapidly. The federal government estimated several years ago that 1,000,000 new technician jobs will have come into existence in the nation by 1975. Hence, the urgent need for expanded technical education.

How technical colleges differ from other types of institutions of higher education.

Technicians are action people. They must be trained to apply theory in support of the professionals with whom they work. Their education therefore differs markedly from that of the professionals.

Technicians need some theoretical preparation, but not in the breadth and depth required of the professional. As a consequence, the technical education curriculum must be practical in nature. The first two years of college prepare the professional-to-be for more advanced college work. In his two-year education program, the technician must learn all he needs to know in order to be employable. The curricula needed by the two are in sharp contrast: the professional is academic and theoretical; the technical is practical and action-oriented. In his first two college years the professional-level student learns how to learn more; the technical education student learns how to do well those things he must do on the lob.

Technical education, to be effective, requires a special educational environment: a faculty dedicated to practical education; laboratory equipment adequate to make such education possible; a governing body and administration dedicated to the philosophy of this education; a close working relationship with business and industry. The technical college provides that special environment.

Ohio has a network of seventeen rapidly growing technical colleges, all created in the last half dozen years or so as a result of federal, state and local initiatives. The National Defense Education Acts of 1958 and 1963 and the Vocational Education Acts of 1963 and 1968 helped to provide a stimulus to these and hundreds of other technical schools throughout the nation. Passage of these acts and state statutes creating technical colleges have underscored the high priority of these institutions. The orderly growth of the nation's economy depends in large measure on the quantity and quality of the supply of technicians.

The special needs served by Cincinnati Technical College "co-opportunity" plan.

The Board of Trustees, the administrative staff, and the faculty of the Cincinnati Technical College share a profound conviction that the school's distinctive plan of cooperative education offers the soundest possible approach to technical education. The objective of any associate degree program in technical education is to prepare the student for immediate employment and potential advancement as a technician. The student must

learn both the "why" and the "how." Rigorous, college-level academic instruction is necessary; it is not, however, sufficient. The student's understanding of theory and his ability to apply it are fortified with periodic practice. The classroom can provide valuable laboratory experience but it cannot duplicate an employment environment. Because Cincinnati Technical College students spend every other term in supervised cooperative employment, they are exposed to such an environment at regular intervals. The practical training received in such employment enriches the academic experience.

The distinctive cooperative approach enables the College to fulfill a distinctive mission, to serve two types of high school graduates in the Cincinnati area with special needs that would not otherwise be met. The academicially able but economically disadvantaged student needs the full co-op plan to finance his education. The affluent but practical-minded student likes the plan because it makes employment experience an integral part of the learning process from the very outset of the program. (About one of every ten graduates pursues a baccalaureate degree on a full time basis.)

In the Cincinnati area there are thousands of high school graduates each year who fit into one of these two categories and who are potential College students. The College seeks to expand its cooperative program to meet their distinctive needs.

Certainly if the technician manpower needs of the area — already great and rapidly growing — are to be served, more high school graduates must be attracted to technical education. Yet limited family finances are a major reason why so many do not further their education after high school. In 1969 the national median household income was only $8390, according to the Commerce Department. Only two of every five households had incomes of $10,000 or more. Clearly, in the Cincinnati area, thousands who graduate from high school each year have the ability to complete successfully a two-year college-level technical education but do not because they cannot afford either the income forgone while in school two years, or the direct expenses incurred (tuition, books, etc.), or both.

Yet few of these graduates are likely to be given effective on-the-job technician training, for relatively few of the 1700 plants in the area can afford training programs. Only 800 in 1963 had 20 or more employees; only 38 had 1,000 or more.

The cooperative education program of the Cincinnati Technical College meets both these needs. Only one of three of its students is certain he could afford to attend the College were it not for the co-op earnings. The College therefore is now serving hundreds of students who cannot afford to attend other institutions in the area. Thousands of area high school graduates in this category need to be served each year. The potential enrollment of the College is therefore quite large. The cooperative education plan also enables many small firms to have technician training programs of a quality they could not otherwise have. The Cincinnati Technical College thus has a vital and distinctive role to play in the area, contributing to both the educational and the economic welfare of the community.

The College is offering 23 associate degree programs in 73-74. They are: Air Conditioning Technology, Automotive Service Management Technology, Aviation Technology, Business Data Processing Technology, Business Management Technology, Civil Engineering Technology, Electronics Technology, Electro-Mechanical Technology, Executive Secretarial Technology, Graphic Communications Technology, Hotel-Motel-Res-

taurant Management Technology, Industrial Engineering Technology, Security Administration Technology, Mechanical Design Technology, Medical Laboratory Technology, Medical Assisting Technology, Medical Records Technology, Ornamental Horticulture Technology, Plastics Technology, Property Management Technology, Real Estate Technology, Sales Marketing Technology, and Surgical Assisting Technology.

Each program was developed to meet a specific need for technicians in local industry demonstrated by a formal or informal feasibility study and supported by the counsel of an advisory committee representing the potential employers of such technicians. No co-op program can be started if it does not address itself to real employment needs of industry and to the real educational interests and aptitudes of youth. Each program requires training positions and students qualified to prepare to fill them.

The college will continue to develop programs through the feasibility study-advisory committee approach. In this manner it must necessarily be attuned to the educational needs of the students it serves and the employment needs of the companies with whom it cooperates.

HISTORY OF CINCINNATI TECHNICAL COLLEGE

The Cincinnati Board of Education established the Cincinnati Cooperative School of Technology, a two-year technical institute for high school graduates, in 1966. A great and growing shortage of technicians existed in the Cincinnati area. The function of the school was to train technicians in a program combining college-level classroom instruction and cooperative work experience. The school grew rapidly. By 1968-69, enrollment had risen to 500 and the number of cooperative employers to 127.

Since all technical education programs in Ohio were to come under the authority of the Board of Regents, the Cincinnati Board of Education proposed in April 1969 that the Regents establish a Cincinnati Technical Institute District and approve CCST as the nucleus of the technical institute to serve that district. These proposals were approved by the Regents in May, 1969.

The Board of Trustees of the new district — two appointed by the Governor and five elected by the Cincinnati Board of Education — held their organizational meeting on September 15, 1969. At that meeting they appointed the President of the Institute, and approved the Institute operating plan and associate degree programs. They also changed the name of the school to Cincinnati Technical Institute, to conform with the designations of other institutes in the state.

The Board of Regents approved the degree programs and the operating plan on September 19,1969 and issued the Cincinnati Technical Institute charter on that date.

December 31,1969 was the final day of operation under the governance of the Cincinnati Board of Education. On the first day of the new decade, the Institute became an autonomous institution.

In June, 1970, the Board of Trustees of the Institute entered into a contract with the Cincinnati Board of Education to purchase the Courter Technical High School property, where the Institute is located, for $8.4 million.

The Trustees acquired title to the property in November, 1970, when they made the first payment of $3.6 million. Additional annual payments are to be made as the College, which now occupies most of the building, moves

into additional rooms and the high school operation is phased out.

In 1972 the name of the Institute was changed to Cincinnati Technical College, in accordance with a state statute passed by the Ohio General Assembly in the fall of 1971.

The college began its eighth year of operation and fourth as a Regents college, on September 4, 1973. Enrollment, including regular day and Continuing Education Programs, was expected to total over 2,500.

GROWTH OF CINCINNATI TECHNICAL COLLEGE

YEAR	PROGRAMS	DAY ENROLLMENT (CCST: 1966-69)	CO-OP EMPLOYERS	GRADUATES
66-7	4	118	38	—
67-8	4	276	77	71
68-9	10	496 (CTI/-CTC)	127	107
69-0	11	651	191	190
70-1	18	897	232	228
71-2	21	1149	350	327
72-3	23	1290	358	*335
73-4	23	*1500	*400	*430
80-1	*58	*3500	*700	*970

*Projected

CINCINNATI TECHNICAL COLLEGE UNIQUE CO-OP PLAN
How It Works — From the Student's Viewpoint

The Applicant takes the Admission Test. In the admissions process, the applicant takes an entrance test (the Comparative Guidance & Placement Test of the College Examination Board). He also usually specifies the program in which he wishes to enroll.

The Coordinator Interviews the Applicant. After the CGP test results have been scored and after the applicant has sent in his high school transcript, he is interviewed by the coordinator of the program he wishes to enter. The coordinator assesses the applicant's chances of success in the classroom and on the co-op job on the basis of the applicant's aptitude and interests as measured by his test; his high school academic record; and the interview. The coordinator either (a) accepts the applicant into the program; (b) accepts him on probation, if the applicant's chances for success are in question; (c) advises the applicant, if he appears to have little chance of success, to enroll in another of the programs at the College more congenial to his interests and aptitudes, and refers the applicant to the coordinator of that program or the Admissions Office.

The Student is Assigned to Either the "A" or the "B" Section. If he is assigned to the "A" section of students, he will spend the first quarter in school and his second on co-op. If he is assigned to the "B" section, he will co-op the first quarter and spend the next in college. Whether on the "A" or "B" schedule, the student will repeat his two-quarter cycle five times until he completes the program. Ornamental Horticulture and Aviation Maintenance Technology students, however, follow different schedules, as explained elsewhere in the catalog.

The coordinator will attempt to help the student secure a co-op job, often times in the summer before the academic year beings. The coordinator will arrange for the student to be interviewed by an employer; the employer will make the decision to hire or not to hire.

The Student Grows — In the Classroom and on the Co-op Job — As He Proceeds Through His Ten-Quarter, Two-Year Associate Degree Program. Each time that a student, after completing a co-op term, returns to College for another academic quarter, he has experienced many kinds of growth because of his employment experience. He is likely to be noticeably more mature, more confident, and more perceptive about the relationship of his academic work to his career aspirations. His earnings have helped him to become more self-sufficient and self-reliant. And when the student returns to his co-op job upon completion of the academic quarter, he is better prepared for the employment challenge because of the additional knowledge, skill, and intellectual competence he has acquired.

The result of the alternation of classroom and co-op experience is quite positive. Most students tend to perform more effectively in the classroom as they advance through their sequence of five academic quarters. Most co-ops earn incentive wage or salary increases, and many earn promotions, as they advance through their sequence of five co-op quarters.

The Student Graduates with Considerable Career Assets. Each Cincinnati Technical College graduate begins his career as a technician with these credentials: an associate degree in his technical specialty, with as much as 50% more classroom contact hours than are provided in two-year degree programs at other colleges; up to a full year of work experience; a level of intellectual and emotional maturity which only the co-op program could provide. Graduates earn $5,500 to $10,000 on their first full-time jobs (three-fourths of them stay on with their co-op employer). Some graduates (6% to 10%) pursue a baccalaureate degree full-time. Others work toward the four-year degree by taking university courses in the evening.

The average earnings for five co-op terms exceed $4,000 — more than enough to pay for tuition, fees and books. Many co-ops are able to purchase their own automobiles with their co-op earnings.

Co-ops pay taxes of various kind (state sales and income and federal income) on their earnings (a total of about $2 million in earnings estimated for 1972-73) and by so doing, while they are receiving their education, help repay the tax money invested in their education.

Benefits of Cincinnati Technical College's co-op plan

The student can benefit—

(1) Financially — through income received from co-op work. Many CTC students could not afford to attend other schools and would have to enter the job market unskilled, immediately after graduation from high school, if CTC did not have the co-op feature both years. The co-op plan enables students to earn while they learn.

(2) Educationally. From the outset of his technical education the student can learn on the job and in school. The two types of learning experiences are complementary. One can learn certain aspects about employment in general and a certain position in particular only through experience. Conversely, one can never learn, amid the rigors of his daily work situation, innumerable lessons that can be

learned only in the reflective atmosphere of the classroom. The co-op program enables a student to gain a more liberal education than he could gain in the classroom alone.

(3) Through guidance. Coordinator, instructors, counselors, employer — all can contribute to the guidance of the student. Many things the student learns about himself — his personal strengths and weaknesses as they relate to employment — he can learn in his very first quarter on the job. A student may find that the field he has chosen really does not suit him or fit him; he can learn this relatively soon after graduation from high school. Or his original belief that he is qualified for and likely to enjoy a certain type of technical career can realistically be strengthened by what he learns as he tests himself on the job during each co-op term.

(4) Socially and emotionally. The two years at CTC can provide a sensibly paced transition from adolescence and high school to maturity and the world of work. The experiences gained in the classroom and on the co-op job can help ripen the social and emotional development of the student. Faculty members, employers, and students themselves observe the new levels of maturity most students reach after each successive on-the-job term.

(5) Through relevant general education. Half of the CTC curriculum consists of non-technical subjects — communication skills, social studies, mathematics, science. The courses have relevance to the student's co-op job needs and provide broad preparation for his career and his role as a citizen.

The employer can benefit:

(1) From the services provided by the school in providing him with co-op job applicants (the school does not select the student for a co-op job, this choice is made by the employer from a group of candidates), employee guidance, and, of course, the education provided the co-op student.

(2) From the chance to train a student for responsible work over a two-year period. He is not obligated to hire the student after graduation. He can promote the co-op, give him more responsibilites, pay him more; or he can demote him, reduce his pay, or even discharge him. The co-op must measure up.

The student's family can benefit:

(1) Financially, because many students earn more than enough to pay for their education; in fact, some students contribute significant amounts to their parents from their co-op earnings. Also the parent does not bear the expense of a complete college program only to have the student enter an occupation other than that for which he prepared himself.

(2) From the assistance provided by the program in helping the student to help himself and to attain a maturity level necessary for self-direction as an adult.

The community benefits:

(1) CTC can tap the intellectual talents of many young men and women which could not otherwise be developed to their potential.

(2) The increased earning potential of graduates results in greater contributions to society in terms of work accomplished, taxes paid, etc.

(3) The employer shares in the training process.

(4) The school meets previously unmet needs by providing technical education affordable by all; with a practical approach that many younsters require and prefer; with a close working relationship between employer and school; with a systematic approach to meeting industry's specific and current technical employment needs.

Elements of Cincinnati Technical College's Unique co-op plan

The Academic Quarter

Number of quarters: 5
Length of quarter: 10 weeks
Number of credit hours earned in each quarter of classroom instruction: 18
Number of credit hours earned in each quarter of cooperative employment: 2 or 3
Number of weekly contact hours in each quarter of classroom instruction: 25-30
Number of hours employed in each quarter of cooperative employment: variable, usually 40.

The Two-Year Associate Degree Program*

Number of quarters: 10
Number of academic quarters: 5
Number of co-op quarters: 5
Number of credit hours: over 100
Number of credit hours earned for five academic quarters: usually 90
Number of credit hours earned for five co-op quarters: 13
Number of classroom contact hours in five academic quarters: usually 1500
Number of employment hours in five co-op terms: usually about 2000
*Except for Aviation Technology (7 academic, 3 co-op quarters) and Ornamental Horticulture (6 academic, 4 co-op quarters).

Options

Students may elect to take the complete associate degree program at their own rate of speed.

Students may complete the program by attending the college for ten consecutive quarters on a half-day basis.

Technological Society Demands Continuing Education

American educational practices, systems, and methods are at present going through changes that will likely prove to be more profound, more far-reaching, and more enduring than any that have occurred previously. There are numerous aspects of this change and reasons for it, but none is more important than the abandonment by large numbers of people of the idea that education ceases at the end of any formally structured program. The practice of terminating one's educational involvement on the completion of four years in high school or college won't do any more. It is obsolete today among many professional groups all over the country, and in certain

areas it is obsolete at every socioeconomic level. Already great numbers of people are moving in and out of the educational system continuously throughout their lifetimes and are teaching their children that this is the normal, rather than the unusual, thing to do.

There is every reason to expect this trend to continue and to become more widespread. Projections based on the findings of a recent study reported by the College Entrance Examination Board indicate that by 1976, an estimated 149 million American adults will be involved in some kind of educational program — of this number, 82 million are expected to be outside the traditional educational system as compared with 67 million within it. The old adult education movement, in all its various forms, is melding with other educational activities of great diversity, many of which have developed quite recently, to produce a relatively new concept: continuing education.

The impetus for the change has been provided by a wide range of needs and pressures of which by far the most important is the recent growth in technology, a growth so astonishingly rapid that vast numbers of people are coming to the painful realization that they must renew the skills they need to do their jobs well, that knowledge must be updated or rechanneled. Highly trained professionals may have felt the pinch first, but today the changes reach to every field of learning and to virtually every vocation. The currently changing role of women means that very soon more than half the mature women in the United States will be seeking education or training experiences to enable them to enter the labor market.

One of the most important functions of Cincinnati Technical College is that of service to local business, industry, and government. The Division of Continuing Education offers a wide variety of credit and non-credit courses of an occupational nature. Admission to the program is open to all residents of the greater Cincinnati area. A high school diploma or equivalency is required only for enrollment in the credit courses leading to the associate degree. The non-credit or special interest courses carry no prerequisites.

Where sufficient interest is shown, every effort will be made to offer instruction which will permit an employee to improve, upgrade, or re-train himself through classroom work. This instruction may be pertinent to the employee's present job requirements or to anticipated advancements. The spectrum of courses offered ranges from those of fundamental content to those requiring considerable preparation and background.

The Division also develops and administers specialized programs tailored to the needs of public and private agencies, organizations and groups. The college in cooperation with business, industry, government, labor, the professions, and other community groups stands ready to develop and implement such courses and programs ranging from single-session meetings to those requiring numerous hours for completion.

A third area developed by the Division is its "how-to college" of recreation and leisure-time activities, making it possible for students to pursue non-credit, self-interest courses at nominal cost.

For persons interested in learning more about possible program offerings in their specific areas — for adults who would love to pick up their education where they left off — contact the Division of Continuing Education for details.


HIRD

DEPARTMENT OF BUSINESS TECHNOLOGIES

Business is the major economic activity in the nation. It relates to the work people do specifically for money as they engage in business activities which involve the production and sale of goods and services to satisfy the insatiable needs and wants of consumers. These activities are performed in more than 11 million firms or companies, which vary considerably in nature and size.

The number of services and activities business generates are never-ending. Accounting, marketing, retailing, data processing, banking, office administration, and insurance are but a few. Each of these branches generates a host of activities. Accounting, for example, branches off into such specialties as cost, tax, payroll, municipal, financial, and budgeting.

The number of managerial workers required by business is great and, especially in specialized business fields, growing each year. Sound business training helps to develop better management for American business enterprise and, ultimately, has a profound influence on the economic welfare of the nation.

The Cincinnati Technical College is meeting the need for specialized business training with eight Associate Degree programs. Business Data Processing Technology, Business Management Technology, Hotel-Motel-Restaurant Management Technology, Security Administration Technology, Property Management Technology, Real Estate Technology, Sales-Marketing Technology, and Secretarial Technology. Organized job experience is a key phase of the learning program in each of these eight business programs through cooperative work assignments with leading area business firms. Collegiate level courses in these areas of specialized business training combine with job-related activities during the alternating ten-week work terms to provide students with both business skills and business experience. Upon completion of the two-year work/study program in business, students receive an Associate Degree and begin advancing rapidly to more responsible and better-paying mid-management positions.

BUSINESS DATA PROCESSING TECHNOLOGY

The aim of the Business Data Processing program at Cincinnati Technical College is to provide the student with the technical training necessary to function effectively as a computer programmer/analyst and to make a significant contribution to his co-op employer during training and to the data processing community after graduation.

Data processing is an essential part of every business. Its function is to control, collect and process business data, and to provide management with meaningful information which is useful input to the management decision-making process.

This task has become more significant over the past few years due to the volume of data now available and essential to business. Thus, computers are now used extensively in data processing to perform tasks previously accomplished by clerks, statisticians and even management personnel.

The introduction and eventual sophistication of data processing equipment has created a need for professional data processing technicians, especially computer programmers and computer-based data systems analysts.

A computer programmer is the link between the computer and the systems analyst. He instructs the computer to perform various tasks based on the requirements set down by the systems analyst. His assignments range from simple (listing a set of punched cards on a printing device), to complex (developing a complete set of programs to account for the production, sale and shipping of inventory items).

A systems analyst is the liaison between business operations and computer processes. He is well versed in both areas and is responsible for translating management information requirements into realities using data processing equipment.

The Cincinnati Technical College student in Business Data Processing spends five ten-week terms in school and five ten-week terms in cooperative employment.

- During the first term the student studies computer hardware, the why and what of computer operations, the programming process and basic assembly language programming. This qualifies him as a computer operator or programmer trainee.
- Second term instruction thoroughly indoctrinates the student in programming with machine-oriented assembly language. The student also learns documentation and control techniques for programming. This qualifies the student as a programmer trainee or programmer.
- In the third term the student studies the COBOL programming language and is instructed in programming operating systems using job control languages. This qualifies him as a programmer.
- The fourth term introduces several new programming languages, expands the student's knowledge of COBOL and indoctrinates him in the methods and procedures of systems analysis. This qualifies him as a programmer/analyst trainee.
- The final term trains the programmer in management procedures and software development programming. Actual systems analysis and design problems are solved by each student. This qualifies him as a programmer/analyst trainee or programmer/analyst.

BUSINESS DATA PROCESSING TECHNOLOGY CURRICULUM

		Class Hours	Lab Hours	Credit Hours
■ First School Term				
1001	Communication Skills	5	-	3
1511	Principles of Economics	5	-	4
1131	College Algebra	5	-	4
2911	Principles of Accounting I	3	2	3
1701	Introduction to Computer Operations and Assembly Programming I	4	6	4
				18
■ First Co-op Term				
9001	Cooperative Employment		40	2
■ Second School Term				
1002	Communication Skills	5	-	3
2912	Principles of Accounting II	3	2	3
1133	Programming Mathematics I	4	1	4
1721	Advanced Programming Design and Control	3	2	3
1722	Assembly Programming II	4	6	5
				18
■ Second Co-Op Term				
9002	Cooperative Employment		40	2
■ Third School Term				
1007	Expository Writing	5	1	3
1134	Programming Mathematics II	4	2	4
1741	Operating Systems	3	2	3
1742	Cobol Programming I	6	9	8
				18
■ Third Co-op Term				
9003	Cooperative Employment		40	3
■ Fourth School Term				
1004	Technical Writing	5	-	3
1132	Business Statistics	4	1	4
1761	Programming Systems I	3	2	3
1762	Cobol Programming II	3	2	3
1763	Systems Analysis and Design	5	5	5
				18
■ Fourth Co-op Term				
9004	Cooperative Employment		40	3

■ **Fifth School Term**				
1005	Effective Speaking	5	-	3
1504	Psychology	5	-	4
1781	Programming Systems II	5	5	5
1782	Installation Management	3	2	3
1783	Research Project		5	3
				18
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

BUSINESS DATA PROCESSING TECHNOLOGY
ADVISORY COMMITTEE

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Superintendent of Data Processing Regional Computer Center

Jerry Burton ..... Champion International Paper Co.
Education Specialist

Nander Brown ..... U. S. General Accounting Office
Supervisory Systems Analyst

Kenneth Cobb ..... Central Trust Company
Assistant Programming Manager

William S. Davis, Jr. ..... U. S. Shoe Corporation
Manager of Systems and Programming

Charles J. Jenkins ..... The Midland Company
Data Processing Manager

Janie Lallemand ..... Cincinnati Technical College
Student (1973 Graduate)

William McDonald ..... General Electric Company
Manager, Information Support Systems

Paul Nerone ..... Western & Southern Life Insurance Co.
Staff Assistant

Robert Nieberding ..... Inter-Ocean Insurance Co.
Vice-President

Lee Ransick (Chairman) ..... Ohio National Life Insurance Co.
Director of Data Processing

Edward Wess ..... MacGregor-Brunswick, Inc.
Division Manager, Management Information Services

BUSINESS MANAGEMENT TECHNOLOGY

Opportunities in business are almost unlimited. A combination of business training and business experience prepares students to capitalize on the potential career opportunities awaiting them in the world of business. The Cincinnati Technical College Business Management program, offered by a school experienced in technical education, fills the need for personnel with the technical skills and knowledge so valuable to business and industry.

Business Management program students meet with instructors experienced in fields of management, finance, sales, and accounting. A wide variety of learning experiences are provided through the college's program of field trips, guest lecturers possessing special expertise, case studies, and modern visual presentation techniques.

The technical business training provided in the College's Business Management program lends itself to employment in a wide variety of business positions. Principal among these are positions in the field of accounting, such as: junior accountant, cost accountant, financial, billing, payroll, and other specialized accounting assignments. In addition, a large number of other specialized job opportunities related to office and management services are available to the well-trained student in business. These positions often lead to promotional opportunities in career areas such as credit, finance, personnel, purchasing, public relations, and many others in the related areas of general business management.

While engaged in their cooperative work experience, Business Management program students participate in employment training by occupying positions in banking, insurance, retailing, and a number of other important fields. Many of Cincinnati's leading firms cooperate in providing training positions for students; these positions frequently lead to other, more responsible and challenging assignments as the student matures on the job and proves his value to the cooperating employer. Upon graduation, the Business Management program student will be prepared to assume mid-management responsibilities in a meaningful business career.

There are also many opportunities for one to own and operate his own business enterprise. To be successful in such a venture, one should possess a thorough understanding of accounting principles, business procedures, merchandising, and business management skills offered through the Business Management program at Cincinnati Technical College.

BUSINESS MANAGEMENT TECHNOLOGY CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills	5	-	3
1101 Business Mathematics I	5	-	4
3005 Administrative Typing	1	4	2
2911 Principles of Accounting I	3	2	3
2921 Introduction to Business I	5	-	2
1799 Survey of Data Processing	5	-	4
			18
■ First Co-op Term			
9901 Cooperative Employment		40	2
■ Second School Term			
1002 Communication Skills	5	-	3
1102 Business Mathematics II	5	-	4
2912 Principles of Accounting II	3	2	3
2922 Introduction to Business II	5	-	2
1810 Principles of Salesmanship	5	-	3
1512 Principles of Marketing I	3	-	3
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1007 Expository Writing	3	2	3
2913 Principles of Accounting III	2	3	3
1504 Psychology	5	-	4
2926 Principles of Management	5	-	3
2905 Money and Banking	5	-	3
2901 Principles of Marketing I	5	-	2
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
2902 Principles of Marketing II	5	-	2
1006 Technical Writing	5	-	3
2914 Cost Accounting I	5	-	3
1520 Sociology	3	2	4
1823 Business Law I	5	-	3
1832 Personnel Management	5	-	3
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ **Fifth School Term**				
1005	Effective Speaking	3	2	3
2915	Cost Accounting II	5	-	3
1824	Business Law II	5	-	3
1804	Risk and Insurance	5	-	3
2917	Tax Accounting	3	2	3
2904	Office Management	5	-	3
				18
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

BUSINESS MANAGEMENT TECHNOLOGY
ADVISORY COMMITTEE

W. B. Carpenter ..... The Kroger Company
Manager, Office Services

Benjamin Crockett ..... Sears, Roebuck & Co.
Personnel Manager

G. James Haan ..... Union Central Life Insurance Company
Second Vice-President, Personnel Relations

James Hanseman ..... Cincinnati Technical College
Student (1973 Graduate)

Norman Hartleb ..... Eagle-Picher Industries
Division Office Manager and Supervisor

George Keller ..... Cincinnati Insurance Board
Executive Vice-President

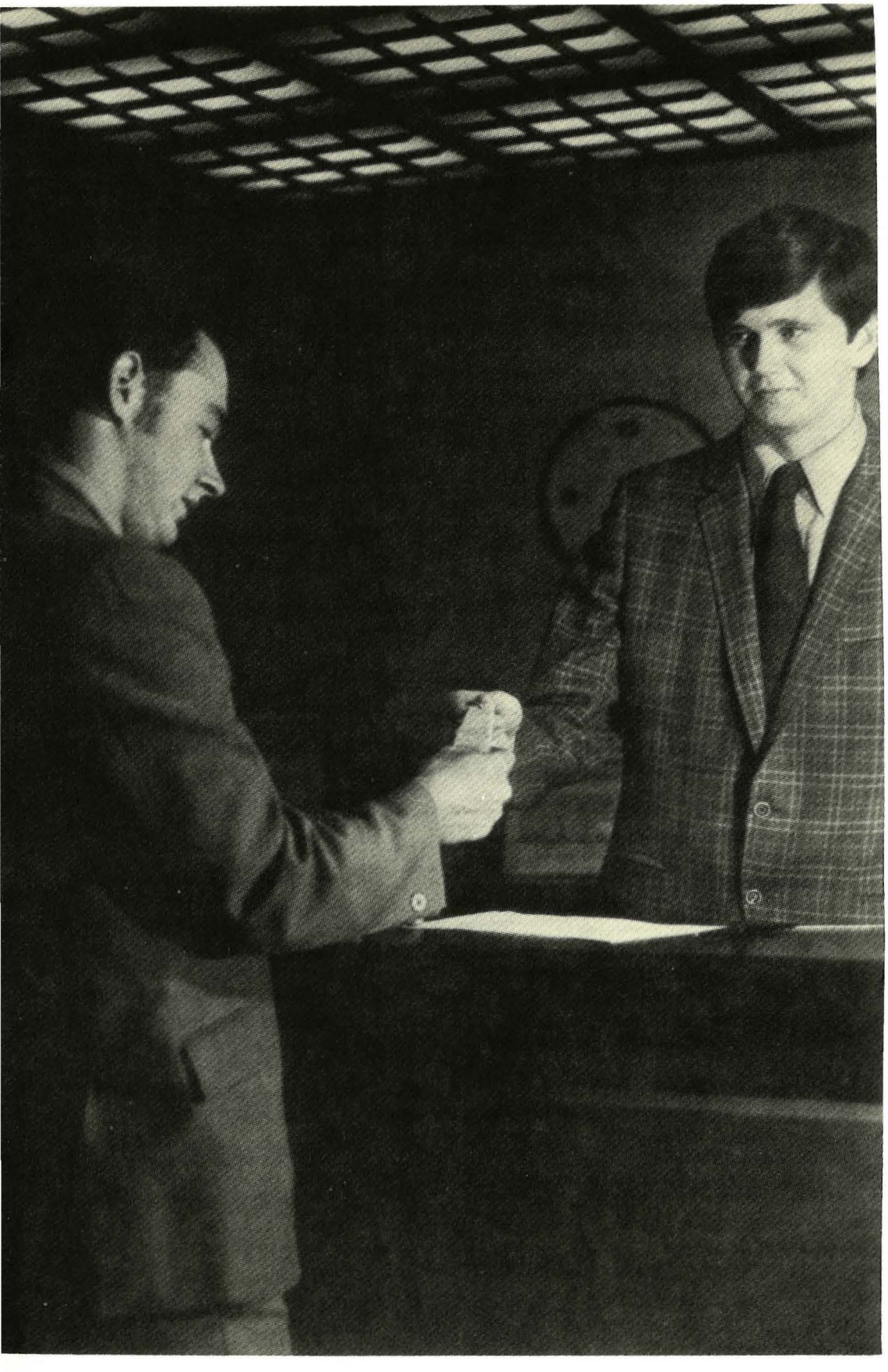
Stuart J. Mahlin ..... The Provident Bank
Director of Personnel

Robert M. Moore ..... David J. Joseph Co.
General Office Administrator

Richard Morris ..... Central Trust Bank
Assistant Personnel Director

Marvin E. Walker ..... Blue Cross of Southwest Ohio
Vice-President, Staff Corporate Secretary

E. Kenneth Whalen ..... DuBois Chemical Corp.
Director of Employee Relations



HOTEL-MOTEL-RESTAURANT MANAGEMENT TECHNOLOGY

Increased leisure, a higher living standard, and improved transportation have caused the demand for the services of the hospitality industry to spiral. Chains of motels, hotels and restaurants have responded with large scale expansion programs. As a result, the industry is experiencing a shortage of qualified personnel, particularly at the mid-management level. Cincinnati Technical College is prepared to meet the employment needs of this industry locally through its Hotel-Motel-Restaurant Management Program.

Today's modern hotel or restaurant manager must have a comprehensive knowledge of all the departments and operations in his institution. This program, therefore, prepares the young person to assume, upon graduation, responsibility in a variety of positions: front office manager, superintendent of service, assistant or executive housekeeper, steward, dining room manager, assistant restaurant manager, assistant catering manager, or assistant hotel manager. (Training afforded by this program can also prepare students for employment as executive housekeepers or food managers in hospitals and nursing homes.)

Students encounter all phases of this field in their training — from front office procedure to mass food preparation to maintenance problems. They learn from instructors experienced and knowledgeable in the complex facets of this industry.

Co-operative employment gives the students practical experience at some of Cincinnati's leading hotels and restaurants.

A student cannot learn solely in a classroom, but neither is he able to learn completely on the job. By integrating these two — work and school — the student receives both the practical and theoretical knowledge necessary for a successful and profitable career in the hospitality industry.

This program was developed with the assistance of an advisory committee representing the hospitality industry, hospitals and nursing homes.

HOTEL-MOTEL-RESTAURANT MANAGEMENT TECHNOLOGY CURRICULUM

		Class Hours	Lab Hours	Credit Hours
■ First School Term				
1001	Communications Skills I	5	-	3
1101	Business Mathematics I	5	-	4
2801	Introduction to Restaurant Management	4	6	3
2811	Introduction to Hotel-Motel Management	5	-	3
2911	Principles of Accounting I	3	2	3
1798	Survey of Data Processing	3	-	2
				18
■ First Co-op Term				
9001	Cooperative Employment		40	2
■ Second School Term				
1003	Communication Skills	5	-	3
1102	Business Mathematics II	5	-	4
2802	Restaurant Management II	4	6	3
2812	Hotel-Motel Management II	5	-	3
2821	Sales Techniques	3	-	2
2912	Principles of Accounting II		2	3
				18
■ Second Co-op Term				
9002	Cooperative Employment		40	2
■ Third School Term				
1005	Effective Speaking	5	-	3
1512	Economics I	5	-	3
2803	Restaurant Management III	4	6	3
2813	Hotel-Motel Management III	5	-	3
2928	Hotel-Motel Accounting	3	2	3
2929	Audit Procedures and Operation	2	3	3
				18
■ Third Co-op Term				
9003	Cooperative Employment		40	3
■ Fourth School Term				
1505	Psychology	3	-	3
1535	U.S. Labor Relations	3	-	3
1823	Business Law I	5	-	3
2804	Restaurant Management IV	4	6	3
2814	Hotel-Motel Management IV	5	-	2
2820	Purchasing	5	-	4
				18
■ Fourth Co-op Term				
9004	Cooperative Employment		40	3

■ **Fifth School Term**				
1006	Technical Writing	3	2	3
1520	Introduction to Sociology	5	-	4
1824	Business Law II	5	-	3
2805	Restaurant Management V	4	6	3
2815	Hotel-Motel Management V	5	-	3
2830	Decorating and Design	3	2	2
				18
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

HOTEL-MOTEL-RESTAURANT MANAGEMENT TECHNOLOGY ADVISORY COMMITTEE

Barry S. Cholak ..... Stouffer's Inn
General Manager

David Darby ..... Northern Kentucky Area
Coordinator Food Service Vocational School

Randolph Dickins ..... Quality Courts Motels
General Manager

A. J. Elsaessor ..... Carrousel Motel
General Manager

Robert Haines ..... Norwood High School
Coordinator Food Service

Dorothy Larsson ..... Cincinnati Milacron
Food Service Director

Pete Vaughn ..... Willson Dairy Company
Sales Manager

Nathaniel Whitby ..... Taft High School
Coordinator Food Service

Leland White ..... Deaconess Hospital
Administrator

PROPERTY MANAGEMENT AND REAL ESTATE

The dynamic growth in the building of apartment complexes, office structures, industrial parks, and shopping centers has accelerated the demand for professionally trained property managers. Property Management is a growth career field for men and women. An effective property manager must have the ability to properly supervise maintenance, office, and accounting functions, handle tenant relations, prepare management plans, and implement operating budgets. The successful fulfillment of these functions determines whether a property is a valuable entity to the owner, tenant, resident, and community. Men and women who assume responsibilities as property managers are well compensated. Property management experience provides an excellent background to all other specialties in the real estate profession.

The Property Management and Real Estate curriculum is based upon class discussion, publications and textbooks of the Institute of Real Estate Management, and the case study method. The comprehensive program covers the resident manager through executive property manager positions. By taking the six designated real estate courses in the program, a student can earn an Associate Degree with a double major in Property Management and Real Estate.

Cincinnati Technical College is the nation's first and only institution of higher learning to offer an associate degree in property management. Certified Property Managers (C.P.M.'s) assist in class instruction and counsel the college to help provide the latest principles and practices employed in the property management field. The program provides excellent cooperative employment opportunities with leading property managers and institutional owners in the Cincinnati metropolitan area.

PROPERTY MANAGEMENT AND REAL ESTATE CURRICULUM * *

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills	5	-	3
1101 Business Mathematics I	5	-	4
2911 Principles of Accounting I	3	2	3
2921 Introduction to Business I	5	-	2
2931 Principles of Property Management I	3	-	3
3301 Principles of Maintenance I	3	2	3
			18
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1002 Communication Skills	5	-	3
1102 Business Mathematics II	5	-	4
2912 Principles of Accounting II	3	2	3
2922 Introduction to Business II	5	-	2
2932 Principles of Property Management II	3	-	3
3302 Principles of Maintenance II	3	2	3
			18
■ Second Co-op Term			
9902 Cooperative Employment		40	2
■ Third School Term			
1007 Expository Writing	3	2	3
1504 Psychology	5	-	4
* 2951 Real Estate Principles and Practices I	5	-	3
* 2953 Real Estate Law	5	-	3
2913 Principles of Accounting III	2	3	3
3303 Principles of Maintenance III	3	2	2
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1006 Technical Writing	3	2	3
1502 Human Relations	3	-	3
1512 Principles of Economics	3	-	3
2933 Principles of Property Management III	3	-	3
* 2952 Real Estate Principles & Practices II	3	-	3
* 2955 Real Estate Appraisal I	5	-	3
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ Fifth School Term			
1005 Effective Speaking	3	2	3
2830 Decorating and Design	3	2	2
2917 Tax Accounting	3	2	3
2934 Principles of Property Management IV	3	-	3
* 2954 Real Estate Finance	3	-	3
* 2957 Special Topics Development & Investment Case Study	5	-	3
			18
■ Fifth Co-op Term			
9005 Cooperative Employment		40	3

* Six Real Estate courses required to obtain a double major in Property Management and Real Estate.

** Students interested in a major in only Property Management should confer with their coordinator.

PROPERTY MANAGEMENT AND REAL ESTATE TECHNOLOGIES ADVISORY COMMITTEE

Orville Brown ..... Cincinnati Apartment Association
Executive Director

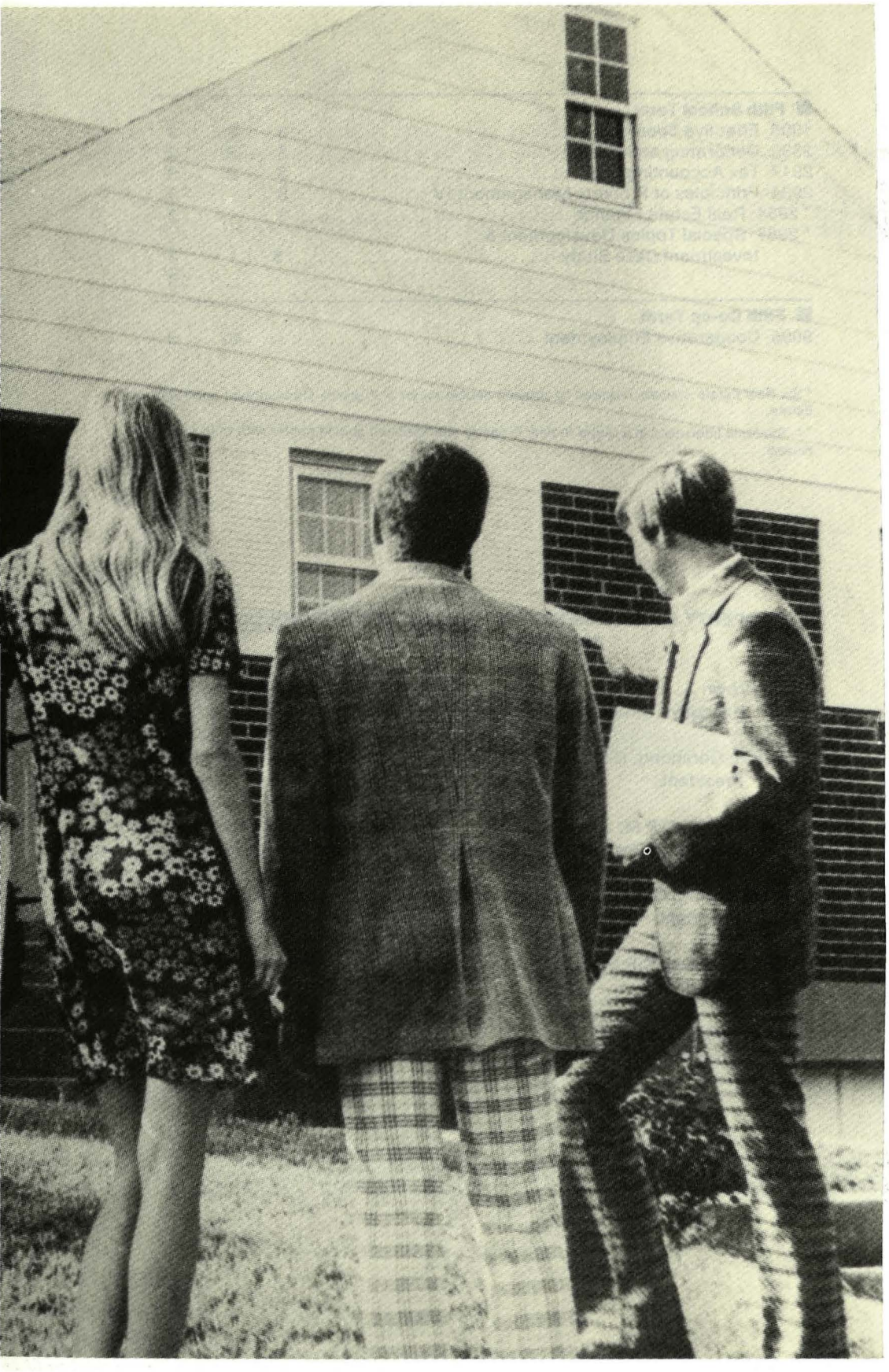
Stanley R. Gershung, C.P.M. ..... Stanroy Realtors
President

William Koenig, C.P.M. ..... Western & Southern Life
Director of Property Management Insurance Company

Albert D. Loring, C.P.M. ..... Robert A. Cline, Inc.
President

William F. Merusi, C.P.M. ..... Merusi Management, Inc.
President

Leroy Walker ..... Deb-Roe Realtors
President



REAL ESTATE TECHNOLOGY

Real Estate is one of the most stable of all career areas. Prices of land and buildings follow the cycles of general business, but as our population increases and the land area remains constant, more and more trained people are needed in real estate occupations.

The real estate sales and related real estate specialties offer unlimited opportunity for men and women to provide a valuable service to buyers and sellers of real property and be well compensated for their efforts.

The Cincinnati Technical College Real Estate Technology curriculum includes the four courses which real estate practitioners must take under the provisions of Ohio's House Bill 132, which was passed by the Legislature in mid-1971 and which became effective on January 2, 1972. Salesmen must take two courses within two years after licensure; brokers, two additional courses prior to application for status as a broker.

The Real Estate Technology Program includes all of the courses required in the Graduate, Realtor Institute (G.R.I.) program; those who successfully complete the requirements for the associate degree in real estate become eligible for the G.R.I. designation. A student may also elect to take the required property management courses, which will enable him to graduate with a double major in Property Management and Real Estate.

The Real Estate course instructors are all experienced realtors and/or attorneys. The various Real Estate programs offered at Cincinnati Technical College are endorsed by the Cincinnati Real Estate Board and the Ohio Real Estate Board Association.

REAL ESTATE TECHNOLOGY CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills	5	-	3
1101 Business Mathematics I	5	-	4
2911 Principles of Accounting I	3	2	3
* 2951 Real Estate Principles & Practices I	3	-	3
*2953 Real Estate Law	3	-	3
3022 Office Machines	1	4	2
			18
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1102 Business Mathematics II	5	-	4
2912 Principles of Accounting II	3	2	3
2921 Introduction to Business I	5	-	2
* 2952 Real Estate Principles & Practices II	3	-	3
* 2954 Real Estate Finance	3	-	3
* 2955 Real Estate Appraisal I	3	-	3
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1003 Communication Skills	3	2	3
1506 Human Relations	3	-	3
1511 Principles of Economics	5	-	4
1810 Principles of Salesmanship	5	-	3
2956 Real Estate Appraisal II	3	-	3
2922 Introduction to Business II	5	-	2
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1006 Technical Writing	3	2	3
1520 Introduction to Sociology	5	-	4
1823 Business Law I	5	-	3
2904 Office Management	3	2	3
2924 Principles of Management I	5	-	2
* 2957 Special Topics Development and Investment Case Study	3	-	3
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ Fifth School Term				
1005	Effective Speaking	3	2	3
1504	Psychology	5	-	4
1824	Business Law II	5	-	3
2905	Money and Banking	5	-	3
2917	Tax Accounting	3	2	3
2925	Principles of Management II	5	-	2
				18
■ Fifth Co-Op Term				
9005	Cooperative Employment		40	3

* Six Real Estate courses required to obtain a double major in Property Management and Real Estate.

REAL ESTATE TECHNOLOGY ADVISORY COMMITTEE

Jerry Devitt ..... Devitt and Associates, Realtors
President

M. Robert Garfield ..... Professional Realty Service, Inc.
Vice-President Division of Chelsea Moore Corporation

Bill Henkel ..... Grady Realtor
Associate

Robert H. Kelly ..... Robert A. Cline Residential, Inc., Realtors
Vice-President

Alden A. McLeod ..... Alden A. McLeod Realtist Company
President

Clark A. Oyler ..... Parchman & Oyler Company, Realtors
Vice-President

Ron Sophn ..... Cincinnati Technical College
Student (1974 Graduate)

Marilyn Stenton ..... West Shell Realtor
Associate

SALES MARKETING TECHNOLOGY

Nationally, the field of sales-marketing generates more income than any other profession. Eighty percent of those who earn more than $20,000 a year are directly engaged in sales-marketing.

In the Sales-Marketing department at Cincinnati Technical College, small classes, an approach which presupposes adult attitudes, and expert guidance, instruction and coordination, all focus on a single objective: developing talent for the sales-marketing professions. Advertising, display, retailing, wholesaling, mid-management supervision, data processing, accounting, and other studies develop the attitudes and skills necessary for success.

The business-industrial community in Cincinnati provides a unique laboratory in which Sales-Marketing students acquire their cooperative employment experience. Greater Cincinnati is such a diverse marketing complex that this area is used by many national agencies for market research. The kinds of cooperative employment presently held by Sales-Marketing students are as varied as the marketing area itself.

On-the-job training is not a substitute for the critical analysis and careful exposition undertaken in school; nor is schooling a substitute for field experience. The Cincinnati Technical College cooperative employment system offers both in the proper proportions for optimum personal and professional growth.

SALES MARKETING TECHNOLOGY CURRICULUM

		Class Hours	Lab Hours	Credit Hours
■ First School Term				
1001	Communication Skills	5	-	3
1101	Business Mathematics I	5	-	4
1845	Principles of Retailing	5	-	4
1810	Principles of Salesmanship	5	-	3
2920	Business Principles	5	-	4
				18
■ First Co-op Term				
9001	Cooperative Employment		40	2
■ Second School Term				
1002	Communication Skills	5	-	3
1102	Business Mathematics II	5	-	4
2926	Principles of Management	5	-	3
1836	Principles of Wholesaling	5	-	4
3005	Administrative Typing	1	4	2
				16
■ Second Co-op Term				
9002	Cooperative Employment		40	2
■ Third School Term				
1005A	Effective Speaking	3	-	2
1505	General Psychology	3	-	3
1799	Survey of Data Processing	5	-	4
1832	Personnel Management	5	-	3
2901	Principles of Marketing I	5	-	2
1520	Introduction to Sociology	5	-	4
				18
■ Third Co-op Term				
9003	Cooperative Employment		40	3
■ Fourth School Term				
1007	Expository Writing	3	2	3
2902	Principles of Marketing II	5	-	2
1511	Principles of Economics	5	-	4
2911	Principles of Accounting I	3	2	3
1815	Audiovisual Sales Techniques	2	3	4
				16
■ Fourth Co-op Term				
9004	Cooperative Employment		40	3

■ **Fifth School Term**				
1006	Technical Writing	3	2	3
2912	Principles of Accounting II	3	2	3
1823	Business Law I	5	-	3
1842	Advertising and Display	3	2	4
1820	Sales Management	5	-	4
				17
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

SALES MARKETING TECHNOLOGY ADVISORY COMMITTEE

Paul Callahan ..... Withrow High School
D. E. Coordinator

Stanley J. Collins ..... Osborne-Kemper Thomas Company
Director of Marketing

Ralph Estes, Chairman ..... Self Employed
Sales Consultant

W. James Foken ..... The John Shillito Company
Employment Manager

James R. Gleason ..... Indian Hill High School
D. E. Coordinator

Donald Leimenstoll ..... Brendamour Sporting Goods, Inc.
Treasurer

Clifford Migal ..... Distributive Education
Supervisor Great Oaks JVSD

William E. Miller ..... WLW Radio
General Sales Manager

Larry Rich ..... Landmark Company
Student (1973 Graduate)

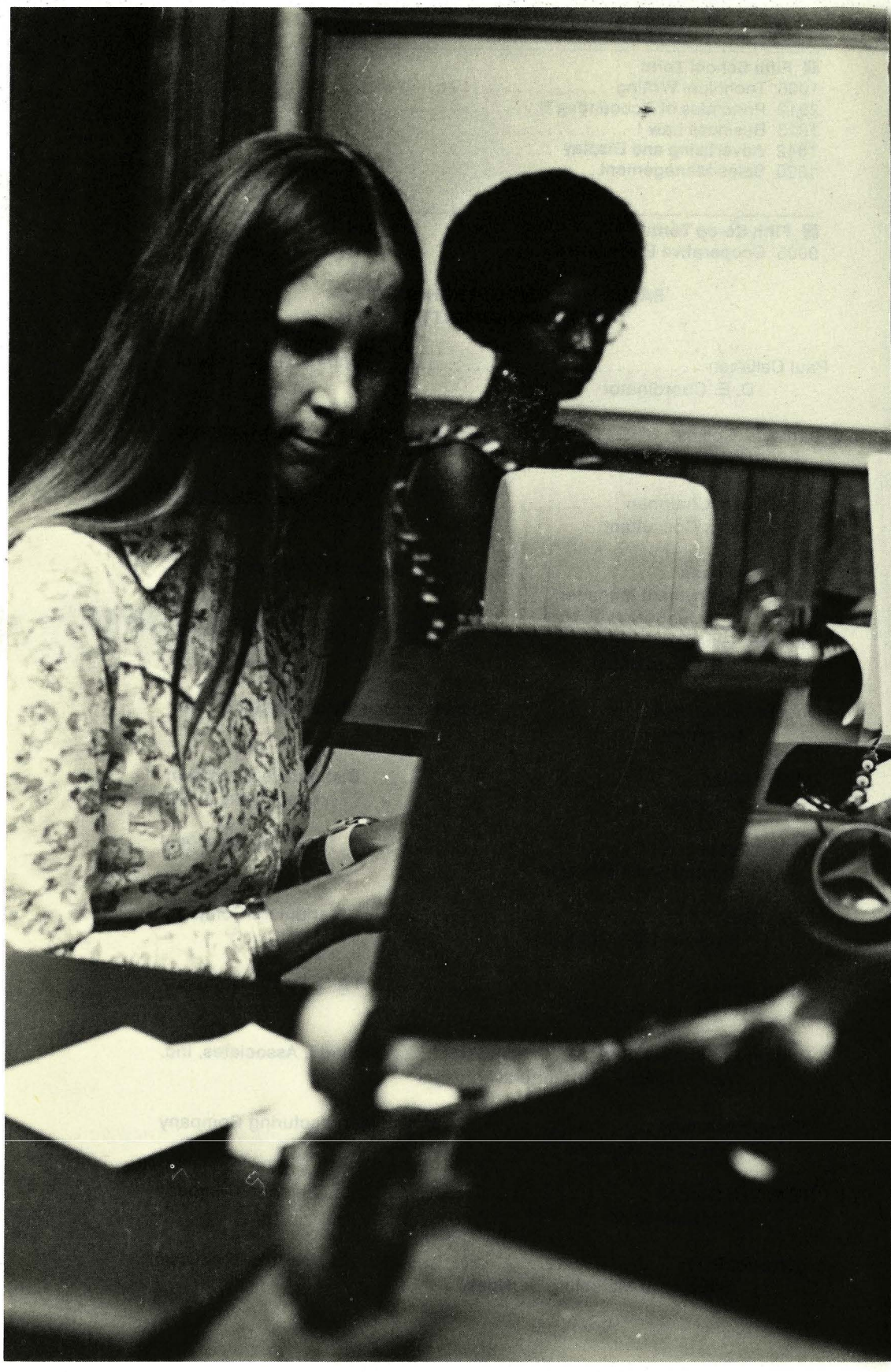
Albert Schaefer ..... H & S. Pogue Company
Personnel Manager

Herbert P. Schaffer, Sr. ..... M. and I. Associates, Inc.
Vice President and General Manager

James Schroeder ..... Mutual Manufacturing Company
Personnel Manager

Ruth Van Gorden ..... Merten Company
Representative

John Waddell ..... DuBois Chemicals
Director of Marketing Services



SECRETARIAL TECHNOLOGY

The secretarial technologies offer up-to-date programs for professional development in secretarial science. Besides providing a modern and thorough technical and professional education, the curricula are also designed to give attention to the liberal aspects of a college education needed by the secretary in the modern business world. This enables her to take an active part in the main stream of our society so that our progress and prosperity will grow in the years ahead.

Secretaries are emerging as important members of the management team. Through the years they have earned recognition, status, and prestige. More than ever secretaries must accept the challenge of their changing role and be prepared for the new role as part of the professional management team.

The function of the secretarial program is to prepare young women for these responsible secretarial and clerical positions in business as well as those in industry and public service.

Three major areas of secretarial education are offered:

- OPTION I prepares a young woman for a responsible position as an executive secretary or administrative assistant requiring a thorough background in shorthand. In addition this program offers a study of modern business practices and office procedures.

- OPTION II is designed for the young woman who, while desiring a responsible position as a secretary or administrative assistant, prefers to concentrate her learning in the area of machine transcription with a limited background in shorthand.

- OPTION III is designed for the young woman who desires training to qualify her to fill any of a broad range of office positions requiring a variety to technical skills. In this program a young woman can learn office skills, a knowledge of accounting, and other fundamental office techniques.

SECRETARIAL TECHNOLOGY CURRICULUM

Option I — Secretarial/Shorthand

		Class Hours	Lab Hours	Credit Hours
■ First School Term				
1001	Communication Skills	5	-	3
1101	Business Mathematics I	5	-	4
2921	Introduction to Business I	5	-	2
3001	Typewriting I	2	3	2
3011	Shorthand I	2	3	4
3021	Office Procedures	2	3	3
				18
* Entry level depending on skill at time of admission test				
■ First Co-op Term				
9001	Cooperative Employment		40	2
■ Second School Term				
1003	Communication Skills	5	-	3
1102	Business Mathematics II	5	-	4
3002	Typewriting II	2	3	2
3012	Shorthand II	2	3	4
3022	Office Machines	1	4	2
3032	Records Management	2	3	3
				18
■ Second Co-op Term				
9002	Cooperative Employment		40	2
■ Third School Term				
1009	Business English	3	2	3
1520	Introduction to Sociology	5	-	4
1823	Business Law I	5	-	3
3003	Typewriting III	1	4	2
3013	Shorthand III	2	3	4
3023	Machine Transcription	1	4	2
				18
■ Third Co-op Term				
9003	Cooperative Employment		40	3
■ Fourth School Term				
1006	Technical Writing	3	2	3
1501	Human Relations	5	-	4
2911	Principles of Accounting I	3	2	3
3014	Transcription I	3	7	4
3024	Secretarial Procedures (or 3025 Legal Secretarial Procedures or 3026 Medical Secretarial Procedures)	2	3	3
				17
■ Fourth Co-op Term				
9004	Cooperative Employment		40	3

■ Fifth School Term			
1005 Effective Speaking	5	-	3
1511 Principles of Economics	5	-	4
1799 Survey of Data Processing	5	-	4
2912 Principles of Accounting II	3	2	3
3015 Transcription II	3	7	4
			18
■ Fifth Co-op Term			
9005 Cooperative Employment		40	3

SECRETARIAL TECHNOLOGY CURRICULUM

Option II — Secretarial/Transcription

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills	5	-	3
1101 Business Mathematics I	5	-	4
2921 Introduction to Business I	5	-	2
3001 Typewriting I	2	3	2
3011 Shorthand I	2	3	4
3021 Office Procedures	2	3	3
			18

* Entry level depending on skill at time of admission test

■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1003 Communication Skills	5	-	3
1102 Business Mathematics II	5	-	4
3002 Typewriting II	2	3	2
3012 Shorthand II	2	3	4
3022 Office Machines	1	4	2
3032 Records Management	2	3	3
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1009 Business English	3	2	3
1520 Introduction to Sociology	5	-	4
1823 Business Law I	5	-	3
2904 Office Management	5	-	3
3003 Typewriting III	1	4	2
3027 Office Practicum	1	4	3
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3

■ Fourth School Term

1006	Technical Writing	3	2	3
1501	Human Relations	5	-	4
2911	Principles of Accounting I	3	2	3
3014A	Transcription IA	3	7	4
3024	Secretarial Procedures	2	3	3
				17

■ Fourth Co-op Term

9004	Cooperative Employment		40	3

■ Fifth School Term

1005	Effective Speaking	5	-	3
1511	Principles of Economics	5	-	4
1799	Survey of Data Processing	5	-	4
2912	Principles of Accounting II	3	2	3
3015A	Transcription IIA	3	7	4
				18

■ Fifth Co-op Term

9005	Cooperative Employment		40	3

SECRETARIAL TECHNOLOGY CURRICULUM

Option III — Secretarial/General

■ First School Term

		Class Hours	Lab Hours	Credit Hours
1101	Communication Skills	5	-	3
1101	Business Mathematics I	5	-	4
2921	Introduction to Business	5	-	2
3001	Typewriting I	2	3	2
2926	Principles of Management I	5	-	3
3021	Office Procedures	2	3	3
				17

* Entry level depending on skill at time of admission test

■ First Co-op Term

9001	Cooperative Employment		40	2

■ Second School Term

1003	Communication Skills	5	-	3
1102	Business Mathematics II	5	-	4
3002	Typewriting II	2	3	2
2927	Principles of Management II	5	-	3
3022	Office Machines	1	4	2
3032	Records Management	2	3	3
				17

■ Second Co-op Term

9002	Cooperative Employment		40	2

■ Third School Term

1009	Business English	3	2	3
1520	Introuduction to Sociology	5	-	4
1823	Business Law I	5	-	3
1832	Personnel Management	5	-	3
3003	Typewriting III	1	4	2
3027	Office Practicum	1	4	3
				18

■ Third Co-op Term				
9003	Cooperative Employment		40	3
■ Fourth School Term				
1006	Technical Writing	3	2	3
1501	Human Relations	5	-	4
2904	Office Management	5	-	3
2911	Principles of Accounting I	3	2	3
3004	Typewriting IV	1	4	2
3024	Secretarial Procedures	2	3	3
				18
■ Fourth Co-op Term				
9004	Cooperative Employment		40	3
■ Fifth School Term				
1005	Effective Speaking	5	-	3
1511	Principles of Economics	5	-	4
1799	Survey of Data Processing	5	-	4
2912	Principles of Accounting II	3	2	3
3028	Secretarial Practicum	3	7	4
				18
■ Fifth Co-op Term				
9005	Cooperative Employment		40	3

SECRETARIAL TECHNOLOGY ADVISORY COMMITTEE

Richard Adams ..... South-Western Publishing Company
Editor

Christine Allen ..... Cincinnati Technical College
Student (1973 Graduate)

Nina Brown ..... Heekin Can Company
Secretary to the Chairman of the Board
and to the President

Robert L. Daniels ..... State Farm Insurance Co.
Property Supervisor

Kathleen McDay ..... Cincinnati Technical College
Student (1973 Graduate)

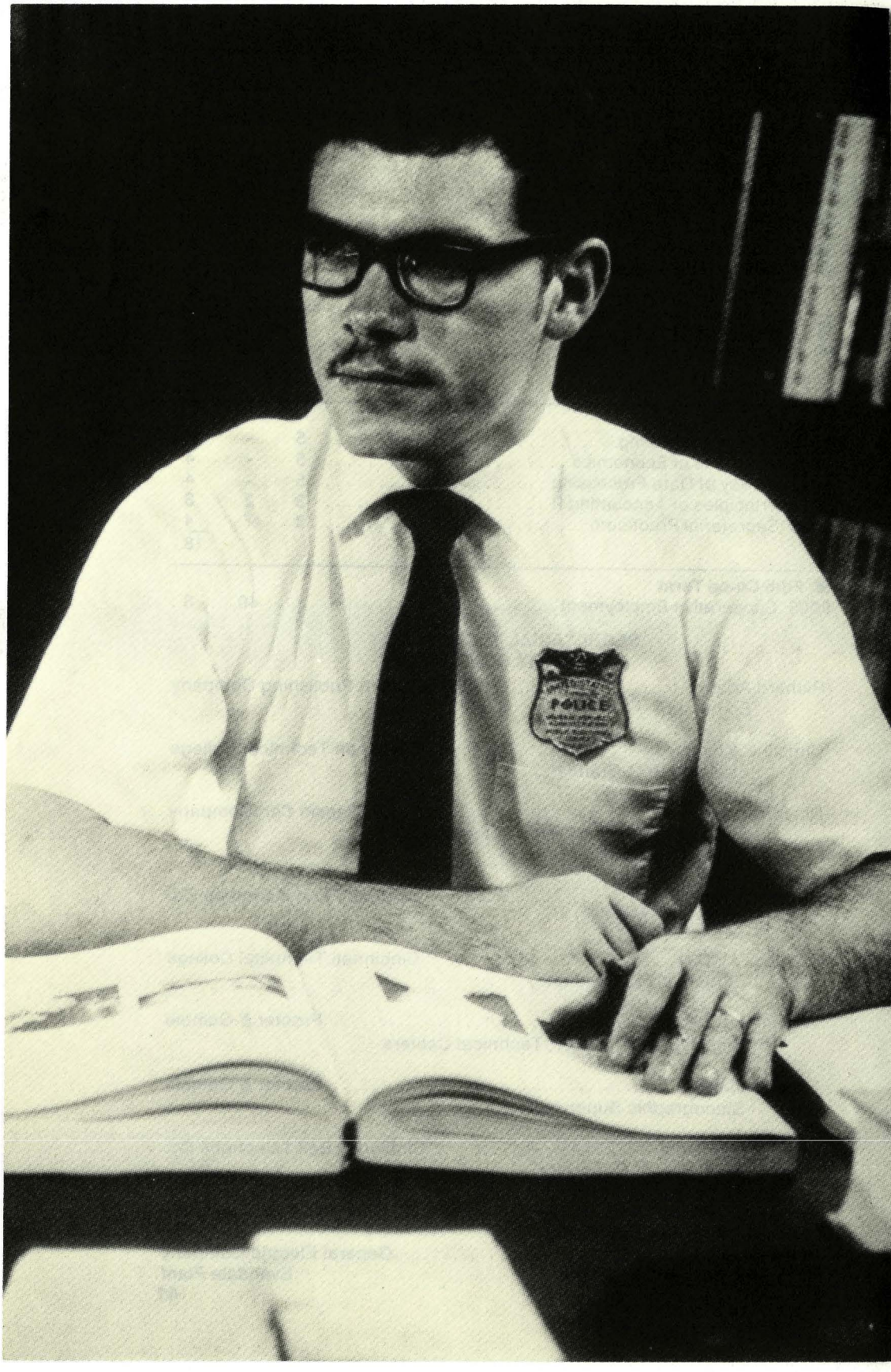
William Patterson ..... Procter & Gamble
Employment Manager, Technical Centers

Eileen Robinson ..... Procter & Gamble
Stenographic Supervisor

Jeanne Schneider ..... Cincinnati Bell Telephone Co.
Employment Counselor

Edith Schnelle ..... The Ohio Knife Company
Office Administrator

Anne Trull ..... General Electric Company
Placement Specialist Evendale Plant


POLICE

SECURITY ADMINISTRATION TECHNOLOGY

An ever-increasing crime rate, continuing business losses occasioned by theft and pilferage, and concern about threatened extremist activities have caused businessmen to recognize a need for security specialists on the management team. The demand for trained specialists in the security field is greater than the available supply of such persons. Training is the key word. While law enforcement and police science programs have existed in academic institutions for a number of years, few colleges have given thought or action to the unique education and training requirements of the security practitioner.

The curriculum was developed in collaboration with the Tri-State Chapter of the American Society for Industrial Security. This program of training has the assistance and support of both public agencies and professional groups.

A career in the rapidly expanding field of security administration can prove to be exciting, challenging, and rewarding. The opportunities afforded in this career field are limitless since security administration is recognized as a major responsibility of management in business, industry, and government.

SECURITY ADMINISTRATION CURRICULUM

		Class Hours	Lab Hours	Credit Hours
■ First School Term				
1101	Business Mathematics	5	-	4
1201	Private Policy Officer's Course	9	3	6
1210	Introduction to Loss Control and Security Administration	3	-	2
1502	Human Relations	3	-	3
2926	Principles of Management	5	-	3
				18
■ First Co-op Term				
9001	Cooperative Employment		40	2
■ Second School Term				
1001	Communication Skills	3	2	3
1102	Business Mathematics II	5	-	4
1216	Security Administration I	5	-	3
1211	Industrial Security	5	-	3
1220	Fundamentals of Fire Protection	3	2	2
2927	Principles of Management II	5	-	3
				18
■ Second Co-op Term				
9002	Cooperative Employment		40	2
■ Third School Term				
1003	Communication Skills	3	2	3
1004	Technical Writing	3	2	3
1217	Security Administration II	5	-	3
1204	Personnel Security Systems	5	-	3
1823	Business Law	5	-	3
2911	Principles of Accounting I	3	2	3
				18
■ Third Co-op Term				
9003	Cooperative Employment		40	3
■ Fourth School Term				
1205	Interviewing	3	2	3
1208	Criminal, Civil & Administrative Law I	5	-	4
1005	Effective Speaking	5	-	3
1230	Safety Management	3	2	2
1233	Emergency Planning	3	2	3
1536	Labor Relations	5	-	3
				18
■ Fourth Co-op Term				
9004	Cooperative Employment		40	3

■ **Fifth School Term**				
1209	Criminal, Civil & Administrative Law II	5	-	4
1224	Fundamentals of Fire Prevention	3	2	4
1240	Directed Case Study	3	2	3
1505	Psychology	3	-	3
1520	Introduction to Sociology	5	-	4
				18
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

SECURITY ADMINISTRATION TECHNOLOGY ADVISORY COMMITTEE

Stanley M. Carle ..... Shillito's
Protection Manager

Raymond Clift ..... Safety Council of Greater Cincinnati
Executive Director

Tolbert Francis ..... Jewish Hospital
Director of Security

Lt. Col. Stanley Grothaus ..... Cincinnati Police Dept.
Administrative Services Bureau Commander

Bert Hinds ..... Cal Crim Detective Agency
Vice President

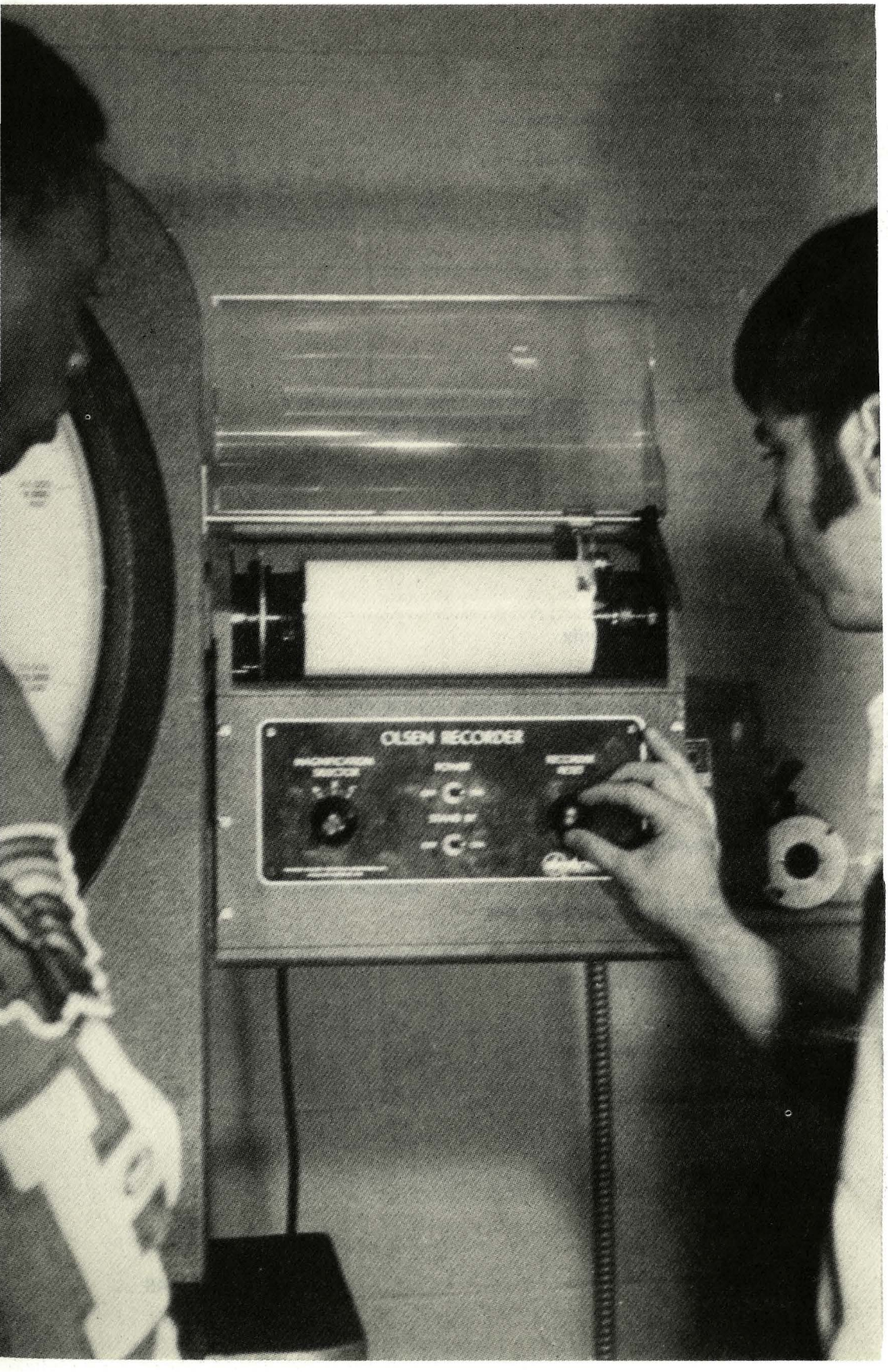
Jack Mack ..... Cincinnati Police Dept.
Security Officer

Elmer Reis ..... Hamilton County Juvenile Court
Director of Special Services

James Royer ..... Cincinnati Milacron
Director of Security

Capt. Edward Schneuer ..... Fire Prevention Bureau
District Supervisor

Lt. Herbert Vogel ..... Hamilton County Police Dept.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DEPARTMENT OF ENGINEERING TECHNOLOGIES

The Department of Engineering Technologies offers five programs — Civil Engineering Technology, Electro-Mechanical Technology, Electronics Technology, Industrial Engineering Technology, and Mechanical Design Technology.

The Engineering Technology curriculum followed by each program provides basic theory and skills in physics, mathematics and graphic sciences and specialized instruction in the student's major area of concentration. In addition, the student takes a variety of courses in communication skills, the humanities and the social sciences. These courses enable the student to express himself in speech and writing and to better understand himself, others and society. Upon successful completion of the two-year program, the student is awarded an appropriate degree.

The graduate usually works in support of engineers, scientists or other professional persons. A student who exhibits unusual industry and continues upgrading himself through further education may advance to an important managerial position. Engineering Technology programs provided by Cincinnati Technical college help to meet the need for competent technicians required by the highly technological society in which we live.

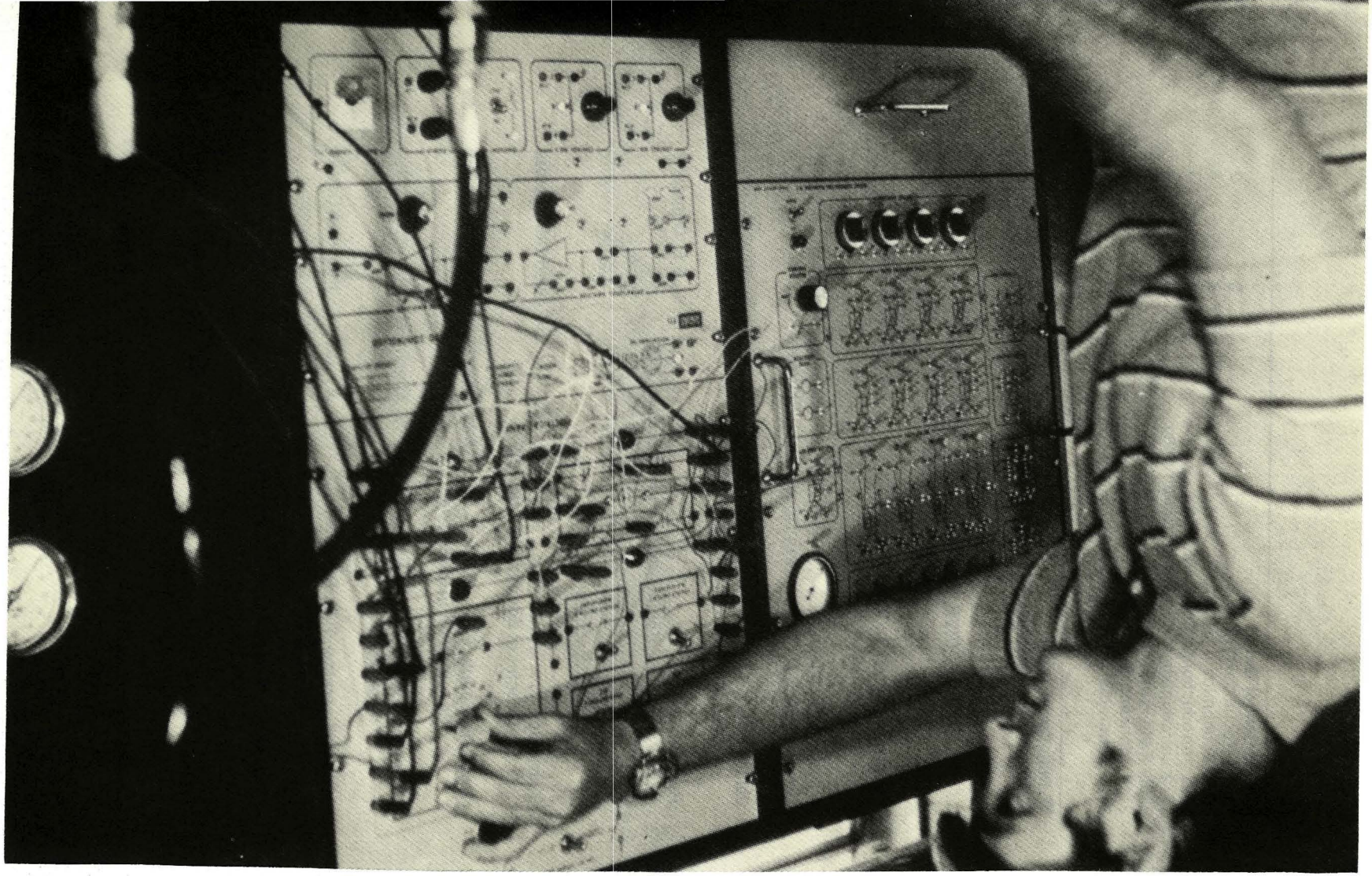
CIVIL/CONSTRUCTION ENGINEERING TECHNOLOGY

The building industry, highway and construction, offers an unlimited future for civil, architectural, and construction engineering technologists. As the population grows, the need for housing, highways, schools, shopping centers, etc., will grow. As a result, the demand for highly trained specialists in this field will also grow. The future needs of our society will demand that it also provide the engineering technicians who will serve this industry.

To meet this challenge, Cincinnati Technical College offers a Civil/Construction Engineering Technology Program that is designed to provide effective training in a common core of preparation; but, flexible enough to allow the student to endeavor in an area of specialization. During two alternating terms of attending school and two terms of work experience, the student options from specialties such as: highway (surveying and graphics), and construction (structural). A tentative future option would be in the area of architectural.

CIVIL/CONSTRUCTION ENGINEERING TECHNOLOGY CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills I	5	-	3
1191 Algebra & Trigonometry I	5	-	4
1371 Engineering Graphics	1	5	2
2271 Physics I	3	2	3
3101 Surveying I	3	4	4
3108 Materials of Construction I	3	-	2
			18
■ First Co-op Term			
9901 Cooperative Employment		40	2
■ Second School Term			
1003 Communication Skills II	5	-	3
1192 Algebra & Trigonometry II	5	-	4
1373 Engineering Graphics	1	4	2
2272 Physics II	3	2	3
3102 Surveying II	1	5	3
			18
■ Second Co-op Term			
9902 Cooperative Employment		40	2
■ Third School Term			
1193 Functions & Calculus I	5	-	4
1521 Introduction to Sociology	3	-	3
2105 Statics & Strength of Materials I	3	2	3
2273 Physics III	3	2	3
3112 Properties of Soils	2	3	2
3103 Route Surveying	3	3	3
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1005A Effective Speaking	3	-	2
1502 Human Relations	3	-	3
2106 Strength of Materials II	3	2	3
2274 Physics IV	3	2	3
3104 Survey Calculations	3	2	3
3117 Hydraulics & Hydrology	2	3	2
3127 Estimation & Inspection	3	-	2
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3



■ Fifth School Term			
1004A Technical Writing	3	-	2
1512 Economics	3	-	3
1531 Introduction to Political Science	3	-	3
1772 Introduction to Computer Programming	3	2	3
3105 Field Problems	3	4	3
3114 Municipal Engineering	3	-	2
3129 Contracts & Specifications	3	-	2
			18
■ Fifth Co-op Term			
9005 Cooperative Employment		40	3

CIVIL ENGINEERING TECHNOLOGY ADVISORY COMMITTEE

Robert L. Adler, P.S., Vice-Chairman ..... Punshon Engineering Co.
Coordinator

Francis Cornelius, P.E. ..... City Engineering Department
Principal Public Works Construction Engineer

James Knorr..... Cincinnati Technical College
Student (1973 Graduate)

Henry R. Myers, E.E. ..... C. G. & E. Company
Manager, Engineering & Planning, Gas Dept.

Stanley Perrin, P.E., P.S..... Butler County
County Engineer

Kerry Rice..... Allied Contractors
Director of Educational Training

Doug Riddiough, P.E. ..... Ohio Department of Transportation
Construction Field Engineer

Ralph Schlueter, Secretary ..... Cincinnati Technical College
Instructor

Donald Schramm, P.E., P.S..... Hamilton County
County Engineer

Matthew Schultze, P.E., P.S., Chairman ..... City of Cincinnati
Senior Engineer

John E. White, P.E..... Kral, Zepf, Freitag & Assoc.
Engineering Manager

Henry Wilson, Jr., P.E..... Wilson Engineers
Owner

ELECTRO-MECHANICAL TECHNOLOGY

The technological impact of automation in American Industry, the rapidly expanded uses for electronic computers, and the tremendous increase in man's technical knowledge have increased the need in industry for a large number of technically trained personnel who understand both the mechanical and electric phases of automated systems.

In an effort to meet this growing need for the highly-trained technician Cincinnati Technical College — with the assistance of interested professional from local industries — developed the Electro-Mechanical Technology program. The program provides study and practice in measurement systems, automation and control systems, special purpose computers, hydraulics and pneumatics, and the uses of mechanical and electronic devices in production and fabrication control in manufacturing.

Students seeking to qualify for the Associate in Applied Science degree in Electro-Mechanical Technology must complete the course requirements in mathematics, physics and graphics as required in all engineering technologies.

The Electro-Mechanical technician normally works as a member of an engineering team or directly under a production supervisor. Advancement opportunities are numerous and can be enhanced through further education.

ELECTRO-MECHANICAL TECHNOLOGY CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills I	5	-	3
1191 Algebra & Trig. I	5	-	4
1375 Engineering Graphics	1	4	2
1901 Electronics I	6	4	5
2271 Physics I	3	2	3
			17
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1003 Communication Skills III	5	-	3
1192 Algebra & Trig. II	5	-	4
1902 Electronics II	6	4	5
1907 Electrical Motor Control	3	2	3
2272 Physics II	3	2	3
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1193 Functions & Calculus I	5	-	4
1521 Introduction to Sociology	3	-	3
1905 Industrial Control Electronics	3	4	3
2103 Hydraulics & Pneumatics	3	4	3
2114 Machine Processes	1	4	2
2273 Physics	3	2	3
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1005A Effective Speaking	3	-	2
1502 Human Relations	3	-	3
1908 Digital Systems I	3	2	3
2112 Fluid Power Systems I	3	2	3
2116 Electronic-Mechanical Controls I	4	4	4
2274 Physics IV	3	2	3
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ Fifth School Term			
1004A Technical Writing	3	-	2
1512 Economics	3	-	3
1531 Introduction to Political Science	3	-	3
2105 Statics and Strength of Materials I	3	2	3
2109 Mechanical Drives and Linkages	3	2	3
2117 Electro-Mechancial Controls II	4	4	4
			18
■ Fifth Co-op Term			
9005 Cooperative Employment		40	3

ELECTRO-MECHANICAL TECHNOLOGY ADVISORY COMMITTEE

Jack Cahall ..... Cincinnati Milicron
Manager, Training and Development

Fred Goebel ..... LeBlond Machine Tool Co.
Development Engineer
Research and Development

Lee Humpert ..... Cincinnati, Inc.
Manager, Project Control

Dr. William Koster ..... Met Cut Research Associates, Inc.
Director of Metallurgical Engineering

John Rily ..... General Elecrric Company
Lead Engineer
Fan & Compressor Experimenal Engineer

Robert Speckert ..... Cincinnati Technical College
Student (1973 Graduate)

James VanLoan ..... Procter & Gamble Co.
Ivorydale Technical Center

Gary Vollbracht ..... Structural Dynamics Research
Director of Engineering Control
Systems Analysis

Paul Wagner ..... Allis-Chalmers Co.
Senior Project Engineer
Research and Development

ELECTRONIC ENGINEERING TECHNOLOGY

The growth of industrial and consumer electronic devices, automation, and computer electronics has generated a demand for electronic technicians that cannot be filled by those presently qualified. There exists a need for trained electronic technicians.

The electronic technician is a valuable member of the engineering team. He normally assists engineers in designing, building, troubleshooting and testing functions. As his skill grows, it is not unusual to find him in field service work. He uses specialized instruments in his work such as voltmeters, oscilloscopes, signal generators and pulse counters.

Students in the Electronic Engineering Technology program perform their cooperative work in many companies. Typical products of these companies are machine tools, jet engines, military electronic gear, radio communication equipment, and telephone service. Most graduates choose to continue working for the companies that employed them as co-op students. Many will continue their education in company-sponsored programs.

ELECTRONICS TECHNOLOGY CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills I	5	-	3
1191 Algebra & Trig. I	5	-	4
1375 Engineering Graphics	1	4	2
1901 Electronics I	6	4	5
2271 Physics I	3	2	3
			17
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1003 Communication Skills III	5	-	3
1192 Algebra & Trig. II	5	-	4
1902 Electronics II	6	4	5
1907 Electrical Motor Control	3	2	3
2272 Physics II	3	2	3
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1193 Functions & Calculus I	5	-	4
1521 Introduction to Sociology	3	-	3
1903 Electronics III	5	5	5
1908 Digital Systems I	3	2	3
2273 Physics III	3	2	3
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1005A Effective Speaking	3	-	2
1502 Human Relations	3	-	3
1904 Electronics IV	4	3	4
1906 Pulse Circuits	3	2	3
1909 Digital Systems II	3	2	3
2274 Physics IV	3	2	3
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ Fifth School Term			
1004A Technical Writing	3	-	2
1512 Economics	3	-	3
1531 Introduction to Political Science	3	-	3
1772 Computer Programming	3	2	3
1910 Digital Systems III	4	3	4
1911 Introduction to Communication Systems	2	4	3
			18
■ Fifth Co-op Term			
9005 Cooperative Employment		40	3

ELECTRONIC ENGINEERING TECHNOLOGY ADVISORY COMMITTEE

J. Anderson ..... Cincinnati Electronics Corporation
Sr. Staff Engineer

Raymond T. Harvey ..... Armco Steel Corporation
Coordinator
Professional Employment

Paul Houillion, Chairman ..... Ohmart Corporation
Factory Superintendent

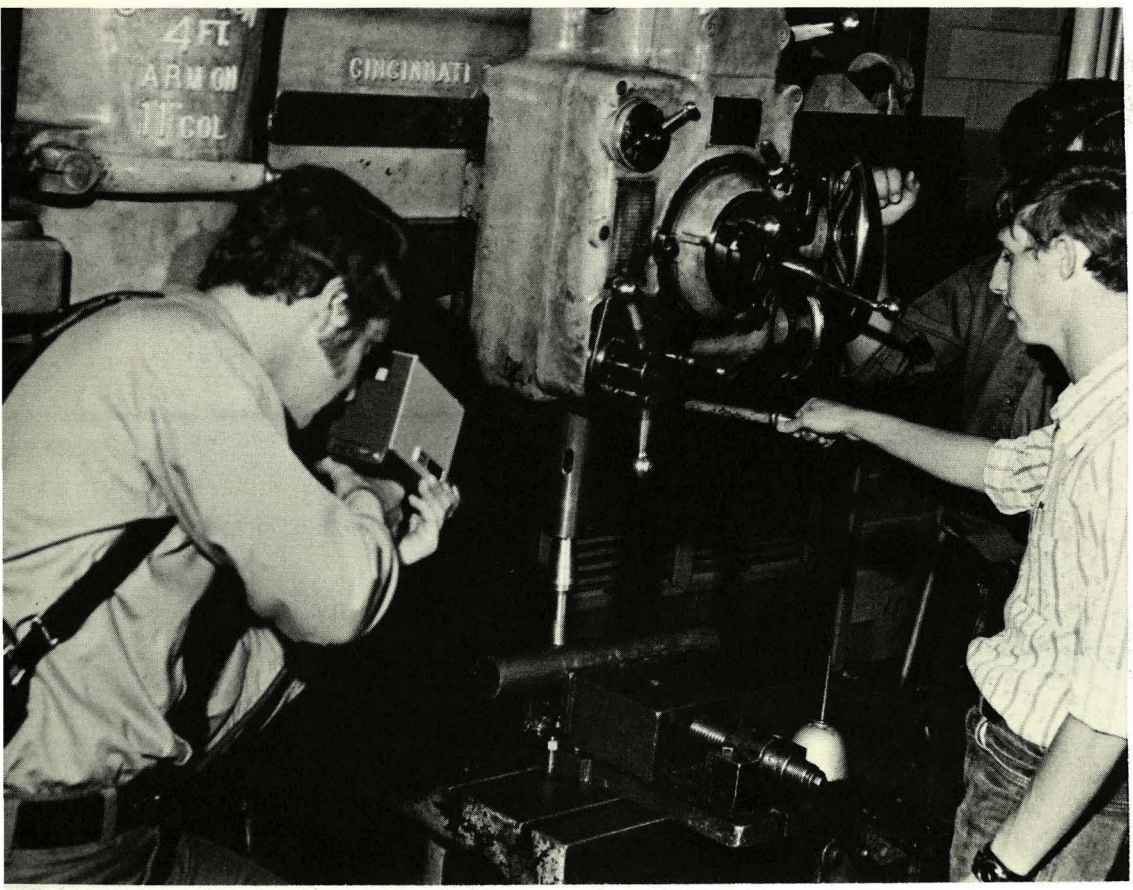
James Lausten ..... IBM Corporation
Field Manager

Charles Mack ..... Knodel-Tygrett Co.
Service Manager
Electronics Division

John P. Neumann ..... Cincinnati Technical College
Student (1973 Graduate)

Charles Shaw ..... Two-Way Mobile, Inc.
Owner Manager

Clay Strider ..... General Electric Company
Program Manager
Development Programs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INDUSTRIAL ENGINEERING TECHNOLOGY

A new plant is to built, It will receive raw material at one end, turn out finished products at the other.

A lot of questions need to be answered: what's the best layout for the plant? How can the materials be processed most efficiently? What machines should be used? How should they be spaced? How can the employees be motivated to do high quality work? How can costs be lowered to meet those of efficient competitors?

The Industrial Engineering Technician is one of the members of the "efficiency expert" team interested in finding the solutions to these problems. This type of technician is used by industry in new and long established plants to measure an analyze production data and devise means of improving the methods of production.

Graduates of this program may begin full time work as technicians in these areas: methods, time-study, work measurement, production control, inventory control, quality control, wage and job evaluation, material handling, plant layout. Able graduates can advance to more responsible positions with additional training and experience.

Cooperative training positions are in large and small industrial plants.

INDUSTRIAL ENGINEERING TECHNOLOGY CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills I	5	-	3
1191 Algebra and Trigonometry I	5	-	4
1371 Engineering Graphics I	1	5	3
2114 Machine Processes	1	4	2
1913 Electrical Fundamentals I	3	2	3
2271 Physics I	3	2	3
			18
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1003 Communication Skills III	5	-	3
1192 Algebra and Trigonometry II	5	-	4
1372 Engineering Graphics II	1	4	2
2101 Engineering Materials	3	2	3
2104 Hydraulics and Pneumatics	3	2	3
2272 Physics II	3	2	3
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1193 Functions and Calculus I	5	-	4
2273 Physics III	3	2	3
2002 Materials Handling	3	2	3
2004 Time and Motion Study	3	2	3
2009 Industrial Safety	3	-	2
1521 Introduction to Sociology	3	-	3
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1005A Effective Speaking	3	-	2
2102 Manufacturing Processes	3	-	2
2003 Plant Layout	3	4	3
2274 Physics IV	3	2	3
1502 Human Relations	3	-	3
2005 Quality Control	3	2	3
2119 Systems Development N.C.	1	2	2
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ **Fifth School Term**				
1004A	Technical Writing	3	-	2
1512	Economics	3	-	3
2010	Industrial Hygiene Measurement	1	4	2
1531	Introduction to Political Science	3	-	3
1772	Introduction to Computor Programming	3	2	3
2007	Production Cost and Control	3	-	2
2006	Industrial Engineering Project	2	5	3
				18
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

INDUSTRIAL ENGINEERING TECHNOLOGY
ADVISORY COMMITTEE

Fred Brinkmiller ..... Allis-Chalmers Corp.
Senior Quality Assurance Engineer

James Davis ..... Procter & Gamble
Recruiting Coordinator

Richard Evans ..... C. G. & E. Company
Materials Management Administrator

Louis Sears ..... General Electric
Organization and Manpower

William Ramsey ..... Procter & Gamble
Consultant, Industrial Engineering

Phil Stanley ..... Cincinnati Technical College
Student (1973 Graduate)

Robert Turner, Chairman ..... Nutone Corporation
Director, Manufacturing & Engineering

Paul Termuhlen ..... Clow Corporation
Industrial Engineer

MECHANICAL DESIGN TECHNOLOGY
(Mechanical Engineering Technology)

As the American economy expands, each new product passes through various design and development stages. To achieve the effective use of engineering talent, design departments are usually organized on a team basis. The mechanical design technician is an important member of that team.

Engineers can communicate verbally, or through rough sketches, with mechanical design technicians who clarify specifications and prepare initial drawings. From these specifications and initial drawings, detail draftsmen prepare working drawings which are used to produce the new product.

Cincinnati Technical College Mechanical Design students co-op with companies which produce machine tools, air conditioning equipment, jet engines, and many other types of industrial and consumer products. Recognizing the increasing complexity of these industries, the Cincinnati Technical College provides the equipment and instruction necessary to familiarize the student with computerized numerical control processes, data processing to control the retrieval of drawings microfilmed in aperture cards, and other facets of automation significant to the mechanical design field.

The curriculum offers all the technical core courses necessary for success as a mechanical design technician, and management courses (job relations, supervision, etc.) which support personal growth and development.

Working directly with key management personnel, the mechanical design technician is in an excellent position for continued advancement.

MECHANICAL DESIGN TECHNOLOGY CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills I	5	-	3
1191 Algebra and Trigonometry I	5	-	4
1371 Engineering Graphics I	1	5	3
2114 Machine Processes	1	4	2
1913 Electrical Fundamentals I	3	2	3
2271 Physics I	3	2	3
			18
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1003 Communication Skills III	5	-	3
1192 Algebra and Trigonometry II	5	-	4
1372 Engineering Graphics II	1	4	2
2101 Engineering Materials	3	2	3
2104 Hydraulics and Pneumatics	3	2	3
2272 Physics II	3	2	3
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1193 Functions & Calculus I	5	-	4
1374 Engineering Graphics III	1	4	2
1521 Introduction to Sociology	3	-	3
2105 Statics & Strengths of Materials I	3	2	3
2273 Physics III	3	2	3
2113 Mechanism Design	3	2	3
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1005A Effective Speaking	3	-	2
2102 Manufacturing Processes	3	-	2
1502 Human Relations	3	-	3
2274 Physics IV	3	2	3
2106 Strength of Materials II	3	2	3
2107 Machine Design	2	5	3
2119 Systems Development, N.C.	1	2	2
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ **Fifth School Term**				
1004A	Technical Wriring	3	-	2
1531	Introduction to Political Science	3	-	3
1772	Introduction to Computer Programming	3	2	3
2111	Tool Engineering Design	3	2	3
1512	Economics	3	-	3
2108	Machine & Product Design	4	6	4
				18
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

MECHANICAL DESIGN TECHNOLOGY
ADVISORY COMMITTEE

Edward M. Ashley ..... General Electric Co.
Manager, Drafting and Training

John Blanton ..... General Electric Co.
General Manager
Advanced Technology Programs

Richard Fahl ..... Cincinnati Technical College
Student (1973 Graduate)

Ashley Glenn ..... Cincinnati Milacron
Supervisor, Technical Drawing

Kenneth Hagedorn ..... Heekin Can Company
Personnel Manager

Theodore Herklotz ..... Cincinnati Public Schools
Supervisor

Werner Jessen ..... Alexander & Associates
President

Ben Kearns ..... Keco Industries
Chief Draftsman

Russell Little ..... Little Design Engineering Co.
Owner

Ron McDaniel ..... McCleod Company
Chief Draftsman

Don Suer ..... Plastic Molding, Inc.
Chief Engineer

James Wyler, Chairman ..... Allis-Chalmers Corp.
Manager of Community Relations
and Professional Placement

DEPARTMENT OF ALLIED HEALTH

With the advent of a more sophisticated medical science, career opportunities in the health care fields are expanding. The concern for making medical cures and preventive medical care available to more people has prompted the development of educational programs for skilled technical personnel to assist the physician, dentist and nurse.

The traditional centers for training these individuals, the hospitals, medical centers and physician's offices have been unable to fill this educational need and have turned to technical institutions such as Cincinnati Technical College to provide the classroom instruction and organization which are a part of good educational programs.

Cincinnati Technical College, unique in its development of cooperative education, offers four programs for students interested in allied health careers: Medical Laboratory Technology, Medical Record Technology, Medical Assisting Technology and Surgical Assisting Technology. The Surgical Assisting Technology Program has two different clinical experience rotations. One sequence is strictly surgical assisting in nature while the other sequence offers a variety of experiences in pediatrics, medicine, psychiatry, and obstetrics as well as surgery. A core curriculum consisting of basic courses in medical science common to all these programs facilitates transfer from one program to another. All of the programs are designed to conform to national standards of the American Medical Association Council on Medical Education for accreditation. Upon successful completion of the course of study, the student is granted an Associate Degree by Cincinnati Technical College.

Cooperative employment in the Health Technologies areas is considered to be a clinical experience. All clinical experience must be approved by the Program Coordinator.

DEPARTMENT OF HEALTH TECHNOLOGIES GENERAL ADVISORY COMMITTEE

Mary Agna, M.D.
Health Commissioner

Doris Beatty, M.D.

Monica V. Brown
Executive Director,
Health Careers of Ohio

E. T. Buford, M.D.

Edna Caywood
Executive Director,
Health Careers Association
of Greater Cincinnati

Werner Donath, M.D.

George D. J. Griffin, M.D.

Raymond Hilsinger, M.D.

Frank Millett, Student S.A.
Graduate (1974)

John Wulsin, M.D.

*Ronald Fallat, M.D.

*Acting Medical Director

MEDICAL LABORATORY TECHNICIAN

Medical Laboratory Technicians serve as the detectives of the medical team. They provide much of the information needed by the physician to diagnose and treat his patients. They are desperately needed in the laboratories of hospitals, clinics, research centers and industry. In biochemistry, hematology, microbiology, and blood bank laboratories they form a vital part of the health care team. In research laboratories they are assisting in the discoveries that will conquer cancer, heart disease, and birth defects.

The medical laboratory technican employed in a laboratory, in a hospital or clinic may specialize in one or two of the several areas of laboratory work or may rotate through all the departments in the laboratory. In biochemistry he performs chemical analysis of the blood for constituents including glucose, urea, chloride, sodium, potassium and enzymes. In hematology he takes blood samples from patients, counts red and white cells, determines coagulation bleeding and prothrombin times, measures sedimentation rates and determines hemoglobin concentrations. In microbiology he prepares and stains slides, plates cultures from urine, feces and wound specimens, determines the susceptibility of bacteria to antibiotics and examines specimens for parasites. In blood bank, the technician types blood from patients, draws blood from donors and processes it. In the serology department he examines specimens for antibodies against various diseases.

Cooperative training positions are available in hospitals and laboratories in the greater Cincinnati area.

Students enrolled in this program spend alternating ten-week terms in hospital laboratory clinical experience positions. Students rotate through the laboratories performing procedures in each of the following areas: hematology, coagulation and urinalysis, chemistry, blood bank, serology, microbiology, and special procedures.

Students interested in entering this program should take high school or pre-tech math, geology and chemistry courses prior to entering the program.

MEDICAL LABORATORY TECHNICIAN CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
2210 General Chemistry	3	2	3
2216 Human Anatomy & Physiology I	5	-	3
2710 Basic Laboratory Techniques I	4	6	4
2711 Basic Laboratory Techniques II	4	6	4
2720 Survey of the Medical Professions	5	-	4
			18
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1001 Communication Skills I	5	-	3
1151 Science Mathematics I	5	-	4
2217 Human Anatomy & Physiology II	5	-	3
2712 Basic Laboratory Techniques III	3	4	3
2724 Immunology	2	1	2
2725 Microbiology	3	2	3
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1003 Communication Skills III	5	-	3
1152 Science Mathematics II	5	-	4
2211A Clinical Chemistry	5	10	6
2218 Human Anatomy & Physiology III	5	-	3
			16
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1004 Technical Writing	5	-	3
1511 Principles of Economics	5	-	4
1520 Introduction to Sociology	5	-	4
2713 Basic Laboratory Techniques IV	5	5	4
2722 Pathology I	5	-	3
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ **Fifth School Term**				
1005	Effective Speaking	5	-	3
1501	Human Relations	5	-	4
2244	Physics	3	2	3
2714	Medical Laboratory Seminar	5	5	4
2721	Emergency Procedures	1	4	1
2723	Pathology II	5	-	3
				18
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

MEDICAL LABORATORY TECHNICIAN ADVISORY COMMITTEE

Werner Donath, M.D. ..... Chairman

Frances Casey, M.T. (ASCP)BB ..... Middletown Hospital

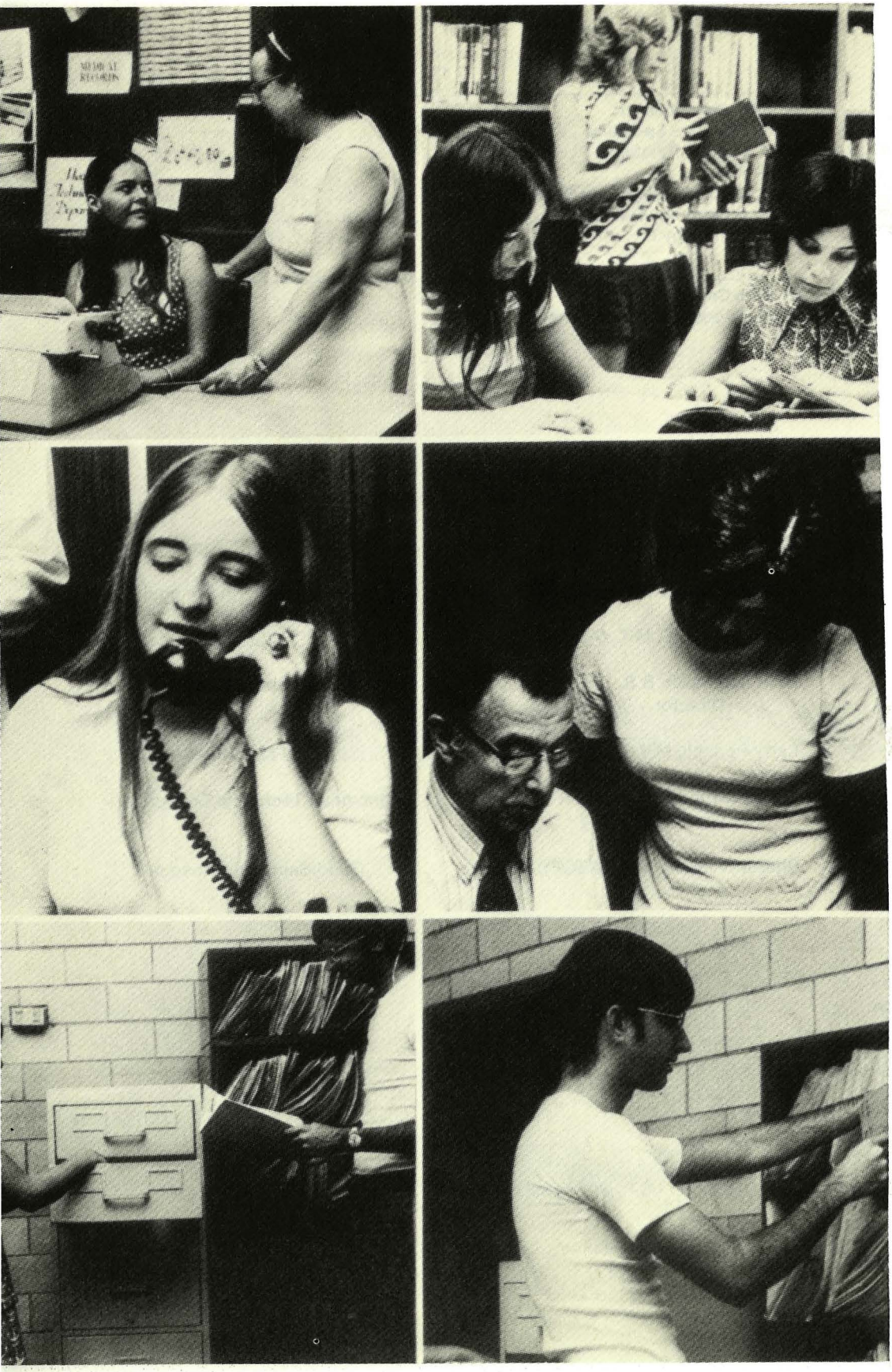
Ram Fuga, B.S., M.T. (ASCP) ..... Jewish Hospital

R. J. Holzwarth, B.S. ..... Eastern Hills Laboratories, Inc.
Director

Larry Pendell, M.T. (ASCP). ..... St. Francis Hospital

Sally Schroeder ..... Cincinnati Technical College
Graduate (1974)

Sharon Vincent, M.T. (ASCP), M.S. ..... Good Samaritan Hospital



MEDICAL RECORD TECHNICIAN

An accredited record technician is a skilled person, working in medical records administration, who has satisfactorily completed a national accreditation examination which is given once a year by the American Medical Record Association. Successful candidates are privileged to add the initials A.R.T. to their names as proof of their high qualifications.

Technicians are normally employed in the medical record department of a hospital, clinic or nursing home and are responsible for many aspects of preparing, analyzing and preserving health information needed by the patients, by the hospital and by the public. The medical record technician's duties chiefly include the daily departmental admission and discharge procedures including preparing the patient's index card and folder, computing the daily census, preparing birth certificates, assembling medical records, doing quantitative analysis and service analysis, coding and indexing operations and assisting in research.

Students interested in entering this program should take typing in high school or prior to coming into the program.

MEDICAL RECORD TECHNOLOGY CURRICULUM

		Class Hours	Lab Hours	Credit Hours
■ First Co-op Term				
2216	Anatomy & Physiology	5	-	3
2701	Medical Terminology	5	-	4
2720	Survey of the Medical Professions	5	-	4
2790	Medical Record Science I	3	4	4
3001	Typewriting*	5	-	2
				17

* Entry level depending on skill at time of admission test

■ First Co-op Term				
9001	Cooperative Employment		40	2

■ Second School Term				
1001	Communication Skills I	5	-	3
1101	Business Mathematics	5	-	4
2217	Human Anatomy & Physiology II	5	-	3
2702	Transcription & Related Medical Terminology	2	12	4
2791	Medical Record Science II	3	2	3
				17

■ Second Co-op Term				
9002	Cooperative Employment		40	2

■ Third School Term				
1003	Communication Skills III	5	-	3
1799	Survey of Data Processing	5	-	4
2218	Human Anatomy & Physiology III	5	-	3
2792	Medical Record Science III	3	2	3
2796	Directed Practice I	-	16	4
				17

■ Third Co-op Term				
9003	Cooperative Employment		40	3

■ Fourth School Term				
1004	Technical Writing	5	-	3
1511	Principles of Economics	3	2	3
1520	Introduction to Sociology	5	-	4
2793	Medical Record Science IV	5	-	4
2797	Directed Practice II	-	16	4
				18

■ Fourth Co-op Term				
9004	Cooperative Employment		40	3

■ **Fifth School Term**				
1005	Effective Speaking	5	-	3
1501	Human Relations	5	-	4
2795	Medical Record Seminar	5	-	3
2798	Directed Practice III	-	16	4
2926	Principles of Management I	5	-	3
				17
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

MEDICAL RECORD TECHNICIAN
ADVISORY COMMITTEE

Mrs. Evelyn Carter, R.R.A. ..... Jewish Hospital
Chairman

Ann Coomes, R.R.A. ..... St. Elizabeth Hospital

Mrs. Karen Booth, R.R.A. ..... Children's Hospital Medical Center

Prentice Brown ..... Academy of Nursing Homes
President

Miss Gertrude Edelman, R.R.A., C.R.I. ..... Medical Records
Consultant

Ellen Heines, R.R.A. ..... Christ Hospital

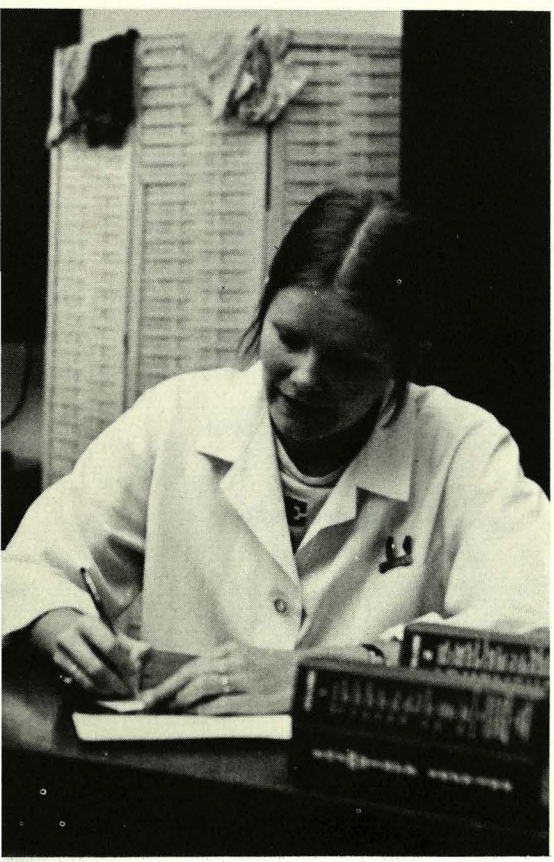
Mrs. Bonnie Morgan, A.R.T ..... Fort Hamilton Hospital

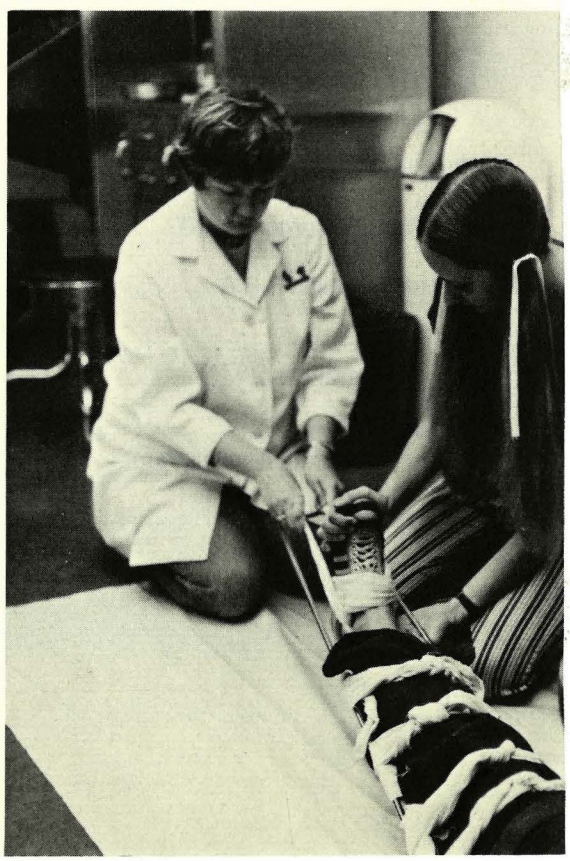
Sr. Rose Denise, R.R.A. ..... Good Samaritan Hospital

Mrs. Mary Swain ..... Cincinnati Technical College
Graduate (1974)

Mr. Dave Tower ..... Christ Hospital
Assistant Administrator

Gertrude Brecht, M.D. ..... Internal Medicine





MEDICAL ASSISTING TECHNOLOGY

The medical assistant serves in a physician's office or clinic and holds a responsible position. The increasing workload and demand upon physicians' time have made it necessary to provide assistants to handle the appointments, paper work from medicare and other insurance programs and other technical jobs in the medical office. This allows the doctor to concentrate on the most important aspect of his medical practice — the patient. Working under the supervision of a physician, the trained medical assistant assures a smoothly functioning office or clinic.

The medical assistant performs a variety of duties dependent upon the physician's practice and his unique office requirements. As an assistant in his office the duties may include those of a secretary, bookkeeper and receptionist, answering the incoming calls, receiving mail, greeting patients, handling correspondence and filing arranging for laboratory, x-ray and hospital admissions, procedures, taking histories, maintaining patient's records and accounts, and billing. A medical assistant who is well-informed on medicare coverage and insurance claims is a particularly valuable asset both to the physician and to his patients.

The technical duties of a medical assistant include preparing the patient for examinations or treatment, measuring height, weight and taking temperatures. The assistant may perform certain laboratory tests, take x-ray or EKG's and assist the physician in his examination or treatment of a patient, including preparing for the assisting with diagnostic and minor surgical procedures and administration of injections or other medications.

Co-op positions for medical assistant students are in hospitals, nursing homes, clinics, and physician's offices in the Greater Cincinnati area.

Students interested in entering the program should take basic chemistry and typing courses in high school or prior to entering the program.

MEDICAL ASSISTING TECHNOLOGY CURRICULUM

		Class Hours	Lab Hours	Credit Hours
■ First School Term				
2210	General Chemistry	3	2	3
2216	Human Anatomy & Physiology I	5	-	3
2703	Medical Assisting Procedures	2	8	4
2710	Basic Laboratory Techniques I	4	6	4
2720	Survey of the Medical Professions	5	-	4
				18
■ First Co-op Term				
9001	Cooperative Employment		40	2
■ Second School Term				
1001	Communication Skills I	5	-	3
1101	Business Mathematics	5	-	4
2212	Clinical Laboratory Procedures	2	1	1
2217	Human Anatomy & Physiology II	5	-	3
2704	Clinical Office Practice	2	8	3
2724	Immunology	2	1	2
2725	Microbiology	3	2	3
				19
■ Second Co-op Term				
9002	Cooperative Employment		40	2
■ Third School Term				
1003	Communication Skills III	5	-	3
2218	Human Anatomy & Physiology III	5	-	3
2705	Clinical Experience I	-	15	6
2709	Pharmacology	4	1	3
2911	Principles of Accounting I	5	-	3
				18
■ Third Co-op Trm				
9003	Cooperative Employment		40	3
■ Fourth School Term				
1004	Technical Writing	5	-	3
1511	Principles of Economics	5	-	4
1520	Introduction to Sociology	5	-	4
2706	Clinical Experience II	-	15	4
2722	Pathology	5	-	3
				18
■ Fourth Co-op Term				
9004	Cooperative Employment		40	3

■ **Fifth School Term**				
1005	Effective Speaking	5	-	3
1501	Human Relations	5	-	4
2707	Clinical Experience III	-	15	4
2708	Medical Assisting Seminar	5	-	4
2723	Pathology II	5	-	3
				18
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

MEDICAL ASSISTING TECHNOLOGY
ADVISORY COMMITTEE

Edward Brophy, R.Ph.

John G. Fleming, M.D.

Sandie Hopkins, A.A.S.

Mary M. Martin, M.D.

Frank H. Mayfield, M.D.

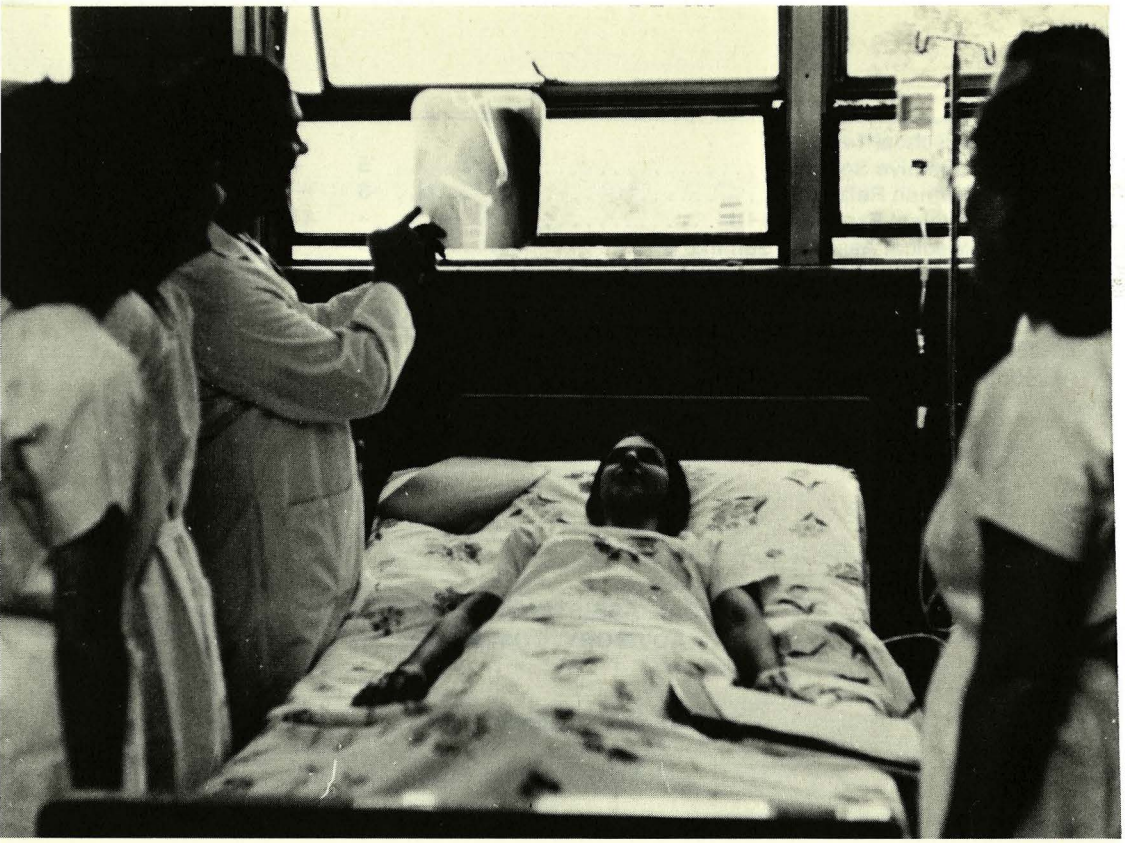
Manuel H. Mediodia, Jr., M.D.

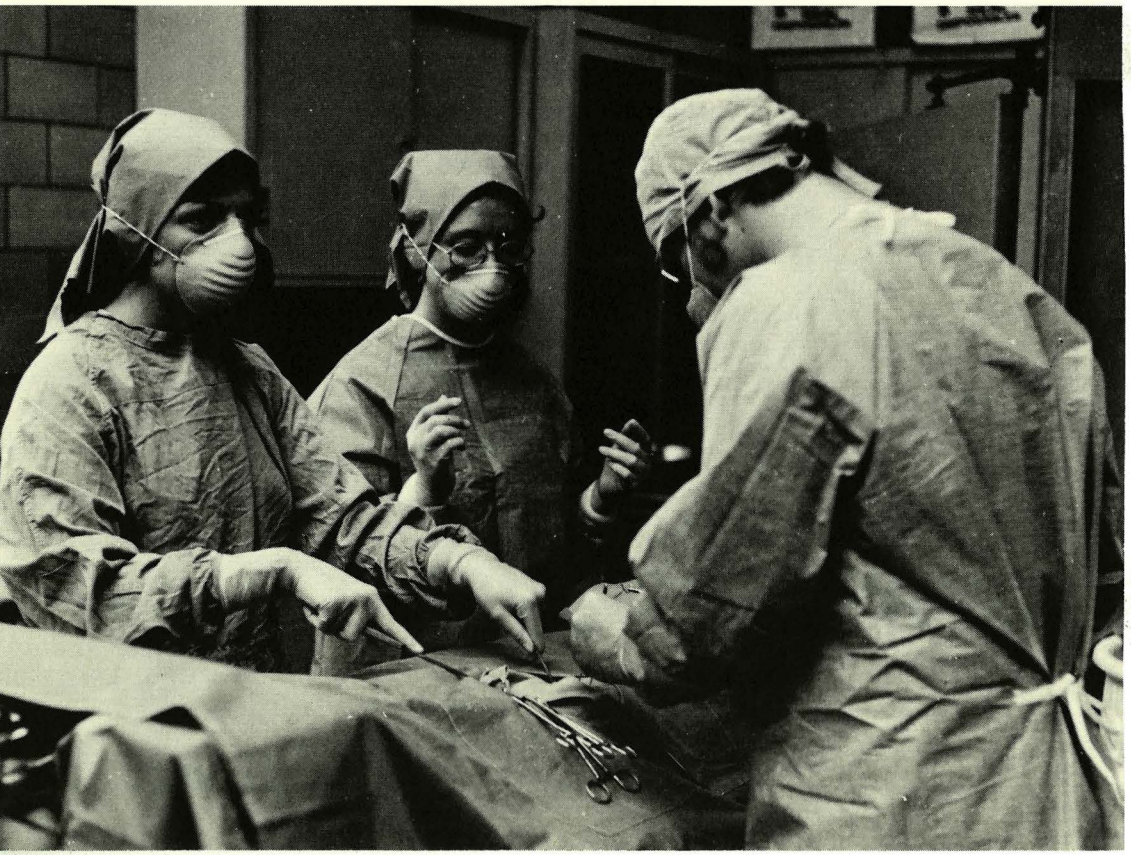
Donna Nobis, A.A.S.

Virgil A. Plessinger, M.D.

Christine Widmer, Student
Graduate (1974)

Edward F. Willenborg,
Executive Director
Academy of Medicine
of Cincinnati





SURGICAL ASSISTING TECHNOLOGY
PHYSICIAN ASSISTANT

The surgical assistant, an important member of the "lifesaving surgical team," is employed either by a surgeon, a group of surgeons, or a hospital or other institution providing surgical and/or emergency care. He or she works in a variety of situations, performing a multitude of challenging duties under the direction of the surgeon. Areas for performance of duties are: operating suites, recovery rooms, intensive care units, surgical wards, emergency rooms, outpatient clinics, surgeons' offices and medical centers.

Generally speaking, a surgical assistant may be in charge of the preparation of the operating room in the sense that he makes certain all equipment is ready and properly placed for the surgeon. He secures the proper patient and prepares the person for the impending operation. The assistant may "scrub-in" or circulate during the case. Post-operatively the surgical assistant assumes may of the routine patient care duties as designated by the surgeon; ones which the physicians on the surgical wards have done themselves in years past. Also, the surgical assistant may receive the patient in the physician's office when employment circumstances call for this. In the office, the assistant performs both pre-operative and post-operative procedures as approved by his employer.

Surgical Assisting Techmology students take one of two clinical experience sequences: one is strictly hospital based; the other includes hospital based surgical experience plus experience in Medicine, Pediatrics, Psychiatry, and Obstetrical/Gynecological medicine. The latter sequence is designed to meet the program "Essentials" outlined by the American Medical Association's Council on Medical Education.

Clinical training positions are at major Cincinnati hospitals and other established Health Care facilities.

Candidates with primary health care experience are given priority for entrance into the program. Candidates for graduation must successfully complete five clinical rotations with the designated clinical facilities.

Students interested in entering the Surgical Assisting Program are required to complete a high school or pre-tech chemistry course before entering the program.

*"Primary Care Physician" is a generic term.

SURGICAL ASSISTING TECHNOLOGY CURRICULUM

		Class Hours	Lab Hours	Credit Hours
■ First School Term				
2210	General Chemistry	3	2	3
2216	Human Anatomy & Physiology I	5	-	3
2710	Basic Laboratory Techniques I	4	6	4
2720	Survey of the Medical Profession	5	-	4
2740	Introduction to Medicine and Surgery	4	6	4
				18
■ First Co-op Term				
9001	Cooperative Employment		40	2
■ Second School Term				
1001	Communication Skills I	5	-	3
1151	Science Mathematics I	5	-	4
2217	Human Anatomy & Physiology II	5	-	3
2724	Immunology	2	1	2
2725	Microbiology	3	2	3
2741	Medical & Surgical Clinical Applications I	3	5	3
				18
■ Second Co-op Term				
9002	Cooperative Employment		40	2
■ Third School Term				
1003	Communication Skills III	5	-	3
1152	Science Mathematics II	5	-	4
2211	Clinical Chemistry	5	5	4
2218	Human Anatomy & Physiology III	5	-	3
2709	Pharmacology	4	1	3
				17
■ Third Co-op Term				
9003	Cooperative Employment		40	3
■ Fourth School Term				
1004	Technical Writing	5	-	3
1511	Principles of Economics	5	-	4
1520	Introduction to Sociology	5	-	4
2722	Pathology I	5	-	3
2742	Medical & Surgical Clinical Applications II	2	8	4
				18
■ Fourth Co-op Term				
9004	Cooperative Employment		40	3

■ **Fifth School Term**				
1005	Effective Speaking	5	-	3
1501	Human Relations	5	-	4
2244	Physics	3	2	3
2721	Emergency Procedures	1	4	1
2723	Pathology II	5	-	3
2743	Medical/Surgical Seminar	5	5	4
				17
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

SURGICAL ASSISTING TECHNOLOGY ADVISORY COMMITTEE

Shirley Ogden, S.A. ..... Cincinnati Technical College
Graduate (1974)

John Cranley, M.D. ..... Good Samaritan Hospital
Chairman — Director of Medical Education and
Department of Surgery

John Wulsin, M.D. ..... Holmes Hospital
Surgeon, Past-President of Health Careers
Association of Greater Cincinnati

(Miss) Mary Lou Roebke, R.N. ..... Good Samaritan Hospital
Operating Room Supervisor

*Senior Service Resident in Surgery ..... Good Samaritan Hospital

*This is a rotating membership. The Senior Service Resident will serve on the advisory committee for the term of his position. His successor will fill the advisory Committee vacancy.

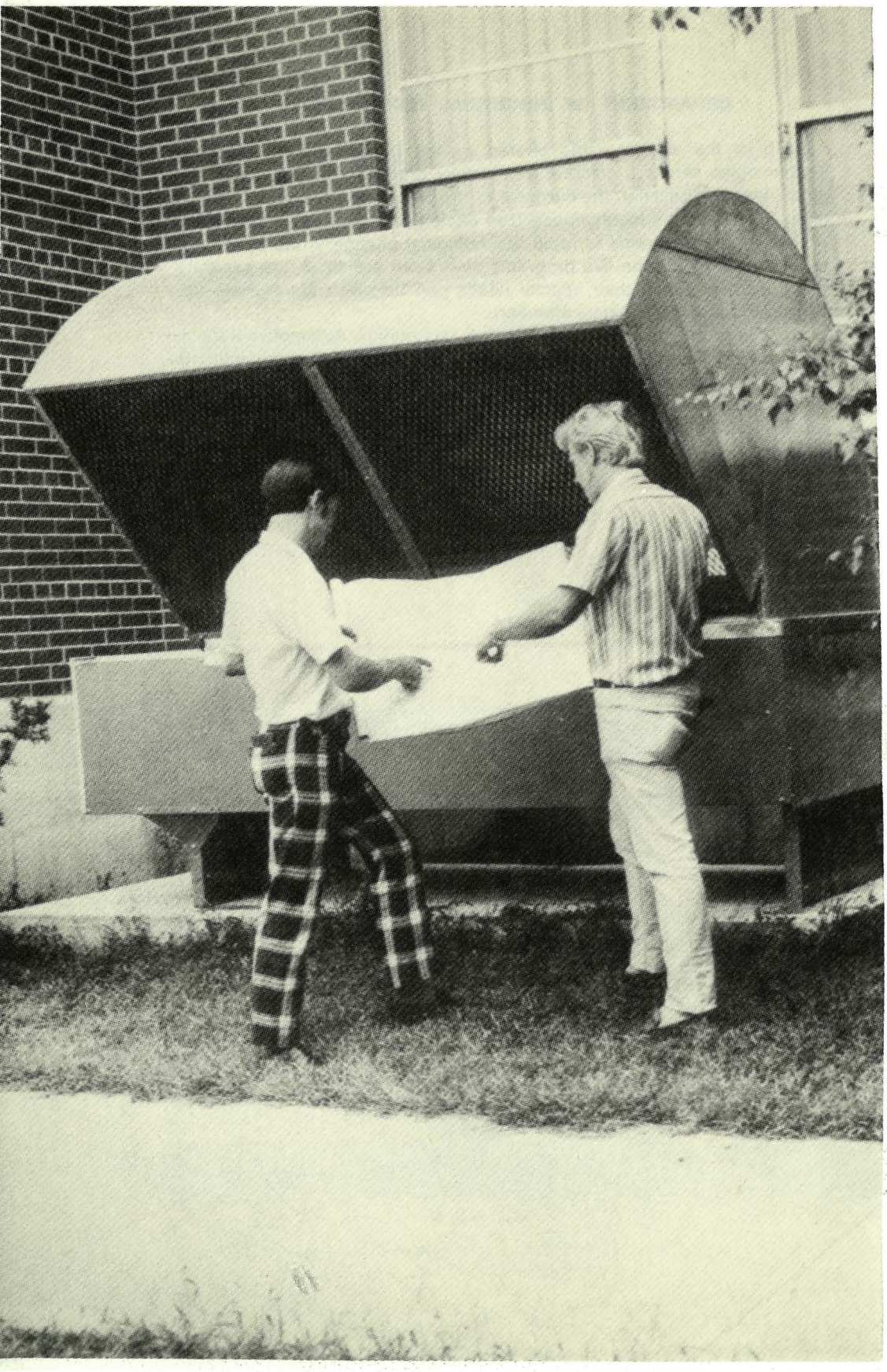
R. W. Fallat, M.D. ..... Cincinnati General Hospital
Internal Medicine

James A. Sielski, B.S.,A.A.S.,P.A. ..... Cincinnati General Hospital
Graduate (1973) ..... L.P.D. Research Unit

DEPARTMENT OF INDUSTRIAL TECHNOLOGIES

Each of the six programs offered by the Department of Industrial Technologies serves a discrete and rapidly growing industry. Since the industries are dissimilar, the curricula of the programs have much in common. Each requires highly specialized equipment, involves sophisticated processes and responds to rapid technological change in the industry it serves. As a result, the five programs have been assigned to a separate department in which their special needs can be given appropriate administrative and instructional attention.

The five programs are Air Conditioning Technology, Automotive Service Management Technology, Aviation Technology, Graphic Communications Technology, Ornamental Horticulture Technology and Plastics Technology. Because each program prepares technicians for an industry experiencing growth and change, the career opportunities afforded by each are excellent.



AIR CONDITIONING TECHNOLOGY

Man cannot live without the air that envelops the earth, nor can he always live — comfortably, efficiently, healthily — with it. Even in the shelter he occupies, the air may be too cold or too hot, too warm or too dry, too dirty with dust, pollen or, in recent years, pollutant. For some sixty centuries of civilization, man lacked the tools and the technology to condition the air in his dwellings to make them more habitable.

Ours is the first generation to develop these tools and master the technology; now air conditioning, at first considered a luxury, is rapidly being regarded as another of man's necessities. Already one in every eight homes is at least partly air conditioned and one in every twleve completely so. A growing percentage of homes under construction is being built with central air conditioning. Few apartment houses, commercial buildings or industrial plants are being built without it.

The rapid growth in demand for "environmental control" has generated the new industry — air conditioning — with a new array of career opportunities. Manufacturers and dealers need technically trained personnel to research, develop, design, make, sell, install, service and maintain air conditioning installations in residences, offices, plants. In some cases, these units merely heat and cool the air, in others they clean and moisture-control it as well. In many instances the conditioned air so provided serves primarily creature comfort; in other instances it is needed to safeguard sophisticated equipment, specialized industrial processes, or indeed human life itself.

Refrigeration processes and equipment constitute a major related responsibility of this field.

The air conditioning industry has an acute need for trained technicians and affords them exceptional career possibilities.

This associate degree program has been planned and developed with the assistance of representatives of the industry and has been designed to serve the individual who aspires to a career in this growing field.

AIR CONDITIONING TECHNOLOGY CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills	5	-	3
1171 Technical Math I	5	-	4
1375 Engineering Graphics	2	3	3
2271 Physics I	3	2	3
3201 Elements of Refrigeration & Heating	6	4	5
			18
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1172 Technical Math II	5	-	4
1376 Engineering Graphics	1	4	2
1502 Human Relations	3	-	3
1913 Electrical Fundamentals I	3	2	3
2272 Physics II	3	2	3
3202 Air Conditioning Principles I	3	4	3
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1003 Communication Skills	5	-	3
1173 Technical Math III	5	-	4
1914 Electrical Fundamentals II	3	2	3
2273 Physics III	3	2	3
3203 Air Conditioning Principles II	5	5	5
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1005A Effective Speaking	3	-	2
1504 Psychology	5	-	4
1810 Principles of Salesmanship	5	-	3
2274 Physics IV	3	2	3
3204 Air Conditioning Principles III	3	2	3
3205 Air Conditioning Design I	3	4	3
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ Fifth School Term				
1004	Technical Writing	5	-	3
1511	Economics	5	-	4
3206	Air Conditioning Design II	5	5	4
3207	Air Conditioning Controls	2	3	3
3208	Air Conditioning Applications	3	4	4
				18
■ Fifth Co-op Term				
9005	Cooperative Employment		40	3

AIR CONDITIONING TECHNOLOGY ADVISORY COMMITTEE

Richard Broering ..... P. J. Broering Company
Sales Manager

Frank Crane ..... Crane Heating & Air Conditioning Company
Owner-Manager

Frederick Dietz ..... Rusk Heating & Air Conditioning Company
Manager, Operations & Service

William Gardner ..... Cincinnati Technical College
Student (1973 Graduate)

Robert Gerdsen ..... A. H. Gerdsen Company
Manager

Cliff Pfirrman ..... Williamson Air Conditioning Co.
Manager, Retail Division

Floyd Ritchie ..... Society of Refrigeration Service Engineers


Sun 1120
TRONIC ENGINE TESTER
SERVICE
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AUTOMOTIVE SERVICE MANAGEMENT TECHNOLOGY

The automobile industry employs more people and generates more income than any other industry in the nation. Increasing numbers of automobiles, generally increased complexity of design, and additional use of complex accessories all increase the number of people employed in automotive service — and increase employment opportunities for those technicians who work at the mid-management level.

Cincinnati Technical College students are instructed in theory, procedures, and management techniques in school. As co-ops on the job in automotive service departments, parts departments, etc., they get practical experience under the direction of experienced service and parts managers.

Graduates of the Automotive Service Management program will work as service managers, assistant service managers, service writers, parts department supervisors, and in other appropriate positions in the automobile industry.

AUTOMOTIVE SERVICE MANAGEMENT CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills	5	-	3
1171 Technical Mathematics I	5	-	4
2501 Automobile Technology I	5	10	8
2506 Machine and Hand Tool Laboratory	3	2	3
			18
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1003 Communication Skills III	5	-	3
1101 Business Mathematics	5	-	4
2221 Physics I	3	2	3
2502 Automotive Technology II	5	10	8
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1321 Blueprint Reading and Sketching	2	3	2
1505 Psychology	3	-	3
1512 Economics	3	-	3
2222 Physics II	3	2	3
2503 Automotive Technology III	4	6	4
2510 Automotive Management	3	2	3
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1004 Technical Writing	5	-	3
1513 Economics	3	-	3
1535 Labor-Management Relations	3	-	3
2504 Automotive Technology IV	4	6	4
2508 Techniques of Welding	1	4	2
2511 Automotive Management II	3	2	3
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ **Fifth School Term**				
1005	Effective Speaking	5	-	3
1501	Human Relations	5	-	4
1823	Business Law	5	-	3
2505	Automotive Technology V	7	8	8
				18
■ **Fifth Co-op Term**				
9004	Cooperative Employment		40	3

AUTOMOTIVE SERVICE MANAGEMENT TECHNOLOGY ADVISORY COMMITTEE

Robert Behler ..... Behler Oldsmobile
Auto Dealer

Thomas Lipps ..... Cincinnati Technical College
Student (1973 Graduate)

Bruce Markley ..... Lincoln-Mercury
District Manager, Parts and Services

Clifford Metzger ..... General Motors
Buick Zone Service and Parts Manager

Lenny Pugh ..... Superior Chevrolet
Parts Manager

James Smith ..... Ford Motor Company
Assistant District Sales Manager

Irwin Sobul ..... Leaseway Corporation (Cincinnati
Vice President Division)

Carl Tedesco ..... Cincinnati Automobile Dealers
Association

AVIATION TECHNOLOGY

Ever since the pioneer flight of the Wright brothers at Kitty Hawk, N.C., the aircraft industry has recorded milestone after milestone of achievement. Today, huge planes, carrying hundreds of passengers in luxurious comfort, have further shrunk the distance —geographically and culturally — between the continents.

The dramatic advances in aviation have revolutionized the role of those who keep the planes safe for flying. Once they were called mechanics. Now — in the age of the jet, with electronic instruments and exotic support systems — they are called technicians, in recognition of the increased knowledge and skill their task requires.

This program is designed to prepare aircraft and power-plant technicans for employment in commercial, corporate or general aviation.

The curriculum includes the theoretical and practical training designed to equip the student with the competence required to work effectively with all of these systems.

The student gains experience in working with a variety of types of aircraft and engines. The program includes seven academic terms and three co-op terms. The first four academic terms concentrate on airframe, and the last three on powerplant and business subjects.

The term schedule for the program follows. The Roman Numeral designates a school term, the letter E a co-op term.

AVIATION TECHNOLOGY TERM SCHEDULE

	First Year						Second Year			
Session	1	2	3	4	5	6	7	8	9	10
Group A	I	II	III	IV	V	E	VI	E	VII	E
Group B	I	II	III	IV	E	V	E	VI	E	VII

Co-op positions are in general aviation. Graduates may be employed by fixed base operators, corporate plane operations, or commercial airlines.

AVIATION TECHNOLOGY CURRICULUM

		Class Hours	Lab Hours	Credit Hours
■ First School Term				
1001	Communication Skills	5	-	3
1171	Technical Mathematics I	5	-	4
1381	Aircraft Drawing	1	4	2
2241	Physics I	3	2	3
2601	Welding Processes	3	7	3
2602	Machine and Hand Tools	1	4	3
				18
■ Second School Term				
1172	Technical Mathematics II	5	-	4
2242	Physics II	3	2	3
2603	Basic Aerodynamics and FAA Regulations	2	1	1
2604	Airframe Structures	5	5	5
2605	Materials and Processes	2	3	3
2606	Airframe Hydraulic & Pneumatic Systems	1	4	2
				18
■ Third School Term				
1173	Technical Mathematics III	5	-	4
2243	Physics III	3	2	3
2607	Airframe Systems, Hydraulic & Pneumatic Landing Gear	3	9	5
2608	Aircraft Structures (Metal)	3	7	4
2609	Fuels and Fuel Systems	1	4	2
				18
■ Fourth School Term				
1003	Communication Skills	5	-	3
1531	Introduction to Political Science	3	-	3
2610	Aircraft Electrical Systems	3	7	4
2611	Aircraft Instrument, Communications and Navigational & Unity Systems	3	7	4
2616	Flight Line Maintenance	3	7	4
				18
■ First Co-op Term				
9003	Cooperative Employment		40	3
■ Fifth School Term				
1004	Technical Writing	5	-	3
1505	Psychology	5	-	3
2613	Powerplant Theory, Reciprocating	3	7	5
2612	Airframe Assembly & Rigging	6	9	7
				18

■ Sixth School Term

1511	Economics	5	-	4
2615	Ignition Systems	4	6	4
2614	Power Lubrication	2	3	3
2921	Introduction to Business I or			
2911	Accounting I	5/5	-	2/3
2619	Power Plant, Turbine	3	7	4
				17/18

■ Second Co-op Term

9004	Cooperative Employment		40	3

■ Seventh School Term

1005	Effective Speaking	5	-	3
2617	Powerplant Systems & Components	5	20	12
2618	Propellers	1	4	3
				18

■ Third Co-op Term

9005	Cooperative Employment		40	3

AVIATION TECHNOLOGY ADVISORY COMMITTEE

Donald Cameron ..... General Electric Company
Aviation Service Operation

Ralph Day ..... Blue Ash Airport

Richard Elliot ..... Elliot Aviation
(Harrison Airport)

Louis Glos ..... Co-op Aircraft Service

R. G. Grahm ..... American Airlines (Chicago
Supervisor-Production Control Office)

Steven Hanifin ..... Greater Cincinnati Air Service Inc.

William Hogan ..... Hamilton Airport, Inc.

Homer Jones ..... Courter Technical High School
Former Aviation Technology Instructor

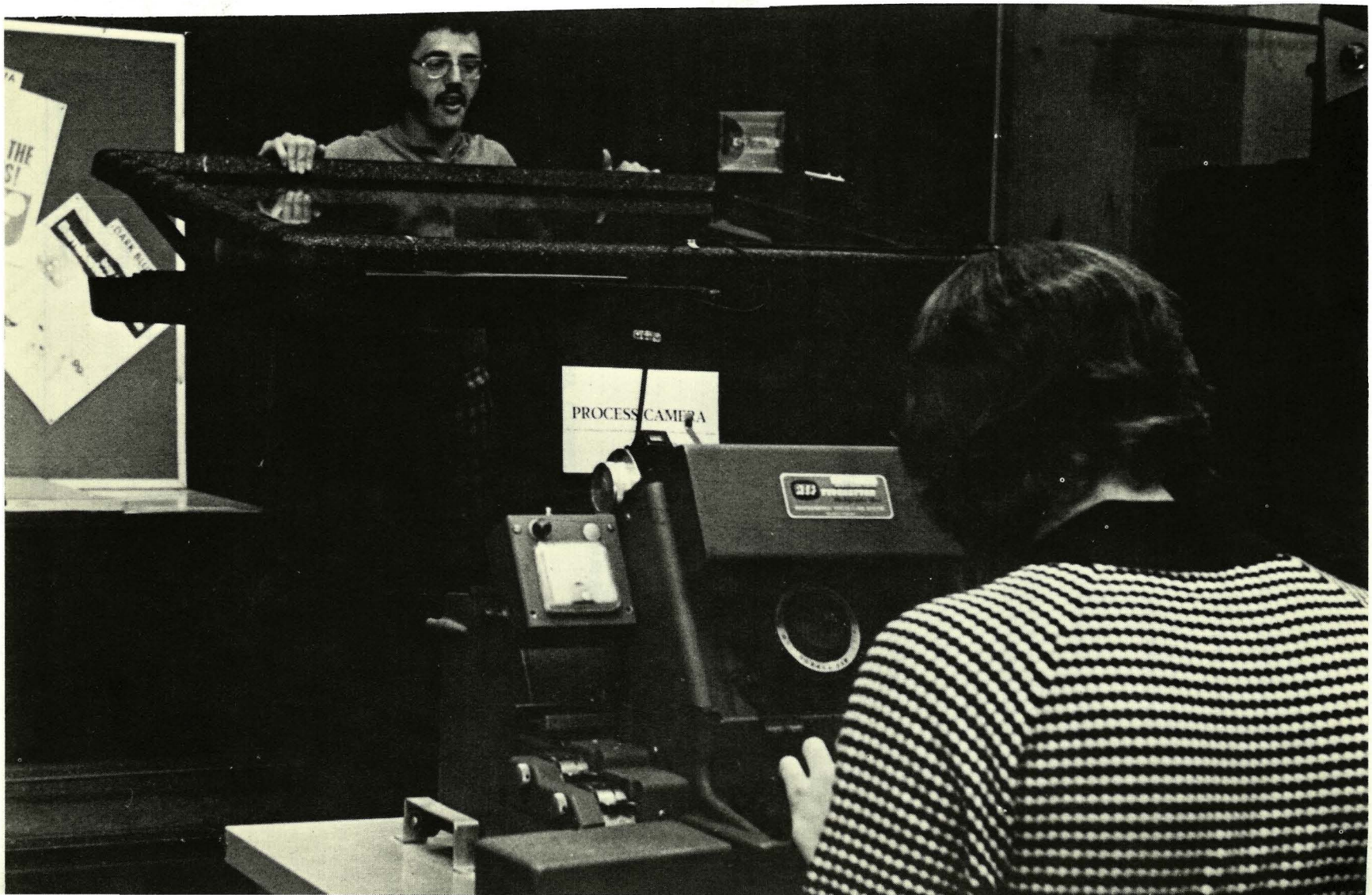
Marvin Judy ..... T. W. Smith Aircraft
(Blue Ash & Luken Airport)

Clayton McGranahan ..... Cincinnati Technical College
Student (1973 Graduate)

Owen Phairis ..... American Airlines (Greater
Cinti, Airport)

James Sievers ..... Avionics (Lunken Airport)

George Wedekind, Jr. ..... Wedekind Aircraft Co. (Middletown)


PROCESS CAMERA

GRAPHIC COMMUNICATIONS TECHNOLOGY

The influence of printing radiates through all the fields of endeavor known to man, the printed word is necessary to sustain our civilization and to support social, educational, technological, and commercial growth. As society becomes more complex, more communication via printing becomes increasingly important.

At Cincinnati Technical College, modern computerized typesetting equipment, high speed letterpress and offset presses, excellent ancillary equipment, and expert instruction combine to provide a quality graphic arts program.

Although each Graphic Communications student masters all of the major modern graphic arts processes, the scope of the program is not limited to the development of craftsmanship. Technicians in a dynamic, growing industry constantly address themselves to new problems. The Graphic Communications program provides the scientific and technical knowledge necessary to resolve those problems.

As important as they are, craftsmanship and scientific-technical knowledge do not fully describe the Graphic Communications program. The graphic arts industry urgently requires mid-management personnel. Courses in Human Behavior, Effective Speaking, Business Law, etc., provide the management skills necessary for mid-management positions in shop leadership, estimating, production planning, and cost control.

GRAPHIC COMMUNICATIONS TECHNOLOGY CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills	5	-	3
1161 Math for Printers	5	-	4
1401 Layout & Design	2	-	2
1402 Typography	5	3	4
1512 Economics I	3	-	3
1415 Graphic Arts Processes	2	-	2
			18
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1002 Communcation Skills	5	-	3
1410 Machine Composition	5	5	4
1460 Bindery	2	3	3
2261 Chemistry-Printing Science	3	2	3
1405 Proofreading and Copy Preparation	2	-	2
1513 Economics II	3	-	3
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1005A Effective Speaking	3	-	2
1812 Salesmanship	2	-	2
1421 Cold Type	5	5	3
1502 Human Relations	3	-	3
2262 Physics	3	2	3
1450 Estimating	5	-	2
1007 Expository Writing	5	-	3
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1004A Technical Writing	3	-	2
1419 Survey of Graphic Communications	3	-	3
1430 Presswork	5	5	4
1480 Photolith I	3	2	3
1823 Business Law	5	-	3
2911 Accounting I	5	-	3
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ **Fifth School Term**				
1440	Offset Press	5	10	5
1481	Photolith II	3	2	3
1520	Introduction to Sociology	5	-	4
2916	Cost Accounting	5	-	3
1428	Management Survey	5	-	3
				18
■ **Fifth Co-op Term**				
9005	Cooperative Employment		40	3

GRAPHIC COMMUNICATIONS TECHNOLOGY ADVISORY COMMITTEE

William Bell ..... Standard Publishing Company
Vice President

Mel Brower ..... Melbro Color Service
President

James Burton ..... Johnston Paper Company
President

William Duffey ..... Queen City Typesetting
President

Norb Giver ..... Volts-Thomas Printing Company
President

Jerry Hoffman ..... Cincinnati Technical College
Student (1973)

Edgar Kobman ..... Gibson Greeting Card Company
Supervisor

Wilbert Rosenthal ..... S. Rosenthal Company
President

Hal Sterne ..... S. Rosenthal Company
Production Manager

Lee Van Mauldin ..... Hist-O-Press Company
Owner

Robert Zschau ..... Cincinnati Technical College
Student (1973 Graduate)

ORNAMENTAL HORTICULTURE TECHNOLOGY

The beauty of a rose. The loveliness of the green expanse of a park. The majesty of an oak that shelters a home. How great a pleasure it is for us to admire these gifts of nature, in an age of steel, concrete and glass, especially at a time of great concern for the environment.

In the city we owe these pleasures to those who work with nature to produce them. Beauty is their business. Many of the flowers, trees, shrubs and lawns that adorn our city are their handiwork. They are the men and women of the ornamental horticulture industry. The include landscapers, nurserymen, greenskeepers, flower growers. Others grow our vegetables, from last frost to spring, under glass in greenhouses.

Theirs is — literally and figuratively — a growth industry, in which career opportunities are excellent for aspiring "green thumb technicians." These opportunities offer special satisfactions to those who like the elbow room of the out-of-doors, who like to work with their hands as well as their heads, who like to work with nature but live in the city.

The Ornamental Horticulture Technology program is designed to prepare high school graduates, exhibiting the necessary interests and aptitudes, to work for a wide range of employers — garden stores, nurseries, golf courses, parks, private estates, hospitals, universities, schools and others who sell, install, or maintain turf, trees, shrubs and gardens.

Due to the unique seasonal employment requirements of horticulturally related jobs, this program does not follow the usual Cincinnati Technical College schedule of alternating in-college and on-the-job quarters. Instead, students will spend three successive ten-week terms in school and two successive terms (during the growing season) in cooperative employment, each of the two years they are enrolled in the program. The purpose of this arrangement is to maximize the learning and earning opportunities of horticulture students during the peak of the propagation, cultivation, and selling season.

Cooperative employers include nurseries, flower shops, garden shops, public parks, recreational parks, golf courses and landscapers.

Graduates receive an Associate of Applied Science degree in Ornamental Horticulture.

ORNAMENTAL HORTICULTURE

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills	5	-	3
1505 Psychology	3	-	3
1512 Economics	3	-	3
3501 Horticulture Soils and Application	5	5	6
3501 Horticulture Science I	3	2	3
			18
■ Second School Term			
1009 Business English	5	-	3
3503 Horticultural Science II	3	2	3
3504 Woody Plants I	4	1	3
3505 Herbaceous Plants I	4	1	3
3506 Nursery Operations I	4	1	3
			15
■ Third School Term			
1810 Principles of Salesmanship	5	-	3
2901 Principles of Marketing	5	-	3
3507 Arboriculture	3	2	3
3508 Turf Management I	3	2	3
3509 Landscape Gardening I	3	2	3
3510 Horticulture and Turf Equipment	3	2	3
			18
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Fourth School Term			
1005 Effective Speaking	5	-	3
1101 Business Math	5	-	4
3011 Landscape Construction	3	2	3
3012 Nursery Operation II	3	2	3
3013 Horticulture Science III	3	2	2
3014 Garden Store Operation	4	1	3
			18
■ Fifth School Term			
1004 Technical Writing	5	-	3
2924 Principles of Management	5	-	3
3015 Woody Plants II	3	2	3
3016 Herbaceous Plants II	3	2	3
3017 Turfgrass Management II	3	2	3
3018 Landscaping II	3	2	3
			18

■ Sixth School Term				
1504	Psychology	5	-	4
2911	Principles of Accounting I	5	-	3
3519	Landscape Contracts & Specifications	3	2	3
3520	Drainage & Irrigation	3	2	3
3521	Entomology & Plant Disease Control	3	2	2
3522	Nursery Operation III	3	2	3
				18
■ Third Co-op Term				
9003	Cooperative Employment		40	3
■ Fourth Co-op Term				
9004	Cooperative Employment		40	3

ORNAMENTAL HORTICULTURE TECHNOLOGY ADVISORY COMMITTEE

John H. Brooks ..... Delhi Garden Store
Supervisor of Growers

Richard Fabing ..... Delhi Hills Garden Store
Manager

Edward Friedhoff ..... Spring Grove Cemetery

Michael Hinkley ..... Cincinnati Technical College
Student (1974 Graduate)

Joseph T. Obermeyer ..... Natorp's Garden Store
Supervisor of Personnel

Arthur Sherman ..... Sherman's Flower Shop
Owner

Thomas Smith ..... Spring Grove Cemetery

Samuel Steuve ..... Spring Grove Cemetery

Miss Patricia Strausser ..... Delhi Hills Garden Store
Supervisor of Landscaping

PLASTICS TECHNOLOGY

Few industries offer career opportunities to compare with those in plastics. While the average industry the past several decades has been expanding annually at a rate of about 4.5%, the plastics industry has recorded spectacular annual rates of 12%-14%. The volume of plastics produced is expected to exceed that of iron and steel by the 1980's. Two hundred and fifty thousand more employees will be needed in the plastics field in the Seventies. Three of every five firms in the industry say they need graduates of associate degree programs.

Plastics is a forward-looking industry. The state of the art has been advanced rapidly in response to the increasing demands of the market. Appliances, electrical and electronic devices, packaging, automobiles, aircraft engines — these and countless other products — have been improved through the use of plastics.

Plastics, then, offers exciting challenges to those with ambition, talent and imagination.

The curriculum in Plastics Technology as offered by the Cincinnati Technical College is designed to provide the student with the necessary technical background in plastics materials, testing, and fabrication by means of various manufacturing processes. Regular classroom instruction is supplemented by laboratory experiments and site training.

Plastics technologists trained in this curriculum will have excellent background suitable for application to positions in the materials, equipment and fabrication areas of industries concerned with plastics.

PLASTICS TECHNOLOGY CURRICULUM

	Class Hours	Lab Hours	Credit Hours
■ First School Term			
1001 Communication Skills I	5	-	3
1171 Technical Mathematics I	5	-	4
1375 Engineering Graphics	2	3	2
2271 Physics I	3	2	3
2277 Chemistry	3	2	3
2302 Plastic Technology	3	2	3
			18
■ First Co-op Term			
9001 Cooperative Employment		40	2
■ Second School Term			
1005A Effective Speaking	3	-	2
1172 Technical Mathematics II	5	-	4
2114 Machine Processes	-	4	2
2272 Physics II	3	2	3
2278 Organic Chemistry	3	2	3
2303 Plastic Processes I	4	6	4
			18
■ Second Co-op Term			
9002 Cooperative Employment		40	2
■ Third School Term			
1173 Technical Mathematics III	5	-	4
1511 Economics	5	-	4
2101 Materials of Engineering	2	3	3
2273 Physics III	3	2	3
2304 Plastic Processes II	4	6	4
			18
■ Third Co-op Term			
9003 Cooperative Employment		40	3
■ Fourth School Term			
1003 Communication Skills III	5	-	3
2104 Hydraulics & Pneumatics	3	2	3
2105 Strength of Materials	3	2	3
2115 Industrial Controls	3	2	3
2274 Physics IV	3	2	3
2305 Plastic Processes III	4	4	3
			18
■ Fourth Co-op Term			
9004 Cooperative Employment		40	3

■ Fifth School Term			
1004A Technical Writing	3	-	2
1501 Human Relations	5	-	4
1531 Introduction to Political Science	3	-	3
2306 Product Design	5	2	3
2307 Mold & Tool Design	3	2	3
2311 Quality Control	3	2	3
			18
■ Fifth Co-op Term			
9005 Cooperative Employment		40	3

PLASTICS TECHNOLOGY ADVISORY COMMITTEE

Frank Backscheider ..... Recto Molded Products, Inc.
Vice President

Roland Bedard ..... Monsanto Company
Senior Engineer, Process Technology

Al Casselman ..... Cincinnati Milacron, Inc.
Director, Personnel Development

Glenn N. Davis ..... Cincinnati Milacron, Inc.
Senior Development Engineer, Cimastra Division

Richard Fong ..... Globe Union, Inc.
Plant Superintendent

Robert Fremont ..... Formica Coporation
Manager, Technical Services

Robert Gerdes ..... Plastics Molding Corporation
President

Dennis Girolami ..... Cincinnati Technical College
Student (1973 Graduate)

Stanley Harrier ..... General Electric Company
Manager, Plastics Applications Development Laboratory

Mel F. Maringer ..... U.S. Industrial Chemical Co.
Research Associate

Robert Sherman ..... Society of the Plastic Industry
Mid-West Regional Manager

Donald Suer ..... Plastics Molding Corporation
Chief Engineer

COURSE DESCRIPTIONS

1001 Communication Skills **5 Clock Hours — 3 Credit Hours**

Syntax, paragraph development, mechanics, usage, spelling and vocabulary. Analysis of each student's strengths and weaknesses.

1002 Communication Skills **5 Clock Hours — 3 Credit Hours**
A continuation of 1001 Communication Skills, stressing expository writing.

1003 Communication Skills **5 Clock Hours — 3 Credit Hours**
A continuation of 1001 Communication Skills, stressing expository writing. Some work with logical and fallacious reasoning.

1004 Technical Writing **5 Clock Hours — 3 Credit hours**
1004A **3 Clock Hours — 2 Credit Hours**
Informal and formal written reports. Techniques for collecting and presenting data, particulary as they apply to Business. Some work with business letters.

1005 Effective Speaking **5 Clock Hours — 3 Credit Hours**
1005A **3 Clock Hours — 2 Credit Hours**
Organization, development, and presentation of general speeches with emphasis on the oral report as a form of business communication.

1006 Technical Writing **5 Clock Hours — 3 Credit Hours**
Business Letters with emphasis on various types according to their purposes. Some work with informal and formal reports.

1007 Expository Writing **5 Clock Hours — 3 Credit Hours**
Organization and development of expository compositions, stressing logical and fallacious reasoning.

1009 Business English **5 Clock Hours — 3 Credit Hours**
Intensive review of grammar, mechanics, usage, spelling and vocabulary designed to obtain high efficiency levels in these areas for secretarial students.

1101 Business Mathematics I **5 Clock Hours — 4 Credit Hours**
Proficiency in the fundamental skills of mathematics as applied to business. Emphasis will be placed on payroll procedures, business and financial reports, presentation of business data, and computing of interest for money and banking.

1102 Business Mathematics II **5 Clock Hours — 4 Credit Hours**
Application of mathematics to trade discounts, markons, commissions, installment charges, freight expenses, corporate earnings, stocks and bonds, insurance, taxes, loans, and data processing systems of billing and inventory.

1131 College Algebra **5 Clock Hours — 4 Credit Hours**
Number system; algebraic equations, linear equations, negative numbers, negative exponents. Arithmetic of computers; octal, binary and decimal systems. Introduction to set and group theory.

1132 Business Statistics **5 Clock Hours — 4 Credit Hours**
Practical business application of statistics to business problems. Students develop the ability to construct, use, and interpret tables, charts, frequency distribution; determine measures of central tendency and dispersion. The course acquaints the student with the theory and applications of probability and stresses the importance of statistics in decision making.

1133 Programming Mathematics I **5 Clock Hours — 4 Credit Hours**
The types of logic a computer uses in operation. Linear programming and additional number systems. Traditional logic and uses in computer operation. The memory and circuitry of the machine. Boolean algebra of propositions with application to switching circuits. FORTRAN language is used as a problem-solving tool.

1134 Programming Mathematics II **5 Clock Hours — 4 Credit Hours**
The optimizing blocking factors used for both magnetic tape and magnetic disk. Introductions to the linear programming and forecasting. The discussions of the searching lists and sorting techniques. FORTRAN language is used as a problem-solving tool.

1151 Science Math I **5 Clock Hours — 4 Credit Hours**
Order of calculations, significance, scientific notation, exponents and logarithms, algebra, basic trig; units of length, volume, and mass; Metric System, standard deviations, Avogadro's Number, atomic weights, the mole.

1152 Science Math II **5 Clock Hours — 4 Credit Hours**
The mastery of the mathematics and skills in using: the Gas laws, chemical equations, percent composition and gram-equivalent weights, constants used in heat transfer, molarity, normality, pH and pOH, rate of radioactive disintegration, nuclear reactions.

1170 Pre-Technical Mathematics **5 Clock Hours — 3 Credit Hours**
A course dealing with the fundamentals of algebra. Includes: real number system, equations, functions, variables, radicals, and exponents. (A course for technical students needing algebra and geometry.)

1171 Technical Math I **5 Clock Hours — 4 Credit Hours**
Order of calculations meaning of equations, similar triangles, trigonometric ratios; formulas for triangles, rectangles, trapezoids, circles, cylinders, spheres; ratio and proportion, direct and inverse variation. Applications using Ohm's Law, pulley and gear speed-ratios, horsepower, torque, etc.

1172 Technical Math II **5 Clock Hours — 4 Credit Hours**
More complicated formulas, the skills involved in manipulating formulas, simultaneous first degree equations, complex ratios, joint and high order variations. Application using Kirchoff's Laws, mechanical systems in equilibrium, density, specific gravity, area and volume viewed as function of dimensions.

1173 Technical Math III **5 Clock Hours — 4 Credit Hours**
Exponential formulas and logarithms, trigonometry of any angle, Law of Sines and Law of Cosines, second degree equations and their graphs, analysis of the sine wave form. Applications using the Gas Laws, power

ratios converted to decibels, A.C. circuit analysis, graphs of empirical data.

1179 Statistics **3 Clock Hours — 2 Credit Hours**
Measures of central tendency and variability, and elementary probability. Graphic representation of statistical data, and an application of correlation and tests of hypothesis.

1191 Engineering Math — Algebra and Trig I
5 Clock Hours — 4 Credit Hours
Order of calculations, meaning of equations, trigonometric ratios, geometric design, equation manipulation, quadratic equations and the Quadratic Formula, simultaneous linear equations, simultaneous second degree equations. Applications using series and parallel circuits, forces on mechanical systems, maxima and minima.

1192 Engineering Math — Albegra and Trig II
5 Clock Hours — 4 Credit Hours
Trigonometry of any angle, Law of Sines and Law of Cosines, trigonometric identities and equations, direct and inverse variation, exponential equations and logarithms, arithmetic and geometric series, introduction to Boolean Algebra. Applications to power conversions, radian-degree conversions, pulley and gear speed-ratios, vibrations, resolution of logic networks.

1193 Engineering Math — Functions and Calculus I
5 Clock Hours — 4 Credit Hours
Complex numbers, polar coordinates, graphs of linear and second degree functions, graphs of second degree relations, empirical curve fitting, limit concept, derivatives, integrals. Applications using analysis of A.C. circuits; functions of dimensions, heat, time, etc.; maxima and minima.

1194 Engineering Math — Calculus II **5 Clock Hours — 4 Credit Hours**
Applied calculus with emphasis upon applications to the Engineering Fields, indeterminate force systems, pressure vessel, stresses, bending moments, beam design and column design, selected topics from Applied Physics.

1201 Private Police Officer's Training Course
12 Clock Hours — 6 Credit Hours
This complete 120-hour training course fulfills the requirements for certification for Peace Officers Training Council for Private Security Police.

1204 Personnel Security Systems **5 Clock Hours — 3 Credit Hours**
Philosophical and legal basis for personnel security, history, the need controls, operational requirements, and practices. Use of Polygraph in investigations. Methods and legal aspects of personnel clearances, psychological checks, background checks, and other employee investigations.

1205 Interviewing **5 Clock Hours — 3 Credit Hours**
Applicable interviewing techniques and concepts. Practical interviewing considerations in agreement with current legal stipulations. Evaluation feedback.

1208 Criminal, Civil, And Administrative Law I
5 Clock Hours — 4 Credit Hours
A study of legal aspects of security in a context of criminal acts, espionage, sabotage, vandalism, and theft, collection, etc.

1209 Criminal, Civil, And Administrative Law II
5 Clock Hours — 4 Credit Hours
A continuation of Criminal, Civil, and Administrative Law I. Emphasis on the law and its ramifications for the practitioner in the security field.

1210 Introduction To Loss Control And Security Administration
3 Clock Hours — 2 Credit Hours
An overview of the significance of security and loss prevention programs in areas of industrial, business and government complexes. Review of examples of effective loss control programs in existence; a study of career opportunities in the field, personnel requirements, standards, and current remuneration levels.

1211 Industrial Security **5 Clock Hours — 3 Credit Hours**
Introduction to the historical, philosophical, and legal aspects of security. The role of security in our modern industrial society. Survey of the administrative, personnel, and physical requirements of the security field integrated with management systems.

1216 Security Administration I **5 Clock Hours — 3 Credit Hours**
Administration, organization, and management of security and plant protection programs. Policy and decision making by the security professionalist.

1217 Security Administration II **5 Clock Hours — 3 Credit Hours**
Study of new approaches to the field of security and loss prevention resulting from technological change. In-depth study of diverse programs in areas of manufacturing, warehousing, retailing, transportation, and public institutions. Personnel and budgeting. Private guard and alarm services.

1220 Fundamentals Of Fire Protection **5 Clock Hours — 2 Credit Hours**
History and philosophy of fire protection; history of loss of life and property by fire; economic losses occasioned by fire; review of fire defenses. Study of the organization and function of Federal, State, County, City, and private fire protection agencies. Examination of educational and training requirements requisite to employment among the various agencies including an analysis of efforts being made to professionalize the field.

1224 Fundamentals Of Fire Prevention **10 Clock Hours — 4 Credit Hours**
Organization and function of the fire prevention organization; chemistry of fire; inspections, surveying and mapping procedures, recognition of fire hazards, engineering a solution of the hazard, enforcement of the solution. Public relations as affected by fire prevention efforts.

1230 Safety Management **5 Clock Hours — 2 Credit Hours**
Organization of safety and accident prevention programs; publicity and promotion, award programs. Study of leading causes of business and industrial accidents involving lost-time and/or property damage. Consequences of accidents in terms of down-time and effects on local community. Reporting procedures.

1233 Emergency Planning **5 Clock Hours — 3 Credit Hours**
Principles governing the development of emergency plans. Problems encountered in planning for emergencies and implementing such plans. Procedures for plan development. Procedures for plan implementation. Emergencies to be covered include: bomb threat, fire, explosion, storm, riot, strike violence.

1240 Directed Case Study **5 Clock Hours — 3 Credit Hours**
Supervised individual study of a topic related to the security field selected by the student with staff approval.

1321 Blueprint Reading and Sketching **5 Clock Hours — 2 Credit Hours**
Provides a working knowledge of blueprint reading and shop sketching with special application for automotive techniques. Technical terminology is defined and applied in logical sequence for each new principle.

1371 Engineering Graphics I **6 Clock Hours — 2 Credit Hours**
Techniques and functions of drafting. Use of technical terms, modern drafting equipment, sections, multi-view projection and basic reference materials. Development of individual skills and techniques.

1372 Engineering Graphics II **5 Clock Hours — 2 Credit Hours**
Advanced study in field drawing. Includes: gears, cams, working drawings, piping, electrical, etc. Prerequisite: 1371 or 1375.

1373 Engineering Graphics (Civil) **5 Clock Hours — 2 Credit Hours**
Plat rules and plat information as required by law for a plat to be fully registered; highway intersection layouts; construction drawings (steel & wood); topographic maps; profiles; basic descriptive geometry. Includes: pencil and ink work. Prerequisite: 1371.

1374 Engineering Graphics III (Descriptive Geometry)
5 Clock Hours — 2 Credit Hours
Graphic analysis of space positions involving points, lines, planes, connectors and a combination of these. Practical design problems stressed with analytical verification where applicable. Visualization stressed with every problem. Prerequisites: 1371 or 1375 and 1172.

1375 Engineering Graphics **5 Clock Hours — 2 Credit Hours**
Techniques and functions of drafting. Use of technical terms, modern drafting equipment, multi-view projection, and basic reference materials. Emphasis on reading a drawing including schematic and wiring diagrams.

1376 Engineering Graphics (Architectural)
5 Clock Hours — 2 Credit Hours
Architectural drawing — electrical and plumbing layouts. Pictorial and schematic drawings. Introduction to sheet metal layouts. Prerequisite: 1171 or 1375.

1377 Electronic Drafting **3 Clock Hours — 1 Credit Hour**
Schematic diagrams, component wiring diagrams, printed circuit boards, and pictorial assembly drawings. Graphs, nomographs and characteristic curves.

1379 Basic Blueprint Reading and Sketching
5 Clock Hours — 2 Credit Hours
Provides a working knowledge of blueprint reading and shop sketching with special application for automotive techniques. Technical terminology is defined and applied in logical sequence for each new principle.

1380 Structural Drafting/Detailing **5 Clock Hours — 2 Credit Hours**
Preparation of plans and shop drawings for steel structural members and for reinforced concrete structures.

1381 Aircraft Drawing **5 Clock Hours — 2 Credit Hours**
Read drawings, symbols, and schematic diagrams. Draw sketches of repairs and alternations. Apply blueprint information. Use graphs and charts. Identify and select AN hardware.

1401 Layout and Design **2 Clock Hours — 2 Credit Hours**
Principles of printing design and art work. Conventional layout, modern layout, type design, color usage, scaling photographs and art work, copy preparation for camera, newspaper layouts, designing folders, broadsides and booklets.

1402 Typography **10 Clock Hours — 4 Credit Hours**
History of the alphabet; evolution and development of movable type. Selection of proper type styles and sizes. Study and comparison of metal type and cold type. Methods of type setting — hand and machine composition. Copyfitting of text matter to space allocation. Basic requirements of hot metal, punched tape for cold composition (photographic and strikeon composition), hot metal and cold type display for composition.

1405 Proofreading and Copy Preparation
2 Clock Hours — 2 Credit Hours
Checking the typesetter's work; use of special symbols to mark changes, corrections, additions, or eliminations. How to check copy for errors. Duties of the proofreader and the copyholder. Reference books for the proofreader. Rules of syllabication of words. Acquiring speed and accuracy in proofreading.

1410 Machine Composition and Newspaper Designing
10 Clock Hours — 4 Credit Hours
An extended study of various typesetting machines, both magnetic tape controlled and punched tape controlled, utilizing hot metal, photographic, and strike-on machines. Analysis, evaluation and recommendations based on individual research in order to select the best method for a particular kind of work. The basic operations of manually operated machines are also investigated. Fundamentals & techniques of sound newspaper designing are presented through general problems of page size, news head selection, from page make-up, illustrations, etc.

1415 Graphic Arts Process **2 Clock Hours — 2 Credit Hours**
Development and evaluation of printing devices. Graphic arts processes in use today — letterpress, gravure, flexographic, offset and silk screen presses; newspaper and rotary presses. How they work, and the kinds of work for which they were designed.

1419 Survey of Graphic Communications I
3 Clock Hours — 3 Credit Hours
Descriptions and discussions concerning the various forms of printing and reproducing copies to include letterpress, lithography, gravure, silk screen and other. New forms of printing such as dry offset and screenless halftone printing will be studied with emphasis on the feasibility of implementation of such systems into present systems. In-depth study of printing papers and inks.

1421 Cold Type Processes **10 Clock Hours — 3 Credit Hours**
Classification of cold type devices — hand assembled paper or plastic alphabets, dry transfer fonts; keyboard text — on paper machines; keyboarded phototypsetting; photo-lettered displays. Principles and operation of various keyboards. The use of electronics, computers, and tape operated controls.

1428 Management Survey **5 Clock Hours — 3 Credit Hours**
Principles used in printing management — use of the production board in planning control — planning a job and following through all phases of production.

1430 Presswork **10 Clock Hours — 4 Credit Hours**
Survey and justification studies of press equipment to assist in suggesting capital expenditures for future growth and replacement cycles for letterpress, offset, and flexographic systems. Press usage and depreciation methods, replacement policies.

1440 Offset Press Operation **15 Clock Hours — 5 Credit Hours**
Techniques of operation and control, study of various moistening systems, comparison of wet and dry forms of lithography. Plate comparisons to include wipe on, presensitized, albumin surface, deep etch, bi-metal, tri-metal, dycril and other synthetics, grained and grainless. Understanding the required adjustments necessary for top quality printing. Use of pressroom and quality control equipment.

1450 Estimating **5 Clock Hours — 2 Credit Hours**
Determine job costs; elements of job costs — labor, materials, burden, profit and markup. Conversion of manuscript copy to specific type sizes and styles. Characteristics and types of paper; paper sizes; selection and purchase of paper; determining proper cuts from mill size sheets; use of manufacturers' catalogues and price books.

1460 Bindery Methods And Procedures **5 Clock Hours — 3 Credit Hours**
Drilling, stitching and cutting. Investigations into the more complex operations of page imposition, automatic signature assembly and book finishing. Automatic tape operated cutters demonstrated and explained. Automatic folders with pile feed and continuous feed.

1480 Photolithography I **5 Clock Hours — 3 Credit Hours**
Types and uses of photo-copy and process camera. General and special uses of films. Use of precise measuring darkroom instruments. Darkroom techniques. Making line and half-tone negatives. Comparing and making single color proofs. Simple stripping.

1481 Photolithography II **5 Clock Hours — 3 Credit Hours**
Follow-up of Photolithography I using advanced techniques. Making color separations and color proofs. Stripping techniques related to multi-color jobs.

1501 Human Relations **5 Clock Hours — 4 Credit Hours**
Problems of the individual studied in relation to group membership and the work situation. Development of effective motivations, communication, attitudes, supervision and leadership. Techniques used include role playing, case studies, and discussion of co-op work experiences.

1502 Human Relations **3 Clock Hours — 3 Credit Hours**
See description of course 1501. The course number 1502 covers the first twenty five (25) clock hours of course 1501.

1504 Psychology **5 Clock Hours — 4 Credit Hours**
A scientific study of human behavior appropriate to the needs of business and industry. Special emphasis is placed on perception, learning, individual differences, motivation, intelligence, personality and social interaction.

1505 Psychology **3 Clock Hours — 3 Credit Hours**
See description of course 1504. The course number 1505 covers the first twenty five (25) clock hours of course 1504.

1511 Economics **5 Clock Hours — 4 Credit Hours**
Basic economics relates to the central problems of production, income, and employment. It deals with the operation of the free enterprise system, price determination, forces of supply and demand, and income distribution among the productive factors. Analysis of price level and inflation, unemployment, competition and the role of government in monetary and fiscal policy. Emphasis is placed upon decision making processes.

1512 Economics **3 Clock Hours — 3 Credit Hours**
See description of course 1511. The course number 1512 covers the first twenty five (25) clock hours of course 1511.

1513 Economics **3 Clock Hours — 3 Credit Hours**
See description of course 1511. The course number 1513 covers the remaining twenty five (25) hours of course 1511.

1520 Sociology **5 Clock Hours — 4 Credit Hours**
A look at sociology as a young science occupied with classifying and defining group behavior. Emphasis will be placed on several of the basic institutions necessary to the processes of socialization and acculturization. Apart from a general introduction to sociology, every effort will be made to select those topical areas that will best meet the needs of the students' major areas of concentration.

1521 Sociology **3 Clock Hours — 3 Credit Hours**
See description of course 1520. Covers first half of 1520.

1531 Introduction To Political Science **3 Clock Hours — 3 Credit Hours**
A survey of the nature of political science; its various branches; methods of analysis used; basic characteristics and problems of government and poli-

tics; the theories and practices which describe and explain man's behavior in the national and international community.

1535 Labor Management Relations **3 Clock Hours — 3 Credit Hours**
Origin and development of the labor movement. State and federal labor laws and regulations. Collective bargaining practices and procedures today. Issues and problems in negotiation of contracts.

1701 Introduction To Data Processing **10 Clock Hours — 4 Credit Hours**
An overview of the entire field of data processing. Instruction in the theory of punched card equipment with laboratory exercises. Operation of the Honeywell-200 computer on premises, function and use of the central processor and the peripheral devices.

1721 Advanced Programming Design And Contral
5 Clock Hours — 3 Credit Hours
Techniques for designing programs using auxiliary memory, tables, sorts and advanced assemblers are discussed. Program checking and debugging techniques and efficiency evaluation are covered in detail.

1722 Assembly Programming II **10 Clock Hours — 5 Credit Hours**
The full range of assembly language instructions and coding techniques are introduced with programs written using auxiliary storage, interrupt processing and table processing. All programs are tested and thoroughly documented. Program linkage and operating systems are introduced.

1741 Operating Systems **5 Clock Hours — 3 Credit Hours**
The standard functions of supervisory routines, including intro-run control, I/O control, multiprogramming and service routines, are discussed and explained. Job control languages are introduced with exercises.

1742 COBOL Programming I **15 Clock Hours — 8 Credit Hours**
Basic COBOL is taught. Several programs using all available storage media and the full range of COBOL statements are written.

1761 Programming Systems I **5 Clock Hours — 3 Credit Hours**
The theory and practices of writing assemblers, compilers and other standard software packages are thoroughly discussed. Examples and exercises are drawn from the RPG, ALGOL and PL 1 languages.

1762 COBOL Programming II **5 Clock Hours — 3 Credit Hours**
Thorough discussion and exercise in the use of American National Standard COBOL language with emphasis on the advanced elements of the language.

1763 Systems Analysis And Design **10 Clock Hours — 5 Credit Hours**
A complete methodology of analyzing and designing computer oriented information processing systems is presented. Instruction and exercises cover data collecting, data structure, file structure and design, input editing and volume consideration, processing requirements, output formats, real time and time sharing systems.

1772 Introduction to Computer Programming
5 Clock Hours — 3 Credit Hours
Terminology and basic concepts of automation. Introduction to Fortran programming and its application to engineering. Laboratory experience in writing programs. Prerequisite: 1191.

1781 Programming Systems II **10 Clock Hours — 5 Credit Hours**
This course continues instruction in language processor techniques. A basic PL 1 compiler is designed and the edit and translator porgrams written using the assembly language and COBOL.

1782 Installation Management **5 Clock Hours — 3 Credit Hours**
Instruction in basic management principles leads to detailed analysis of the data processing environment and effective methods of managing it.

1783 Research Project **5 Clock Hours — 3 Credit Hours**
Independent research is conducted by each student. The only limitations applied are that the research must be directly related to data processing and must not concern itself directly with any other material covered by the curriculum.

1798 Survey Of Data Processing **2 Clock Hours — 2 Credit Hours**
Terminology and basic concepts of data processing with emphasis on the application of the electronic computer system.

1799 Survey Of Data Processing **5 Clock Hours — 4 Credit Hours**
Introduction to the three principal data processing systems; manual, unit record, and electronic computer, with practical applications.

1804 Risk and Insurance **5 Clock Hours — 3 Credit Hours**
The concept of risk in the business enterprise, the need for insurance protection against risks in areas of property and liability, casualty, fire, life and health. Fundamentals of insurance contracts and selection of insurers.

1810 Principles Of Salesmanship **5 Clock Hours — 3 Credit Hours**
Analysis of the general principles and techniques of effective selling. Principles and problems that include background information a salesman needs, and analysis of the selling process.

1812 Salesmanship **2 Clock Hours — 2 Credit Hours**
Study of the selling process. A point by point observation of the steps of a sale and on introduction to industrial and wholesale selling.

1815 Audiovisual Sales Techniques **5 Clock Hours — 4 Credit Hours**
Planning and executing sales presentations using audiovisual media. Emphasis is placed on video camera/playback equipment and other equipment employing sight and sound.

1820 Sales Management **5 Clock Hours — 4 Credit Hours**
A study of the many and varied duties and responsibilities of the sales manager including: selection of sales personnel, leadership, records, and reports, training, motivation, as well as the sales function in the structure of the company.

1823 Business Law I **5 Clock Hours — 3 Credit Hours**
Treatment of fundamental principles of business law, including contracts, negotiable instruments, and agencies.

1824 Business Law II **5 Clock Hours — 3 Credit Hours**
A continuation of Business Law I with a treatment of government regulations, trust, and insurance.

1832 Personnel Management **5 Clock Hours — 3 Credit Hours**
A broad overview of the traditional functions of a personnel office, such as job evaluation, recruitment, interviewing, training, employee and union relations, employee services, and of specific concepts concerning human relations and organizational behavior.

1836 Principles of Wholesaling **5 Clock Hours — 4 Credit Hours**
A comprehensive analysis of the wholesaling function and guidance in the treatment of practical difficulties that arise in the course of applying textbook principles to operational situations.

1842 Advertising And Display **5 Clock Hours — 3 Credit Hours**
Advertising media and their effects upon business. Practical applications of display theories as they relate to window and internal displays. Display and its relation to interior decorating and design.

1845 Principles of Retailing **5 Clock Hours — 4 Credit Hours**
Introduces students to the field of retailing and provides the technical and theoretical knowledge necessary for retail mid-management employment. Case studies are introduced to give the students practical operating experiences.

1900 Electrical & Electronic Fundamentals
5 Clock Hours — 3 Credit Hours
Covers the general principles of electrical and electronic circuits and equipment and relates these principles to engineering applications. Particular consideration is given to electrical and electronic based instruments.

1901 Electronics I **10 Clock Hours — 5 Credit Hours**
Electricity. Ohm's Law. Resistors, conductors and insulators. Series circuits. Parallel circuits. Series-parallel circuits. Kirchoff's law. Maximum power transfer. Loaded and unloaded voltage dividers. Network theorems. Magnetism. Magnetic units. Electro-magetic induction. Alternating voltage and current. Introduction to generators and motors.

1902 Electronics II **10 Clock Hours — 5 Credit Hours**
Inductance. Inductive reactance. Inductive circuits. Capacitance. Capacitive reactance. Capacitive circuits. RC and RL time constants. Alternating-current circuits. Resonance. Filters. Electron Tubes. Transformers. Transformer impedance matching. Diodes and transistors.
(Pre-requisite: 1901)

1903 Electronics III **10 Clock Hours — 5 Credit Hours**
Semiconductor theory. pn junctions. Diode equivalent circuits. Rectifier circuits. Bipolar transistors. Transistor biasing circuits. AC equivalent circuits. Small signal amplifiers. Class A power amplifiers. Class B push-all amplifiers. Class C power amplifiers.
(Pre-requisite: 1902)

1904 Electronics IV **7 Clock Hours — 4 Credit Hours**
Field-effect transistors. FET circuit analysis. Decimal and Miller's theorem. Frequency effect. Integrated. Negative feedback. Feedback oscillators. Frequency domain. Voltage regulation.
(Pre-requisite: 1903)

1905 Industrial Control Electronics **7 Clock Hours — 3 Credit Hours**
Transistor amplifiers. Feedback amplifiers. Operational amplifiers. Phase-shift control of an SCR. Thyratron characteristics. Phase-shift control of a thyratron. The unijunction transistor as a control device. UJT controlled SCR time delay circuits. Relays. Transducer principle. Introduction to the commonly used transducers. Introduction to the electromechanical components such as: accelerameter, LVDT, thermocouples, strain gauges, limit switches, solenoids, and actuators.
(Pre-requisite: 1902)

1906 Pulse Circuits **5 Clock Hours — 3 Credit Hours**
Pulse waveforms. RC networks. Diode characteristics. Transistor characteristics. Transistor switching characteristics. Amplifier switching circuits. Logic and logic circuits. Multivibrators. Counters. Matrices. Special circuits and devices.
(Pre-requisite: 1903)

1907 Electrical Motor Control **5 Clock Hours — 3 Credit Hours**
Electrical components for control circuits. Manual starters for D-C and A-C motors. Automatic starters and control circuits for polyphase motors. Speed control of D-C and A-C motors. Control of single-phase motors. Static Switching circuits and control.
(Pre-requisite: 1901)

1908 Digital Systems I **5 Clock Hours — 3 Credit Hours**
Binary and octal numbers. Binary code. BCD code. Gray code. Excess-3 code. Review of Boolean algebra. Karnaugh map simplification. Logical operators. Logical problem formation. Combinational circuits and its design rules. Adders. Introduction to sequential circuits. Flip-flops. Counter techniques. Special counters and registers. Input-output devices. D/A and A/D conversion. Magnetic devices.
(Pre-requisites: 1902 or 1905)

1909 Digital Systems II **5 Clock Hours — 3 Credit Hours**
Introduction to computer organization. Programming elements techniques. Single-address instruction. Multiple-address instruction. Logic circuits for arithmetic and control units. Computer elements. Integrated circuits.
(Pre-requisite: 1908)

1910 Digital Systems III **7 Clock Hours — 4 Credit Hours**

Introduction to computer memory systems. Magnetic core memory and its circuits. Analysis of the read-restore cycle. Analysis of the clear-write cycle. Coincident-current selection. Address decoding logic. ROM circuits. Computer peripheral devices. Display systems.

(Pre-requisite: 1909)

1911 Introduction to Communication Systems

7 Clock Hours — 3 Credit Hours

Introduction to communication systems. Noise. Special communication circuits. Amplitude modulation. Frequency modulation. Single-sideband techniques. Radio receivers. Pulse systems. Transmission lines. Radiation and propagation of waves. Antennas. Waveguides, resonators and components.

(Pre-requisite: 1904)

1913 Electrical Fundamentals I **5 Clock Hours — 3 Credit Hours**

Introduces the student to the basic laws of AC and DC electricity, and the implementation of theory. Basic power distribution and control system fundamentals are developed along with practiced application techniques.

1914 Electrical Fundamentals II **5 Clock Hours — 3 Credit Hours**

A continuation of Electrical Fundamentals I. AC power factor, polyphase relationships, and control systems functions are examined in greater depth. Abilities of the student to plan, assist, and supervise electrical power, and control system installations, and modifications are developed.

(Pre-requisite: 1913)

1915 Electrical Lighting and Wiring Design I

7 Clock Hours — 4 Credit Hours

A-C and D-C review. Power factor. Transformer. Basic devices and circuits. Overcurrent devices. Types and sizes of wires. Selection of proper wire sizes. Wire connections and joints. Grounding. Outlet and switch boxes. Different wiring methods. Adequate wiring. Service entrance and branch circuits. Good lighting. Residental and farm motor wiring.

(Pre-requisite: 1902)

1916 Electrical Lighting and Wiring Design II

7 Clock Hours — 4 Credit Hours

Wiring residential and farm: planning and installation, installation of service entrance and ground, installation of specific outlets and installation of switches and other devices. Miscellaneous wiring. Wiring of heavy appliances. Modernizing an installation. Farm wiring. Isolated and standby power plants. Wiring apartment houses. Planning nonresidential lighting. Wiring for motors. Wiring schools and churches. Wiring stores. Wiring miscellaneous occupancies.

(Pre-requisite: 1915)

1917 Electrical Machines **5 Clock Hours — 3 Credit Hours**

D-C generator and motor principles. D-C generator characteristics. D-C motor characteristics. A-C generators. Polyphase induction motors. Single-phase motors. Synchronous motors.

(Pre-requisite: 1902)

1918 Electrical Power Distribution **5 Clock Hours — 3 Credit Hours**
Transformers and substations. Single-phase and three-phase transformer. Electrical power transmission and distribution systems including relay and control devices and circuit protective devices. Grounding systems. Power factor correction. Elementary short circuit analysis.
(Pre-quisite: 1902)

1920 Electrical Estimating **5 Clock Hours — 3 Credit Hours**
The fastest means for estimating the cost of electrical systems in residential and commercial buildings. Introduction to the charts techniques which determine prices of installed equipment, allowing the estimator to get the cost of an installed wiring system without breaking it down into its various components.

1921 Electrical Code **3 Clock Hours — 2 Credit Hours**
A study of the electrical codes applicable to electrical construction and equipment, including their coverage, limitations and interpretation.

1999 Special Problems Seminar **2 to 4 Credit Hours**
Individual study and special projects pertaining to the particular technology that the student is enrolled in. Open to fourth and fifth term students, by special arrangement with the Coordinator and Department Chairman.

2002 Materials Handling **5 Clock Hours — 3 Credit Hours**
Survey of material handling elements such as unit load, packaging, bulk handling, economic improvement procedures, shipping and warehousing.

2003 Industrial Processes and Plant Layout
7 Clock Hours — 3 Credit Hours
Study of factory planning with emphasis on the most efficient arrangement of work areas to achieve lower manufacturing costs. Arrangements of stock, machine, layout of aisles, and use of space to include layouts for small and medium size plants. Industrial manufacturing operations including automatic control loop design and the peculiarities of industrial processes and how instrumentation is used for process control.

2004 Time and Motion Study **5 Clock Hours — 3 Credit Hours**
Principles of motion economy, tools for motion study — to include: process and operation charts, the movie camera, stop watch, etc. Includes study and application of the basic principles used to develop better methods of performing work.

2005 Quality Control **5 Clock Hours — 3 Credit Hours**
Application of Statistics and probability to basic quality control problems. Functions, responsibilities, structure, costs, reports, records, personnel and vendor-customer relationships in quality control. Sampling inspections, process control and tests for significance. Prerequisite: 1191.

2007 Production Costs and Control **5 Clock Hours — 3 Credit Hours**
Development of cost estimating techniques, practical application of production cost theory, control of material and labor costs, determination of time requirements, estimation of production prices. Prerequisite: 2004 & 2005.

2009 Industrial Safety **3 Clock Hours — 2 Credit Hours**
Study of industrial safety programs, safety codes and standards, compensation, and safety inspection. Occupational health hazards, typical industrial policies and facilities for accidents and injuries. Safety devices for equipment and safety education programs. Special emphasis given to "The Occupational Safety and Health Act."

2010 Industrial Hygiene Measurements **5 Clock Hours — 3 Credit Hours**
Gas and vapor volume calculations and sampling, sampling for particulars, air flow measurements and quality standards, toxic concentrations. To include: area ventilation heat stress, noise characteristics, electromagnetic energy measurements and illumination. Prerequisite: 2009.

2101 Engineering Materials **5 Clock Hours — 3 Credit Hours**
Matellic, organic and inorganic non-metallic substances. Testing, uses, and fabrication of these materials. Emphasis on testing procedures and interpretation of test data. Introduction to stress and strain. Use of various testing machines.

2102 Manufacturing Processes **3 Clock Hours — 2 Credit Hours**
Survey of the fundamentals of manufacturing processes. Methods of manufacturing and fabricating metal and plastic parts. To include: powder metallurgy, cermets, electro-chemical, automatic metal working machines, welding, etc.
(Pre-requisite: None)

2104 Hydraulics and Pneumatics **5 Clock Hours — 3 Credit Hours**
Basic principles of hydraulics and pneumatics. Distribution and control. Application of fluid mechanics, including pressure, density and viscosity. Basic physical laws governing fluids and gases. Application in design circuits and systems. Prerequisites: 1171 or 1191 & 2271.

2105 Strength of Materials **5 Clock Hours — 3 Credit Hours**
Effects of forces and stresses on materials in various forms and configurations found in engineering and mechanical constructions. Use of elementary mathematics in analyzing forces, stresses, moments and equilibrium by use of such factors as moment of inertia, radius of gyration, and centroids. Determination of dimensions and material specifications. This course will include plastic materials testing, and properties. Prerequisites: 1172 or 1192 & 2272.

2106 Strength of Materials II **5 Clock Hours — 3 Credit Hours**
Continuation of 2105. Topics of study include combined stresses, statically in determinate beams, deflection of beams and column theory. Experimental stress analysis and strain gage instrumentation are discussed.
(Pre-requisites: 2105 & 1193)

2107 Machine and Product Design **10 Clock Hours — 4 Credit Hours**
Application of principles of mechanics and strength of materials to design of machine elements. Dynamic loading condition. Research to solve a problem in design by consulting various manuals, periodicals, and through laboratory experiments. To include a written technical report as well as all sketches, drawings, and specifications as required. Evaluation and critique of all problems by a selected group of Engineering Technology faculty members. Prerequisite: 1371 & 2106.

2109 Mechanical Drives and Linkages **5 Clock Hours — 3 Credit Hours**
A study of basic mechanical components such as gears, pulleys, belts, chains, sprockets. Mechanical principles and application of these devices and mechanical systems employing them. Also, to include: cams, cam followers, levers, and linkages. The combination of drives and linkages to form complex mechanical systems.

2111 Tool Engineering Design **5 Clock Hours — 3 Credit Hours**
A study and analysis of cutting, forming, and drawing sheet metal, using modern tools and dies. Application of mathematics and mechanics to determine forces and stresses occurring in these metal working operations. Provides experience of designing a die to produce a simple sheet metal product. Also includes jig and fixture design. Prerequisite: 2105.

2112 Fluid Power Systems I **5 Clock Hours — 3 Credit Hours**
An in-depth study of hydraulic and pneumatic schematics and circuitry. A comprehensive study in the fundamental concepts of servo hydraulics, fluidics and control systems, application in design circuits and systems.
(Pre-requisites: 2104)

2113 Mechanisms Design **5 Clock Hours — 3 Credit Hours**
Mathematical and drafting room solutions of problems involving the principles of machine elements. Study of motions of linkages, velocities and acceleration of points within a link mechanism; layout, methods for designing cams, belts, pulleys, gears and gear trains. Prerequisite: 1192 & 2272.

2114 Machine Processes **5 Clock Hours — 2 Credit Hours**
An introductory course designed to acquaint the student with basic hand tools, safety procedures and machine processes in our modern industry. It will include a study of measuring instruments, characteristics of metals, and cutting tools. The student will become familiar with the lathe family of machine tools by performing selected operations such as turning, facing, threading, drilling, boring, and reaming. Prerequisite: None.

2115 Industrial Controls **5 Clock Hours — 3 Credit Hours**
The study of modern methods of controlling, programming, and modifying automated processes. Equipment controls and electrical devices which automatically operate machines will be studied. Topics include not only process sequencing control system function, but also how to utilize the control system for highest productivity and quality.

2116 Electromechanical Control I (Servemechanisms)
Utilization of practical measurement applications of position, velocity, pressure, temperature, acceleration, strain, etc. Analog control of levels, velocities, positions, etc. of output devices such as hydraulic actuators and electric motors. Utilization of transducer systems. Topics to include: servo valves, open and closed loop system, feedback, resolution, response time, inertial and frictional effects on output devices, stability, repeatability and dampening.
(Pre-requisite: 1902 & 1905)

2117 Electromechanical Control II **10 Clock Hours — 5 Credit Hours**
Covers the basic ideas incorporated in numerically controlled machines.

Introduction to NC programming. Analog and servo control techniques through the use of digital computers. Topics include types of comparators, gray code encoders, leadscrew control, stabilization techniques, core memory applications, and stepping motors.

(Pre-requisite: 1908 and 2406)

2119 Systems Development - N.C. **3 Clock Hours — 2 Credit Hours**
Introduction to automated or numerical control equipment. Emphasis on tape control systems — writing of programs and lab experience in implementing these programs — machine tool and graphic applications.

(Pre-requisites: 2114 and 1191)

2120 Metal Joining I **8 Clock Hours — 4 Credit Hours**
Introduces the student to joining of metals — based on fusion, diffusion, chemical and mechanical procedures. Primary emphasis upon lab experience in Arc and Gas Welding.

(Pre-requisite: None)

2121 Metals Joining II **7 Clock Hours — 3 Credit Hours**
Continuation of 2120. More lab experience in gas and arc welding, resistance welding, brazing and soldering. Joint design, stresses in welds, codes, standards, inspection, testing, and the economics of joining methods are considered.

(Pre-requisite: 2120)

2123 Materials Selection **3 Clock Hours — 2 Credit Hours**
Emphasis upon selection of a material for a particular end product. Based on prior knowledge of production and processing methods. To stress properties and cost of such materials. Details regarding procurement of starting materials, processing steps and specifications are formulated.

(Pre-requisite: 2102)

2124 Layout and Design Project **7 Clock Hours — 3 Credit Hours**
Application and implementation of principles and procedures involved in following a metal fabrication project from its inception to the completed product. Only open to fourth and fifth term students.

2199 Special Problems Seminar **2 to 4 Credit Hours**
Individual study and special projects pertaining to the particular technology that the student is enrolled in. Open to fourth and fifth term students, by special arrangement with the Coordinator and Department Chairman.

2210 General Chemistry **5 Clock Hours — 3 Credit Hours**
Fundamental concepts of chemistry, including atoms and molecules, valence and chemical equations, oxidation and reduction, physical and chemical properties of matter, gases, liquids and solids, water, solutions, acids, bases and salts, electrolytes and ionization.

2211 Clinical Chemistry **10 Clock Hours — 4 Credit Hours**
A review of general chemistry, organic chemistry and biochemistry as applied to clinical laboratory testing and human physiology. Includes colorimetry, spectrophotometry, quality control and the performance of common clinical chemistry procedures.

2211(A) Clinical Chemistry **15 Clock Hours — 6 Credit Hours**
Same as Clinical Chemistry 221 with the additional performance of in tricate clinical chemistry procedures and including an introduction to clinical laboratory automation.

2212 Clinical Laboratory Procedures **3 Clock Hours — 1 Credit Hour**
A survey of testing procedures commonly used in clinical laboratories and physicians' offices. Background information on chemical testing and the abnormal conditions which are detected using chemistry tests.

2216 Human Anatomy & Physiology I
5 Clock Hours — 3 Credit Hours
Familiarization with the entire anatomical structure of the human body as a whole, the organs involved in the various body systems. Thorough study of surface anatomy (including the skin, the eyes and the ears). Anatomy of word-building and general terminology as it applies to the human body and to medicine in general.

2217 Human Anatomy & Physiology II **5 Clock Hours — 3 Credit Hours**
Brief review of the anatomy and study of the physiology functions of the following body systems (including medical terminology as applicable): The skeletal, muscular, cardiovascular and circulatory, respiratory, digestive and urogenital systems.

2218 Human Anatomy & Physiology III **5 Clock Hours — 3 Credit Hours**
Brief review of the anatomy and study of the physiological functions of the following body systems (including the medical terminology applicable to each): The endocrine and metabolic systems, including their influence on the respiratory, excretory, digestive, reproductive and other systems. Study of cell structure and genetics in depth.

2221 Physics I (Automotive) **5 Clock Hours — 3 Credit Hours**
Fundamental principles of heat and electricity treated with emphasis on heat engines, electron theory, circuits and instruments with special application to the motor vehicle.

2222 Physics II (Automotive) **5 Clock Hours — 3 Credit Hours**
Fundamental principles of mechanics, treated with emphasis on the kinematics and dynamics of machines and fluids with special application to the motor vehicle.

2241 Physics I (Aviation) **5 Clock Hours — 3 Credit Hours**
Measurement techniques: functions and scaling. Kinematics; vectors; motion near the earth; forces; laws of force and motion. Friction as a force; moments of forces. Equilibrium; work; energy; power. Conservation of energy and momentum. Uniform circular motion. Rotational kinematics; simple harmonic motion.

2242 Physics II (Aviation) **5 Clock Hours — 3 Credit Hours**
Structure of matter; density; pressure; buoyancy; streamlining; temperature scales; expansion; molecular energy; airfoils; specific heat; change of state; heat of combustion; energy conversion; heat engines; ideal gases; laws of thermodynamics; properties of waves; doppler effect; electromagnetic waves.

2243 Physics III (Aviation) **5 Clock Hours — 3 Credit Hours**
Electrical nature of matter; electric force; the electric field. Capacitance and dielectrics; electric units. Charges in motion. Electric energy and power. D.C. electric circuits. Magnetic force; the magnetic field; electro-magnetism. Induction, principles of generators and motors and fundamentals of A.C. electricity.

2244 Physics (Health related) **5 Clock Hours — 3 Credit Hours**
Pressure and medical procedures involving pressure, forces and the addition of vectors, properties of waves. Frequency, wavelength, amplitude, types of waves, reflection, refraction. Diffraction, interference, resonance, nature of electro-magnetic, radiation. Sources and detectors of infra-red, visible, ultraviolet, x-ray and gamma radiation. Control and uses of radiation. Optical instruments. Emission and absorption. Spectroscopy. X-ray diffraction. Ionizing radiation. Laser radiation. Medical aspects of ionizing radiation.

2261 Printing Science I (Chemistry) **5 Clock Hours — 3 Credit Hours**
Concepts of chemistry related to production procedures, converting raw materials to finished product in the graphic communication field.

2262 Printing Science II (Physics) **5 Clock Hours — 3 Credit Hours**
Fundamental principles of mechanics, heat, color and electricity with special applications to the field of graphic communications.

2271 Physics I **5 Clock Hours — 3 Credit Hours**
Measurement techniques; functions and scaling; kinematics; velocity vectors; motion near the earth; laws of force and motion; work; energy; power; impulse; momentum; machines; conservation of energy and momentum; collisions. Co-requisite: 1191.

2272 Physics II **5 Clock Hours — 3 Credit Hours**
Translational equilibrium; center of gravity; moments of forces; force analysis of structures; beams; trusses; booms; shear; elasticity; friction as a force; uniform circular motion; rotational kinematics; simple harmonic motion; rigid body kinematics; energy types; energy conversion. Pre-requisite: 1191 & 2271.

2273 Physics III **5 Clock Hours — 3 Credit Hours**
Structure of Matter; density; pressure; temperature scales; expansion; molecular energy; specific heat; change of state; heat of combusion; energy conversion; heat engines; ideal gases; laws of thermodynamics. Properties of waves; wave equations; energy and waves; resonance; electro magnetic waves; properties of electro magnetic waves; spectroscopy, fundamentals of optics. Pre-requisite: 2272 & 1192.

2274 Physics IV **5 Clock Hours — 3 Credit Hours**
Electric nature of matter; electric force; electric field; charge separation; motion of charges in vacuum; the electron; electron mechanics; control of energy and power in electric circuits; electric energy conversion; magnetic force; electro magnetism; induction; A.C. circuits; resonant circuits; communication systems. Pre-requisite: 2273.

2277 Chemistry I **5 Clock Hours — 3 Credit Hours**
Emphasis on the basic concepts of chemistry to lead to an understanding of the quantitative and qualitative aspects of chemical reactions.

2278 Chemistry II **5 Clock Hours — 3 Credit Hours**
A study of carbon chemistry as related to the physical and chemical properties of the common polymers of the plastics industry.

2302 Plastic Technology **5 Clock Hours — 3 Credit Hours**
An introductory course to acquaint the student with plastics as a class of materials. Terminology, history, definitions, classes, properties, and application of materials. Class visits to industrial firms — supplemented by experts from industry. Comparative study of plastics as an engineering material — figure needs, areas of specialization, etc.

2303 Plastic Processes I **10 Clock Hours — 4 Credit Hours**
Designed to cover the areas of castings, compression and transfer, extrusion, and injection molding. Includes loading devices, core removal fixtures, cooling forms, process flow, press capabilities, etc. — all aspects necessary in application of these areas.

2304 Plastic Processes II **10 Clock Hours — 4 Credit Hours**
Reinforced and specialized plastic applications. Includes foam molding, filament winding, coatings, fiberglass lay-up, preform molding; introduces resins and ancilla materials, preimpregnation, heat treatment, catylysts, fillers, and core materials.

2305 Plastic Processes III **10 Clock Hours — 4 Credit Hours**
Thermoforming, blow molding, laminates, and foams. Instruction to cover materials, machines, procedures — to provide the student with all of the necessary shop knowledge of the procedures.

2306 Product Design **7 Clock Hours — 3 Credit Hours**
A course designed to enable the student to involve himself with the total aspects of the plastics industry. Case studies of actual parts; which carry through from initial function concept, through part design, costs process planning, tooling, production and quality assurance.

2307 Mold and Tool Design **5 Clock Hours — 3 Credit Hours**
Design of molds and tools for plastics processing. Emphasis on part design, mold design, also design of production aids such as tools, jigs and fixtures, for after-finishing and quality control of molded and fabricated plastics products.

2311 Quality Control **5 Clock Hours — 3 Credit Hours**
Principles of industrial practices of quality control applied to the manufacturing process. Practical applications of probability and statistics to industrial quality control systems in production, including plastics. Sampling techniques, chart control, effects, of accelerated aging, heat and cold, and cost consideration in quality planning.

2501 Automotive Technology I **15 Clock Hours — 8 Credit Hours**
Principles of the internal combustion engine. Repair and rebuilding modern automotive engines, including valves, rings, bearings, cooling and lubrication systems. Emphasis on the proper use of hand tools and special equipment.

2502 Automotive Technology II **15 Clock Hours — 8 Credit Hours**
Principles of carburetion: cleaning, rebuilding and adjusting representative types of carburetors and other fuel components. Fundamentals of auto electrics; construction, operation and repair of the electrical system, including batteries, ignition, starting, generating and accessory circuits.

2503 Automotive Technology III **10 Clock Hours — 4 Credit Hours**
Fundamentals and reapir of the automobile chassis; includes suspension, braking system, steering and ventilation systems. Emphasis on the use of special equipment used to measure, repair and adjust these units.

2504 Automotive Technology IV **10 Clock Hours — 4 Credit Hours**
A study of the design, construction, operation and servicing of automotive drive line components. These components include clutches, transmissions, rear axles and differentials.

2505 Automotive Technology V **10 Clock Hours — 4 Credit Hours**
Automotive service and trouble-shooting. Procedures and techniques for diagnosing and repairing electrical, engine and carburetion problems. The latest types of automotive testing equipment are studied together with standard repair procedures as practiced in the modern automotive shop. Work will be performed on live equipment.

2506 Machine and Hand Tool Lab I **5 Clock Hours — 3 Credit Hours**
Principles and processes which underlie the use of hand tools, cutting tools, portable equipment and accessories, measuring devices and gauges. Emphasis placed on developing sound trade judgment, safe work habits, and correct work procedures.

2508 Techniques Of Welding **5 Clock Hours — 2 Credit Hours**
Fundamental understanding and skill in the use of oxyacetylene, arc welding, and cutting equipment is developed. Such typical operations as butt, lap, and fillet welds and the making of a bead are performed.

2510 Automotive Management I **5 Clock Hours — 3 Credit Hours**
Organization, design, lay-out, administration and operation of an automobile dealership, trucking company or automotive leasing operation. Recruiting, hiring and retaining personnel.

2511 Automotive Management II **5 Clock Hours — 3 Credit Hours**
A continuation of Automotive Management I. Engineering traffic flow, building parts and accessory sales, customer relations, measuring local parts and accessory market. Service selling and automotive warranties.

2601 Welding Processes (Aviation) **10 Clock Hours — 4 Credit Hours**
To include soldering, brazing and arc-welding steel. Fabrication of tubular structures, soldering of stainless steel, welding stainless steel and aluminums, magnesium and titanium. Inspect and check welds.

2602 Machine And Hand Tools **5 Clock Hours — 3 Credit Hours**
Identify and select aircraft hardware and materials. Fabricate and install rigid and flexible fluid lines and fittings.

2603 Basic Aerodynamics & FAA Regulations
3 Clock Hours — 1 Credit Hour
Lift, thrust and drag. Stability of aircraft. Effects of balance. Write descriptions of aircraft condition and work performed. Complete required maintenance forms, records and inspection reports. Select and use FAA and manufacturer's aircraft maintenance specifications, data sheets, manuals, and publications, and related Federal Aviation Regulations. Exercise technician privileges within the limitations prescribed by FAR 65.

2604 Airframe Structures **10 Clock Hours — 5 Credit Hours**
Identifying of wood defects, inspect wood structures, service and repair wood structures, fabric and fiberglass covering materials. Trim, lettering and touch-up paint; cleaning and corrosion controls, inspect and identify defects.

2605 Materials And Processes **5 Clock Hours — 2 Credit Hours**
Identify and select aircraft hardware and materials. Perform precision measurements. Perform penetrant, chemical etching, and magnetic particle inspections. Identify and select appropriate nondestructive testing methods. Perform basic heat-treating processes. Inspect and check welds.

2606 Airframe Hydraulic And Pneumatic Systems
5 Clock Hours — 2 Credit Hours
Repair hydraulic and pneumatic power system components. Inspect, check, service, trouble-shoot and repair hydraulic and pneumatic power systems.

2607 Airframe Systems, Hydraulics And Pneumatic Landing Gears
12 Clock Hours — 5 Credit Hours
Inspect, check, service and repair landing gear. Retraction systems, shock-struts, brakes, wheels, tires and steering systems. Inspect, check and service of warning systems and antiskid electrical brakes. Controls, landing gear position indicating and warning systems.

2608 Airframe Structures, Sheet Metal **10 Clock Hours — 4 Credit Hours**
Install special rivets and fasteners. Inspect bonded structures. Inspect and repair plastics, honeycomb and laminated structures. Inspect and repair sheet metal structures. Hand form, layout, bends sheet metal and install conventional rivets. Flush riveting. N.A.G.A. riveting, high-shear rivets, cherry lock rivets.

2609 Aircraft Fuels And Fuel Systems **5 Clock Hours — 2 Credit Hours**
Inspect, check and repair pressure fueling, transfer, defueling, and fuel dump systems. Repair of fuel systems components. Inspect, check, service, trouble-shoot, and repair aircraft fuel systems. Inspect, check, service, trouble-shoot, and repair powerplant fuel systems.

2610 Aircraft Electrical Systems **10 Clock Hours — 4 Credit Hours**
Repair aircraft electrical system components. Install, check and service airframe electrical wiring, controls, switches, indicators, and protective

devices. Inspect, check, trouble-shoot, service, and repair alternating current and direct current electrical systems. Service compound and shunt generators, alternators, starters, and starter-generators. Check and adjust generating output regulation. Repair and/or replace fuses, circuit-breakers, switches, high and low tension wiring, terminals and terminal blocks, magnetic switches and transformers.

2611 Aircraft Instrument, Communication And Navigation, And Utility Systems **10 Clock Hours — 4 Credit Hours**

Installation, marking, swinging of instruments. Testing of pitot and static air systems and filter systems. Install and check pressure, vacuum, mechancial instruments. Inspect, check, and service auto-pilot, approach control and communication and navigation systems. Inspect and repair antenna and electronic equipment. Inspect, check and service speed and take-off warning system electrical brake controls, anti-skid system and carbon monoxide detection system. Inspect, check and service ice and rain control system. Inspect, check, trouble-shoot, service and repair landing gear position and warning system and aircraft fire detection and extinguishing systems.

2612 Airframe Assembly & Rigging **15 Clock Hours — 7 Credit Hours**

Rig fixed-wing aircraft. Rig rotary-wing aircraft. Assemble, balance and rig aircraft and control surface. Using inspection forms, perform a 100 hour inspection. Perform check of aircraft pertaining to specifications and A.D. note compliance. Make repairs and adjustments found to be necessary during inspection. Check and perform weight and balance of aircraft.

2613 Powerplant Theory, Reciprocating **10 Clock Hours — 5 Credit Hours**

Introduction to the design, manufacture, overhaul and repair of piston and engines and their installation. Overhaul of an opposed engine. Inspect and repair a 14-cylinder or larger radial piston engine.

2614 Powerplant Lubrication **5 Clock Hours — 3 Credit Hours**

Identify and select proper lubricants. Repair powerplants lubrication systems. Inspect, check, service, trouble-shoot and repair powerplants lubrication systems.

2615 Powerplant Ignition Systems **10 Clock Hours — 4 Credit Hours**

Overhaul magneto and ignition harness. Repair engine ignition system components. Inspect, check, service, trouble-shoot and repair powerplant ignition systems.

2616 Flightline Maintenance **10 Clock Hours — 4 Credit Hours**

Identify and select cleaning materials, perform cleaning and corrosion control, protect battery compartment. Move aircraft employing hand signals and tie down aircraft. Perform airframe and powerplant conformity and airworthiness inspection.

2617 Powerplant Systems and Components **25 Clock Hours — 12 Credit Hours**

Inspect, check and service water injection systems. Overhaul a carburetor. Repair fuel metering components. Inspect, check, service, trouble-shoot and repair reciprocating and turbine engine fuel metering systems. Inspect,

check, service, and repair heat exchangers, superchargers and air intake and induction manifolds. Repair engine cooling system components. Inspect, check, trouble-shoot, service and repair engine cooling system. Repair engine exhaust system components. Inspect, check, trouble-shoot, service and repair engine exhaust systems.

2618 Propellers **5 Clock Hours — 3 Credit Hours**
Inspect, check, service and repair propeller synchronizing and ice control systems. Identify and select propeller lubricants. Balance propellers. Repair propeller control system components. Inspect, check, service and repair fixed pitch, constant speed and feathering propellers and propeller governing systems. Install, trouble-shoot, and remove propellers.

2619 Powerplant Theory, Turbine **10 Clock Hours — 4 Credit Hours**
Introduction to the design, manufacture, overhaul and repair of turbine engines and their installation. Inspect, check, service, troubleshoot and repair turbine engine installation, fuel control and ignition systems.

2701 Medical Terminology **5 Clock Hours — 4 Credit Hours**
Prefixes, suffixes, word roots and their combining forms, building a basic medical vocabulary. Development of a vocabulary in medical specialties including dermatology, pathology, neurological and psychiatry. Development of a vocabulary in surgical specialties including urology, neurosurgical, etc.

2702 Transcription and Related Medical Terminology
14 Clock Hours — 4 Credit Hours
Correlated with medical terminology is the transcription from modern dictation machines, of histories and physicals, x-ray, pathology, operative and autopsy reports, and discharge summaries.

2703 Medical Assisting Procedures **10 Clock Hours — 4 Credit Hours**
Instruction, familiarization, demonstration and practice in practical procedures required of an assistant in various types of physician's offices and hospitals. Includes taking and recording of all vital signs (temperatures, pulse, blood-pressure, etc.). Assisting with different types of examinations and minor surgical and diagnostic procedures, injections, basic procedures of giving medication.

2704 Clinical Office Practice **10 Clock Hours — 3 Credit Hours**
Filing, typing and transcription, involving medical terminology, medical records, including patient records, insurance forms including government medical care programs, hospital forms including admission and discharge records.

2705 Clinical Experience I (Clinical Procedures)
15 Clock Hours — 6 Credit Hours
Practice in clinics and other health facilities where the students have direct contact with patients performing the following duties: taking vital signs, the methods for taking histories, preparing patients for physical examinations, practicing unconditional positive regard, using correct terminology and medical ethics. Calculation and administration of drugs, scrubbing, gowning, and gloving to assist doctors with sterile procedures, catheterizing, using sterile equipment and sterile techniques. Includes emergency procedures.

2706 Clinical Experience II (Med. Office Procedures)
15 Clock Hours — 4 Credit Hours
Practice in physician offices or other health care centers handling appointments, insurance forms, patient records, filing, handling correspondence, greeting patients, arranging for laboratory and x-ray procedures and other office duties.

2707 Clinical Experience III (Clinical or office option)
15 Clock Hours — 4 Credit Hours
The student has an opportunity to select the area in which he is most interested. The activities are more extensive than those in 2705 or 2706.

2708 Medical Assisting Seminar **5 Clock Hours — 4 Credit Hours**
Discussion of current developments in the medical assisting and medical field in general, a brief review of various functions such as history and physical taking, and the development of a research paper in a related aspect.

2709 Pharmacology **5 Clock Hours — 3 Credit Hours**
Therapeutic uses, doses, and properties of drugs, toxic reactions and their prevention and treatment. Preparation and administration of drugs. The legal aspect of drug administration.

2710 Basic Laboratory Techniques I (Lecture and Laboratory)
10 Clock Hours — 4 Credit Hours
Introduction to the clinical laboratory with emphasis on basic hematologic procedures, including red and white blood cell counts, hemoglobin, hematocrit, and sedimentation rate determination, discussion of blood cell morphology and the differential; routine urinalysis; collection and proper handling of specimens; procedures for ordering laboratory tests.

2711 Basic Laboratory Techniques II (Lecture and Laboratory)
10 Clock Hours — 4 Credit Hours
Advanced hematology including reticulocyte and platelet counts plus coagulation procedures such as the Lee White, prothrombin time, etc. Advanced urinalysis including PSP, diagnex blue, porphyrins, Bence Jones Protein, etc.

Practice in selected advanced hematology and urinalysis procedures to illustrate fundamental principles.

2712 Basic Laboratory Techniques III (Lecture and Laboratory)
7 Clock Hours — 3 Credit Hours
A study of blood banking procedures and theory including the inheritance of blood group determinants and donor procedures.

Performance of routine typing, crossmatching, antibody screening and cell panels.

2713 Basic Laboratory Techniques IV **10 Clock Hours — 4 Credit Hours**
Study of diagnostic microbiology with stress on the proper preparation and use of media, aerobic and anaerobic culturing techniques and preparation and staining of slides. Discussion of serological procedures. Includes parasitology and mycology.

Performance of selected microbiological and serological procedures to illustrate fundamental principles.

2714 Medical Laboratory Seminar **10 Clock Hours — 4 Credit Hours**
Discussion of current developments in the medical laboratory, brief review of the various departments of the clinical laboratory and assignment of a research paper on a laboratory related development in medicine.

2720 Survey of Medical Professions **5 Clock Hours — 4 Credit Hours**
Introduction to background of medical profession and personal attributes required of all medical personnel. Includes history of medicine, medical ethics, medical jurisprudence, familiarization with hospital departmental structure and administration, various health agencies and related medical professions and organizations.

2721 Emergency Procedures **5 Clock Hours — 1 Credit Hour**
Students will develop skill in diagnosis and all emergency treatment procedures with his scope. Skills will also be developed in the use of and care for all equipment required to accomplish emergency care.

2722 Pathology I **5 Clock Hours — 3 Credit Hours**
Study of diseases and their background in general, including various basic physiologic body types and their susceptibility to disease. Study of diseases resulting from physical trauma (injuries, burns, etc.), metabolic diseases, heredofamilial diseases, infectious diseases.

2723 Pathology II **5 Clock Hours — 3 Credit Hours**
Study of diseases of the various body systems individually, their cause, effect and treatment. Review of basic cell structure and its role in combatting disease. Diseases affecting various age groups, including pediatrics and geriatrics.

2724 Immunology (Lecture and Laboratory)
3 Clock Hours — 2 Credit Hours
Fundamental concepts in immunology, discussion of serology and immunohematology, discussion of infectious disease and their prevention and detection. Performance of blood typing, slide agglutination tests and individual immunizing procedures.

2725 Microbiology (Lecture and Laboratory)
5 Clock Hours — 3 Credit Hours
Fundamental microbiology and parasitology, the role of micro-organisms in disease and their control. Preparation and use of media, preparation, staining and examination of slides, culturing techniques, preparations for parasitology. Includes sterilization and aseptic technique.

2740 Introduction to Medicine and Surgery
10 Clock Hours — 4 Credit Hours
Instruction in all aspects of operating room function including sterile technique, surgical instrumentation, individual staff responsibilities, and care of the patient in surgery. Introduction to basic pathophysiology and correlation with basic sciences. Includes use of simulated operating room environment and gross anatomy.

2741 Medical And Surgical Clinical Application I
8 Clock Hours — 3 Credit Hours
Patient/disease interaction. Instruction in professional approach including performance of history taking, physical examination, preliminary evaluation, and data collection. Problem definition. Basic procedures of assisting in the operating room including general surgery.

2742 Medical and Surgical Clinical Application II
10 Clock Hours — 4 Credit Hours
General patient management including pre- and post-operative complications. Emphasizes the natural history of disease and brief summary of therapeutic intervention and physical diagnosis.

2743 Medical/Surgical Seminar **10 Clock Hours — 4 Credit Hours**
Exploration of controversial areas of medicine and surgery using literature, research, and student participation in discussion and debate. Designed to develop and maintain a flexible attitude and approach to medicine and the health care field.

2790 Medical Records Science I **7 Clock Hours — 4 Credit Hours**
The History of Medical Records; organization and functions of a medical records department; the function of a medical records technican; the contents, uses and filing of medical records.

Admitting procedures and discharge procedures including preparation of admission forms, index cards, correlation with previous records, quantitative analysis, filing procedures practice in correspondence, receptionist and telephone functions, insurance reports and abstracts.

2791 Medical Record Science II **5 Clock Hours — 3 Credit Hours**
Coding and indexing including SNDO, ICDA-8 and H-ICDA coding, and maintenance of patient, disease, operation and physician indexes.

Practice with coding and indexing procedures, and completion of PAS abstracts.

2792 Medical Record Science III **5 Clock Hours — 3 Credit Hours**
Statistical procedures including calculations of daily census, monthly census and percentages. Analysis of PAS and other computer reports.

Practice in preparing daily and monthly statistical reports, birth and death certificates.

2793 Medical Records Science IV **5 Clock Hours — 3 Credit Hours**
Legal aspects of medical records including preparation of records for court and release of information.

2795 Medical Record Seminar **5 Clock Hours — 3 Credit Hours**
Discussion of current developments in the medical field, brief review of the various aspects of medical records, discussion of directed practice in hospitals and assignment of analysis with visual layout and critique of directed practice experience.

2796 Directed Practice I **16 Clock Hours — 4 Credit Hours**
Practice in the hospital medical records department performing the following: Admission procedures, preparation of index cards, charts, maintenance of patient index, correlation of records, machine transcription, coding and index by SNOD and ICDA.

2797 Directed Practice II **16 Clock Hours — 4 Credit Hours**
Practice in the hospital medical records department performing the following: Statistical procedures, daily analysis and record completion procedures, preparing records for court, preparing medical abstracts, insurance reports, and answering other medical correspondence.

2798 Directed Practice III **16 Clock Hours — 4 Credit Hours**
Practice in nursing homes, clinics, other health care areas in medical records departments performing the following: Statistical procedures, daily analysis, completion of Medicare forms, reports.

2801 Introduction To Restaurant Management
10 Clock Hours — 3 Credit Hours
History, objectives, economics, scope and social importance of the industry with occupational laboratory and shop training.

2802 Restaurant Management II **10 Clock Hours — 3 Credit Hours**
Factors determining food choices, food nutrition needed in each stage of life. Nutritive value of food selection to meet economics, nutritive and social needs. In addition, occupational laboratory and shop training.

2803 Restaurant Management III **10 Clock Hours — 3 Credit Hours**
Emphasis on operation, of occupational laboratory and shop training. Also, design, purchasing, cost systems, and personnel.

2804 Restaurant Management IV **10 Clock Hours — 3 Credit Hours**
Food preparation and quantity cookery, menu planning, implementation and operation, aesthetic and social aspects of planning, preparing and serving food in the occupational laboratory.

2805 Restaurant Management V **10 Clock Hours — 3 Credit Hours**
Food preparation and quantity cookery by departments or stations. Studies in raw materials, standard recipes, menu planning, and use of the equipment in the occupational laboratory.

2811 Introduction To Hotel-Motel Management
5 Clock Hours — 3 Credit Hours
Evolution of hotel-motel industry with emphasis on the last ten years. Explanation of the complex interrelationships involved in this industry, an insight into the variety of available vocational opportunities, and a look into the future.

2812 Hotel-Motel Management II **5 Clock Hours — 3 Credit Hours**
Study of front office management and operation with emphasis on the use of various front office equipment, supplies, and procedures.

2813 Hotel-Motel Management III **5 Clock Hours — 3 Credit Hours**
Studies in housekeeping and its administraion, control of supplies sanitation, cleaning techniques, decoration, equipment and related subjects.

2814 Hotel-Motel Management IV **5 Clock Hours — 3 Credit Hours**
Maintenance and proper care of hotel-motel facilities and equipment.

2815 Hotel-Motel Management V **5 Clock Hours — 3 Credit Hours**
Special problems in management of hotels, motels, restaurants and institutions. Planning, coordinating, and controlling of factors and personnel. Emphasis on operations, design, purchasing, costs systems and budgeting.

2820 Purchasing **5 Clock Hours — 2 Credit Hours**
Method and information on present sources of supply, including edibles, semi-durable and durable goods from foods to furniture to heating or air conditioning equipment, with emphasis on quantity, quality and price.

2821 Sales Techniques **5 Clock Hours — 2 Credit Hours**
Establishing a sales department and sales personnel for the hotel-motel-restaurant industry, their purposes and goals. An anaylsis of your prospects, competition, your company or organization and yourself.

2830 Decorating & Design **5 Clock Hours — 2 Credit Hours**
Learning appreciation of "period" and functional furniture with a practical study of the usage of such furniture. A study and evaluation of fabrics, including upholstering materials, drapes, linen, carpeting — their construction, types of material, durability, color, availability and price.

2901 Principles Of Marketing I **5 Clock Hours — 2 Credit Hours**
Details the principles and functions of marketing. The essential concepts of competition, demand, and the structure of distribution. The roles of marketing management and the marketing executive are emphasized.

2902 Principles Of Marketing II **5 Clock Hours — 2 Credit Hours**
The analysis, interpretation, application, and forecasting of research findings in marketing management. The case study method is used in relating these techniques to acutal marketing problems.

2904 Office Managment **5 Clock Hours — 3 Credit Hours**
Administrative management and organization of office departments; methods used in selection and training of office personnel, office planning and layout, cost controls, types and uses of office appliances, office forms, and an analysis of office procedures.

2905 Money And Banking **5 Clock Hours — 3 Credit Hours**
The processes of modern banking, including capital, deposits, loans, investments, and reserves. Credit expansion and contraction. The operation of the Federal Reserve System.

2911 Principles of Accounting I **5 Clock Hours — 3 Credit Hours**
Principles and practices of basic accounting, including journalizing, posting, adjusting accounts, preparing financial statements, cash and banking procedures, and a study of the uses of special journals with practical applications as they relate to each program.

2912 Principles of Accounting II **5 Clock Hours — 3 Credit Hours**
A continuation of Principles of Accounting I. The uses of subsidiary ledgers, classified financial statements, and payroll accounting and associated

payroll tax returns are studied. Practical accounting problems as they relate to everyday business are discussed as part of daily class routines.

2913 Principles of Accounting III **5 Clock Hours — 3 Credit Hours**
The more advanced aspects of accounting principles are reviewed. Valuation of assets, methods of depreciation, depletion and amortization associated with fixed assets, the effects of prepayments and deferrals of income and costs on a company's financial operations are some of the aspects studied.

2914 Cost Accounting I **5 Clock Hours — 3 Credit Hours**
Nature and purpose of cost accounting. Accounting and control procedures for materials, labor and manufacturing overhead. Cost effects of fixed and variable costs. Predetermining departmental overhead rates.

2915 Cost Accounting II **5 Clock Hours — 3 Credit Hours**
Job order cost system and process cost system, standard cost accounting. setting cost standards, variance analysis. Direct costing, accounting for scrap and spoilage. Managerial use of cost data.

2916 Cost Accounting For The Printing Industry
5 Clock Hours — 3 Credit Hours
Introduction to cost accounting principles as they apply to the printing and graphic arts industry. Accounting for materials, Labor, factory burden, job cost accounting, process cost principles and procedures, estimated costs, standard costs principles and procedures.

2917 Tax Accounting **5 Clock Hours — 3 Credit Hours**
Nature of income taxes and their relationship to accounting. Income Tax withholding, FICA tax, requirements for filing income tax return, study of the individual tax return, adjustments to income, itemized deductions, exemptions, and supporting tax schedules and forms.

2920 Business Principles **5 Clock Hours — 4 Credit Hours**
A study of the nature of business, forms of business ownership, production problems and financing, forecasting, budgeting, governmental regulation of business, business personnel practices, the security markets and financial news.

2921 Introduction To Business I **5 Clock Hours — 2 Credit Hours**
A broad concept of business and the development of an awareness of the economic framework which constitutes our captialistic system.

2922 Introduction To Business II **5 Clock Hours — 2 Credit Hours**
Personnel functions, methods of finance, controls for decision making, and the legal and regulatory environment of business.

2924 Principles Of Management I **5 Clock Hours — 2 Credit Hours**
Formal and informal organizational structures including line and staff relationships indicating authority and responsibility.

2925 Principles Of Management II **5 Clock Hours — 2 Credit Hours**
The psychological areas of management with a study of procuring, processing, appraising and compensating executives.

2926 Principles of Management **5 Clock Hours — 3 Credit Hours**
Meaning, scope, and place of management functions; study of formal and informal organizational structures including line and staff relationships indicating authority and responsibility. Introduction to organization for management in government, business, institutions.

2927 Principles of Management II **5 Clock Hours — 3 Credit Hours**
Staffing, the psychological areas of management with a study of procuring, processing, appraising, and compensating executives. Direction: a study of leadership motivation. Control: Budgeting, auditing, evaluation, reporting, securing adequate return on invested captial. Insurance coverage, losses.

2928 Hotel-Motel Accounting **5 Clock Hours — 3 Credit Hours**
Capital expenditures for fixed assets of a hotel or motel and associated methods of depreciation and amortization, prepayments and deferrals of income and expense, break-even analysis as related to room occupancy, purpose of the night audit, and the uniform account classification prevailing in the hotel-motel industry.

2929 Audit Procedures And Operation **5 Clock Hours — 3 Credit Hours**
Practical operating procedures of the NCR 4200 in performing the night audit. Operation of posting machines and peripheral office equipment.

2931 Principles Of Property Management I
5 Clock Hours — 3 Credit Hours
Introduction to the field of property management. Types of properties requiring such management. Organization and functions of the management team.

2932 Principles Of Property Management II
5 Clock Hours — 3 Credit Hours
Management of large residential properties: high rise buildings; apartment complexes; condominiums; government subsidized projects. Techniques of attracting tenants. Services provided tenants. Supervision of staff. Legal rights and responsibilities of tenants and property owners. Budgeting. Selecting sites and developing plans for new residential properties.

2933 Principles Of Property Management III
5 Clock Hours — 3 Credit Hours
Management of large commerical properties. Techniques of attracting leasees. Services provided tenants. Legal rights and responsibilities of tenants and owner. Supervision of staff. Budgeting. Selecting sites and developing plans for new commercial properties.

2934 Principles Of Property Management IV
5 Clock Hours — 3 Credit Hours
Management of maintenance staffs of industrial plants, or large public buildings (educational, governmental, etc.). Staff organization, deployment and supervision. Personnel relations. Budgeting. Functions of the supervisor of buildings and grounds employed in industrial plants or large public buildings (educational, governmental, etc.). Organization, deployment and supervision of the building and grounds staff. Personnel relations. Planning. Budgeting.

2951 Real Estate Principles And Practices I
5 Clock Hours — 3 Credit Hours
An introduction to real estate economics and administration. Physical, legal, locational, and economic characteristics of real estate. Real estate markets and credit. The concept of value in property investment. Analysis of national, regional, and local economic influences on real estate values.

2952 Real Estate Principles And Practices II
5 Clock Hours — 3 Credit Hours
Real estate economics, brokerage, and administration. Property ownership and rights. Real estate brokerage and construction, marketing, and production. Land development and construction of buildings. Effects of marketing and production systems in our economy.

2953 Real Estate Law **5 Clock Hours — 3 Credit Hours**
Law of agency as applied to real estate, law of fixtures, estates incuding leases. Conveyancing of real estate, the sales contract, the mortgage, deeds and recording. Real Estate brokers and managers, license laws of Ohio. Zoning, cooperatives, and condominiums.

2954 Real Estate Finance **5 Clock Hours — 3 Credit Hours**
Institutions, methods, instruments, and procedures involved in the financing of real estate. Nature and characteristics of mortgage loans, government influence on real estate finance, and the nature of the mortgage market. Effects of monetary and fiscal policies on real estate financing.

2955 Real Estate Appraisal I **3 Clock Hours — 3 Credit Hours**
Methodology of appraising: residential property. Theory of appraisal techniques. The three basic approaches of appraising: market comparison, cost of replacement, and income capitalization.

2956 Real Estate Appraisal II **3 Clock Hours — 3 Credit Hours**
Comprehensive analysis of theory and practical application of preparing an appraisal on investment property. Appraisal techniques unique in the area of income-producing properties. A term case-study project is assigned providing practical experience in utilizing the income approach.

2957 Real Estate Development And Investment Case Study
5 Clock Hours — 3 Credit Hours
Areas requiring specialized knowledge, taxation, investment analysis, industrial real estate, commercial real estate, investment trusts, syndicates, land contracts, sale-leaseback, equity participation, specialized financing arrangements. Issues and problems facing the real state industry. Ethics and professionalism. Legislative activities. Long range planning.

3001 Typewriting I **5 Clock Hours — 2 Credit Hours**
A beginning course in typewriting including keyboard mastery, machine parts, introduction to the business letter, and simple tabulation exercises.

3002 Typewriting II **5 Clock Hours — 2 Credit Hours**
Brief review of keyboard and techniques; intensified drills on improvement of speed and accuracy; progress through business letters, forms, and tabulation. Prerequisite: Typing I or permission from coordinator.

3003 Typewriting III **5 Clock Hours — 2 Credit Hours**
The devlopment of skills, knowledges, and techniques applicalbe to typewriting. Opportunity is provided for the student to experience situations in which problem solving is necessary, advanced typing problems and techniques, knowledge and skills involved in production typewriting. Prerequisite: Typewriting II or permission from coordinator.

3004 Typewriting IV **5 Clock Hours — 2 Credit Hours**
Application of the basic processes to problems of typewriting. The adaptation of job-analysis data to letter writing, manuscripts, forms, duplication, statistical tabulation, reports, legal documents, and rough draft material. Prerequisite: Typewriting III or permission of coordinator.

3005 Administrative Typewriting **5 Clock Hours — 2 Credit Hours**
An introduction to touch typewriting with problem-solving emphasis on business correspondence, tabulation, telegrams, duplicating masters, and the special typing assignments encountered in administrative positions.

3011 Shorthand I **5 Clock Hours — 4 Credit Hours**
Designed for those students who have no previous shorthand training. Gregg Diamond Jubilee Shorthand, with emphasis on rapid reading of plate material and mastery of principles of theory including brief forms. An introduction to writing shorthand and transcribing on the typewriter from shorthand notes.

3012 Shorthand II **5 Clock Hours — 4 Credit Hours**
Designed for those students who have had previous shorthand training. A continuation of the theoretical principles from 3011, and an introduction to dictation from unfamiliar material. Emphasis is on speed development. Prerequisite: Minimum grade of "C" in 3011 or permission of the coordinator.

3013 Shorthand III **5 Clock Hours — 4 Credit Hours**
An advanced course designed for those students who have had previous shorthand training. Emphasis is on speed development from both familiar and unfamiliar material. Prerequisite: Minimum grade of "C" in 3012 or permission of the coordinator.

3014 Transcription I **10 Clock Hours — 4 Credit Hours**
A continuation of the study of shorthand fundamentals and a development of transcription skill. Emphasis is on the development of mailable transcription, with a review of punctuation and spelling. Prerequisite: Minimum grade "C" in Shorthand 3013 or permission of the coordinator.

3014A Transcription IA **10 Clock Hours — 4 Credit Hours**
Designed for those students who have elected to transfer to Option II, Secretarial/Machine Transcription. Emphasis is on the development of mailable transcription from a transcribing machine, vocabulary building, and a review of punctuation and spelling. Prerequisite: Permission of the coordinator.

3015 Transcription II **10 Clock Hours — 4 Credit Hours**
Continuation of 3014. Emphasis is on mailable transcription. Integration of office-style dictation and the mailable letter to meet office standards. Prerequisite: Completion of Transcription I or permission of coordinator.

3015A Transcription IIA **10 Clock Hours — 4 Credit Hours**
Continuation of 3014A. Emphasis is on mailable transcription to meet office standards. Prerequisite: Completion of Transcription IA with minimum grade of "C" or permission of coordinator.

3021 Office Procedures **5 Clock Hours — 3 Credit Hours**
An introduction to the training and development of personality qualities essential to the professional secretary, and the development of principles and procedures fundamental to basic secretarial duties and office activities.

3022 Office Machines **5 Clock Hours — 2 Credit Hours**
A general survey of the techniques, processes, operations, and applications of business and office machines. Machines included are: keydriven, rotary, printing, electronic, and ten-key calculators; mimeograph; spirit duplication; photocopy.

3023 Machine Transcription **5 Clock Hours — 2 Credit Hours**
A survey course to introduce the student to transcribing machines and to the techniques of machine transcription.

3024 Secretarial Procedures **5 Clock Hours — 3 Credit Hours**
Business information applicable to the secretarial profession. Emphasis on important responsibilities of the secretary pertaining to business communications, travel, meetings, references, and preparation of reports.

3025 Legal Secretarial Procedures (elective)
5 Clock Hours — 3 Credit Hours
A practicum containing the general responsibilities required by a legal secretary, including the preparation of legal documents, encompassing general, corporate, real estate laws; wills; and deeds. Development of a competent legal vocabulary.

3026 Medical Secretarial Procedures (elective)
5 Clock Hours — 3 Credit Hours
A practicum containing the general responsibilities required by a medical secretary, including the preparation of medical documents, and development of a competent medical vocabulary.

3027 Office Practicum **5 Clock Hours — 3 Credit Hours**
Designed for the student who has elected to follow Option II or III. Each student's program is to be individually designed to further develop the necessary skills required to secure a position in his chosen field, including basic office routines, human relations, and individual responsibility.

3028 Secretarial Practicum **10 Clock Hours — 4 Credit Hours**
An intensive course in secretarial practicum emphasizing the area of business that is of particular interest to the student. Each student's program is to be individually designed to provide an opportunity to strengthen those areas where he may need additional training as well as to provide realistic practice in his chosen field, including decision-making responsibility, creative work, and human relations.

3032 Records Management **5 Clock Hours — 2 Credit Hours**
A foundation in the methods and systems of storing and retrieving infor-

mation. The course includes the principles governing what records to keep, how to store them, and how to apply the criteria for determining the disposition and retention of records.

3101 Surveying I **7 Clock Hours — 4 Credit Hours**
Theory and practice of plane surveying, including taping, differential and profile leveling, cross sections, earthwork computations, transit, stadia and trans-tape surveys.

3102 Surveying II **6 Clock Hours — 3 Credit Hours**
Triangulation of ordinary precision; use of plane table; calculation of areas of land; land surveying; topographic surveys and mapping. Prerequisites: 1192 & 3101.

3103 Route Surveying **6 Clock Hours — 3 Credit Hours**
Route surveys by ground and aerial methods; simple, compound, reverse, parabolic and spiral curves; geometric design of highways; highway surveys and plans, including mass diagrams. Railroads. Pre-requisite: 3102.

3104 Surveying Calculations **5 Clock Hours — 3 Credit Hours**
An introduction to the theory of probability, triangulation and astronomy, involved in highway construction. To include: horizontal and vertical curves, 1192 & 3101.

3105 Field Problems **7 Clock Hours — 3 Credit Hours**
Specialized problems utilizing fundamental theories and standard practices involved in highway construction. To include: horizontal and vertical curves, grades, drainage systems, traffic designs, intersections, etc. Prerequisite: 3103 & 3104.

3108 Materials of Construction **3 Clock Hours — 2 Credit Hours**
A study of the use and basic properties of construction materials, including concrete, bituminous materials, steel, wood, non-ferrous metals, and plastics. The student is introduced to basic laboratory procedures in materials testing.

3109 Construction Methods **5 Clock Hours — 3 Credit Hours**
Introduces the student to basic concepts of methods of construction. To include excavation and equipment, foundation systems and forming, floor-wall-roof framing systems. To also include the principles of reinforced concrete and methods of structural steel design.

3112 Properties of Soils **5 Clock Hours — 2 Credit Hours**
Soil types and the physical properties; tests and mechanical analysis; techniques of subsurface investigation; earth pressure theories; bearing capacity; stability of slopes; hydrostatics of ground water; methods of compaction and consolidation.

3113 Light Construction Design **6 Clock Hours — 3 Credit Hours**
Forest products and their characteristics, carpentry, roofing, etc., are discussed in lectures. Complete working drawings of a wood frame residence are made in the design sessions.

3114 Municipal Engineering **3 Clock Hours — 2 Credit Hours**
City and subdivision planning, real estate appraising, property condemnation, drainage control, sewage disposal, pollution of air and water; development of population chart.

3115 Structural Design I **? Clock Hours — ? Credit Hours**
Design and selection of steel beams, girders, joists, columns, etc. Steel truss design, basic concrete design is also stressed.

3116 Heavy Construction **5 Clock Hours — 3 Credit Hours**
Extension of 3113 with emphasis on commercial and industrial installations. To include multilevel structural installations; piles, cassions, retaining wall, etc.

3117 Hydrology And Sanitation **5 Clock Hours — 3 Credit Hours**
A study of characteristics of fluid statics, pipe flow, open channel flow, drainage, and run off as they involve water facilities for storage and purification and different treatment operations. Prerequisite: 1191.

3118 Construction Management & Operation
5 Clock Hours — 2 Credit Hours
An analysis of a contractor's operation from the initial purchase of land to the completion of a project. Contractor's relationship with the architect, engineers, client, etc., are also discussed along with coordination, progress charts and subcontracts.

3127 Estimation and Inspection **3 Clock Hours — 2 Credit Hours**
To develop skills in estimating the amount and cost of materials required and labor cost in various types of construction. Inspection will involve practices required in local, state, and federal construction codes.

3129 Contracts & Specifications **3 Clock Hours — 3 Credit Hours**
Common usage and practice in preparation of contracts and attendant specifications.

3199 Special Problems Seminar **2 to 4 Credit Hours**
Individual study and special projects pertaining to the particular technology that the student is enrolled in. Open to fourth and fifth term students, by special arrangement with the Coordinator and Department Chairman.

3201 Elements of Refrigeration and Heating
10 Clock Hours — 5 Credit Hours
Introduction to the field and terminology of Refrigeration and Heating. Topics to include the basic laws of refrigeration, heat and the methods of heat transfer, use and care of servicing tools, equipment, tubing, and fittings, compressors, refrigerants, temperature controls, special testing and service equipment. Laboratory sessions provide experience in basic service procedures: tube bending, flaring, swaging, soldering, and pipe fitting.

3202 Air Conditioing Principle I **7 Clock Hours — 3 Credit Hours**
Study of cooling towers, evaporative condensers, water treatment, air cooled condensers, refrigeration safety devices, crankcase heaters, water chillers, and pumps. Laboratory experience to emphasize equipment, maintenance and trouble-shooting procedures. Introductory sheetmetal layout and fabrication.

3203 Air Conditioning Principle II **10 Clock Hours — 5 Credit Hours**
Psychrometrics, heat transfer and fluid handling equipment. Fans and fan laws, centrifugal water pumps, sizing of piping and duct work, procedures for determining building heat losses, and methods of rating and selecting equipment as presented in manufacturer's catalogs. Laboratory sessions provide detailed investigations of the operating characteristics of the equipment discussed in the theory courses.

3204 Air Conditioning Principles III **5 Clock Hours — 3 Credit Hours**
An advanced study of refrigeration systems, especially of industrial equipment. Thermodynamic principles, cycle analysis, operational and construction features, and system applications are covered. Specific subjects include low temperature systems such as cascade and two-stage units, absorption systems, heat-pumps, centrifugal compressors and control systems. Procedures for sizing, selection and layout of refrigeration system components and piping.

3205 Air Conditioning Design I **7 Clock Hours — 3 Credit Hours**
The application of air conditioning principles to design. Emphasis on selection of equipment, consideration of applicable codes, and functional handling of air conditioning design problems. In the laboratory sessions the student designates heating and cooling systems. Incorporated are design calculations, equipment selection and system layout.

3206 Air Conditioning Design II **10 Clock Hours — 4 Credit Hours**
This subject involves the calculation of the conditioning load, system design and layout, equipment selection, and complete specifications for such applications as year-round comfort air conditioning systems, industrial processing plants, and special environment control units. Code limitations, control requirements, humidity control, solar load calculations human comfort and industrial conditioning problems are included.

3207 Air Conditioning Controls **5 Clock Hours — 3 Credit Hours**
The theory and methods of controlling conditioned air systems. Types, functions and applications of controls for heating, cooling, humidity, and ventilation requirements. Laboratory sessions allow the student to make connections of systems components and simulate operational characteristics of electric, pneumatic, and electronic control systems.

3208 Air Conditioning Applications **7 Clock Hours — 4 Credit Hours**
A survey of commerical and industrial applications of heating, refrigeration and air conditioing; ventilation; food preservation and storage; industrial processing; low temperature applications; comfort air conditioning applied to transportation vehicles, etc. The requirements, limitations and standards involved in the many applications are investigated.

3301 Principles of Maintenance I **5 Clock Hours — 3 Credit Hours**
Principles of operation and maintenance of electrical and heating systems, kitchen appliances, plumbing and sewage systems. Survey of maintenance functions employed in maintaining apartment and office structures including cleaning, painting, and the use of mechanical cleaning equipment.

3302 Principles Of Maintenance II **5 Clock Hours — 3 Credit Hours**
Principles of operation and maintenance of air-conditioning systems. Procedures of preparing job descriptions, hiring, and supervising a maintenance staff. Principles of purchasing and inventory control.

3303 Principles Of Maintenance III **5 Clock Hours — 3 Credit Hours**
Care of landscaped areas, maintenance of paved areas, swimming pools, recreation areas, tot-lots, and other property exteriors including: roofing, siding, gutters, flood-lighting systems,. Principles of making a physical inspection and utilization of information in preparing the operating budget.

3333 Special Problems Seminar **4 Credit Hours**
Individual study and special projects pertaining to the particular technology that the student is enrolled in. Open to fourth and fifth term students, by special arrangement with the Coordinator and Department Chairman.

3501 Horticulture Soils And Applications
10 Clock Hours — 6 Credit Hours
The study of soil texture, structure, organic matter, and plant nutrients as they are related to the use of lime, fertilizers, manures, peats, and soil conditioners to raise horticultural soils to high levels of production. An orientation course to provide field experience in the various phases of horticulture. Tools, materials, procedures, techniques, and standards of workmanship are described and demonstrated; then the students perform and practice.

3502 Horticulture Science I **5 Clock Hours — 3 Credit Hours**
To provide an elementary understanding of the fundamentals of plant anatomy, morophology, physiology, taxonomy, reproduction, genetics and pathology.

3503 Horticulture Science II **5 Clock Hours — 3 Credit Hours**
The fundamental laws of Chemistry, including atomic structure, chemical bonds, reactions, solutions, ionization, and pH as they apply to soils, fertilizers, herbicides and pesticides with emphasis given to ecological implications. Biochemical processes within living plants as they affect growth, health, commercial forms of reproduction and cultivation.

3504 Woody Plants I **5 Clock Hours — 3 Credit Hours**
An introductory study of woody plants grown in nurseries for landscape purposes and, secondarily, of those found in arboretums, woodlands, and fields within the state and adjacent states. Emphasis is on deciduous shrubs and small trees, their identification, culture, uses, flowers and fruits, and ecological relationships.

3505 Herbaceous Plants I **5 Clock Hours — 3 Credit Hours**
Classification, identification, and general cultural of perennials, bulbs, and roses commonly used in garden planting.

3506 Nursery Operation I **5 Clock Hours — 3 Credit Hours**
An introduction to techniques and practices used in the commercial production of herbaceous perennials, ground covers, deciduous shrubs and trees, conifers, and broadleaf evergreens. Greenhouse and nursery procedures and practices are emphasized.

3507 Arboriculture **5 Clock Hours — 3 Credit Hours**
A study of the commercial arboriculture business. The course includes: an analysis of factors essential to the operation of a successful tree-care business; study of organization, personnel management, business methods, ethics, promotional methods, cost estimating, and cost of operation, visits to local arborists' establishments; and meetings with successful arborists. The diagnosis and treatment of tree ills, study of the principles and techniques used to protect trees from disease and damage, common insects, diseases, and standard control practices.

3508 Turf Management I **5 Clock Hours — 3 Credit Hours**
A course utilizing and extending the elementary information and techniques learned in Turfgrass Culture. Laboratory sessions stress constructing and maintaining specialized turf areas.

3509 Landscape Gardening I **5 Clock Hours — ? Credit Hours**
A course in landscape development and appreciation. Elementary drawing and the principles of art for creative design are taught, applying in lettering, freehand, and perspective drawing. Field practice in garden improvement and operation is included. A study in the selection and use of construction materials for steps, walks, seats, walls, fences, and other landscape features.

3510 Horticultural and Turfgrass Equipment
5 Clock Hours — 4 Credit Hours
A study of the operation and maintenance of motive power used in various horticulture enterprises, especially small gasoline engines; tractors, sprayers, chain saws, and various other equipment is demonstrated with emphasis on safety and skill.

3511 Landscape Cost Finding And Construction
5 Clock Hours — 3 Credit Hours
A study of landscape, nursery, and turf cost finding, contract and specification structure, and methods of estimating landscape and construction costs. Calculating areas and volumes and estimating plant quantities for horticultural projects is emphasized.

3512 Nursery Operation II **5 Clock Hours — 3 Credit Hours**
A study of commercial stock production, emphasizing plant growth patterns and plant responses in relation to soils, water, fertility, planting techniques and spacing, top and root pruning.

3513 Horticulture Science III **5 Clock Hours — 2 Credit Hours**
A study of plant pests and diseases, methods of control, and chemicals and equipment used.

3514 Garden Store Operation **5 Clock Hours — 3 Credit Hours**
A study of the importance of garden store location and the management and operation of a shop. The art of making corsages, pieces for special occasions, and arranging flowers for the home, church, hotel and public buildings is studied and practiced. Ordering, caring for stock, emphasis on advising and guiding customer choice.

3515 Woody Plants II **5 Clock Hours — 3 Credit Hours**
A continuation of Woody Plants I, covering additional deciduous shrubs and trees. Emphasis is placed on broadleaved and narrow-leaved evergreens.

3516 Herbaceous Plants II **5 Clock Hours — 3 Credit Hours**
A continuation of Herbaceous Plants I, with emphasis on annual and biennial flowers, and fall flowering perennials. Landscape use of herbaceous plants is studied and design and growth of flower borders is practiced.

3517 Turfgrass Management II **5 Clock Hours — 3 Credit Hours**
A study of business procedures used by professional turfgrass growers, including cost accounting, time study, record keeping, and evaluation of equipment and materials.

3518 Landscaping II **5 Clock Hours — 3 Credit Hours**
A continuation of Landscaping I, with progressively difficult problems. Emphasis is placed on basic details of landscape archetectural construction. Grading, construction, planting and staking plans are also studied and performed as a part of the laboratory work. A study of the use of ornamental plant life in homes and public buildings. In the laboratory students draw plans for room interiors, showing plants and their value to the indoor decorating scheme.

3519 Landscaping Contracts And Specifications
5 Clock Hours — 3 Credit Hours
A course in planting design of small home, subdivision, and plan presentations as done by nurseries are practiced. Typical plantings are examined in the field; model recommendations, cost estimates and performance contracts are devised by students.

3520 Drainage And Irrigation **5 Clock Hours — 3 Credit Hours**
A study of various types of drainage and irrigation systems, including materials and equipment, their cost, upkeep and design and application of watering systems.

3521 Entomology And Plant Disease Control
5 Clock Hours — 3 Credit Hours
A study of the nature, structure, growth, habits and injurious effects of insects and related forms. The indentification of common plant pests, diseases transmitted by insects and their injuries to plants. Insect and disease control measures and application equipment are also studied.

3522 Nursery Operation III **5 Clock Hours — 3 Credit Hours**
A continuation of the study of commercial plant reproduction, dealing with programming plant production and nursery land use, as related to nursery layout in sections and blocks. Cost finding techniques and establishing price and profits are studied and equated.

9001, 9002, 9003, 9004, 9005 Cooperative Employment Program
2-3 Credit Hours Each Term
On an alternating term basis, the student is placed on a full-time (32-40 hour) job that relates to his class work. This affords the student the opportunity to make practical application of the knowledge and skills acquired in his class work.

With each succeeding co-op term, the student is able to assume more responsibility and performs higher level duties on the job because of what he has learned from the previous term(s) of employment and the added knowledge and skills acquired in each school term.

ADMISSIONS INFORMATION

General Admission Requirements

Applicants must meet the following qualifications:

1. High school graduation or equivalent standing in terms of aptitude and achievement tests. (G.E.D.)
2. Satisfactory scores on entrance examinations.
3. Physical qualifications to perform acceptably in field of training selected.
4. A personal interview with the coordinator of your selected program and/or an admissions counselor.

Application For Admission

Apply early! Each year some programs are filled by early spring. Applicants for these programs who subsequently score well on the admission examination may be placed on stand-by lists.

To apply, follow these steps carefully:

1. Obtain an application from your high school counselor or by writing or calling the Admissions Office. (The address and telephone number are on the first page of the catalog.)
2. Complete the application form and mail or take it to the Admissions Office with the ten dollar application fee. This fee partially covers the cost of administering the entrance test, counseling, and registering the student if he is accepted. It is not refundable.
3. Ask our high school counselor to send a transcript to The Cincinnati Technical College; he will have one sent at any time during your senior year. This should be done as soon as you have decided to apply for admission.
4. Take the entrance examination on the earliest possible date. No action can be taken on your application until the examination has been taken and scored. The dates on which the examination will be administered are listed in the catalog.
5. After you have completed these procedures, wait until you are contacted by the Admissions Office to arrange a pre-enrollment interview. This will not be done until your records contain the following items:

Application	Entrance test scores
$10 Application fee	High School transcript

This interview will give you an opportunity to discuss enrollment, school, and cooperative work experience.

Student Deposti

A deposit of at least $30.00, payable when an applicant receives notice of tentative acceptance, will apply toward fees later charged to the full-time day student when he enrolls. Payment of the deposit when due assures the applicant of a place in class and is considered as evidence of good faith that he will register.

The student fee deposit will not be refunded if the applicant is later denied admission through failure (1) to acquire the necessary credits, (2) to be graduated from high school or (3) to meet the physical and health requirements. It may be refunded if the applicant is called to active military duty.

Credit for the fee deposit may be extended for (1) twelve months when an applicant fails to register due to illness or other causes entirely beyond his control or (2) the period of active duty when an applicant enlists in military service. Upon registration within the specified time limits, the credit will apply toward fees charged to the same person only when he enrolls as a full-time student in any program.

Application for either refund or credit must be made in writing at the time of the admission cancellation. Proof of any extenuating circumstances may be required. The Director of Finance is authorized to make decisions on these matters in accordance with school regulations.

Advanced Standing

A student desiring advanced standing must submit an official transcript of his college record. Courses paralleling Cincinnati Technical College courses in which a student has achieved a grade of 'C' or better will be considered for credit.

Foreign Students

Foreign applicants must follow the prescribed application procedure as set forth on the preceeding page. Additionally, a Declaration and Certification of Finances shall be supplied to the college before a Certificate of Eligibility (Form I-20 or DSP-66) will be authorized.

All foreign students should contact the Director of Students Services as soon as possible in order to facilitate enrollment.

ENTRANCE TEST

All applications for admission to the Cincinnati Technical College must take the required entrance examination before any decision on acceptance can be made. (See the section on admissions information.)

The exam will be administered at the Cincinnati Technical College, 3520 Central Parkeway, Cincinnati, Ohio 45223, on the dates listed below. The test takes about 3½ hours.

Applicants are urged to take the exam on the earliest date possible and to submit all other necessary forms since many programs are filled by early spring.

Applicants living outside of the Greater Cincinnati area, who cannot arrange to take the exam in Cincinnati, should write the Admissions Office as early as possible so special arrangements might be made through the applicant's high school or his educational officer if the applicant is in military service.

ENTRANCE TEST DATES
1973-74

For applicants planning to enter in the fall of 1974:

Saturday	September 29, 1973	8:30 a.m.
Saturday	October 20, 1973	8:30 a.m.
Saturday	November 10, 1973	8:30 a.m.
Saturday	December 1, 1973	8:30 a.m.
Saturday	January 12, 1974	8:30 a.m.
Saturday	February 9, 1974	8:30 a.m.
Saturday	March 9, 1974	8:30 a.m.
Saturday	April 20, 1974	8:30 a.m.

(Test by appointment after April 20.)

The examination will begin promptly at 8:30 a.m. Make arrangements to be present by 8:15 a.m. to check in if the Application Fee is prepaid, or no later than 8:00 a.m. if payment must be made and an application completed.

FINANCIAL INFORMATION

Student Expenses

The Ohio Board of Regents provides a student subsidy to The Cincinnati Technical College of each Ohio resident enrolled. The amount received from the Regents equals about two-thirds of the College's operating costs. The other third must come from tuition payments. Out-of-state residents pay the highest amount of tuition since the College receives no Regent's subsidy for their instruction. (See Appendix for complete explanation of residence determination.)

Tuition Charges

	12-18 Credit Hours per School Term	2 through 11 Credit Hours per School or Co-op Term*
Residents of the Cincinnati Technical College District	$125	$10 per Cr. Hour
Out-of-district residents who live in Ohio	$150	$12 per Cr. Hour
Out-of-district residents who live outside Ohio	$250	$20 per Cr. Hour

Any student taking credit hours in excess of 18, in a quarter, will be charged for the additional hours at the established hourly rate.

*Two (2) credit hours for approved co-operative work experience are granted for terms 1 and 2, and three (3) credit hours for terms 3, 4 and 5 in all technologies other than Aviation and Ornamental Horticulture. Please refer to the specific curriculum in which you are interested to determine co-op credits required.

Co-op Employment

Two of three credit hours are granted for each term of cooperative work experience. The charge for these credit hours will be based on the amount listed per credit hour for part-time students. This charge must be paid in advance on the established registration date.

If a student elects not to co-op he/she must take additional class room credit hours, and thus incur the same charge as if he/she had co-oped.

Application	$10	
Late Registration Fee	$ 5	
Late Payment Fee	$ 5	
Identification Badge Fee	$ 2	
General Fee	$20	per term
Graduation Fee	$25	
Vehicle Registration Fee	$ 1	
Laboratory Fees	Variable	

The general fee finances non-instructional services to students for which instructional subsidies cannot be used.

Books and Supplies

The cost of books and supplies can vary greatly from term to term. Also, different programs have different requirements. Students in the engineering technologies, for example, generally will spend more on supplies and equipment than the business oriented programs.

The first school term usually is the most expensive one as students purchase books and equipment at that time that they also use in later terms. The average range of expenses per term is $40-$60.

Refunds

Fees are not refundable. As a general rule, no tuition is refunded to students who withdraw before the end of their term. Exceptions to tuition charge refunds will be made only in cases where students are compelled to withdraw because of personal illness that is verified by a physician's statement.

Application for refund must be made by the student in writing at the time of withdrawal, and submitted to the Director of Finance.

The Director of Finance will be the final judge as to the validity of the request for tuition refund.

Tuition refunds, when allowed, are made on basic tuition only at the following rates:

During the first week of term	80%
Second week	60%
Third week	40%
Fourth week	20%

The Cincinnati Technical College reserves the right to revise this statement of tuition refunds at any time.

No degree will be granted, no grades released or transcript provided until

all financial obligations are completely paid.

Most students earn more than enough in cooperative employment to finance their education at the institute. In fact, the majority contribute regularly to the family income.

FINANCIAL AIDS

For students who still require financial assistance, there are a limited number of resources available.

1) OHIO INSTRUCTIONAL GRANTS — These grants are intended to provide eligible students with a supplemental source of financial aid in order to attend an eligible Ohio college or university. Consideration and awarding of grants shall be determined and provided by the Ohio Board of Regents and such grants shall be applied to the instructional and general fees of the college or university in which the student is enrolled. Applications may be obtained from your high school counselor and filed with the Ohio Board of Regents in Columbus.

2) EDUCATIONAL OPPORTUNITY GRANTS — Federal Educational Opportunity Grants (EOG) provide a source of assistance for limited-income families in particular. The grants range from $200 to $1,000 a year, but none may exceed 50 percent of the college's estimate of the student's financial need. No repayment is required.

3) COLLEGE WORK-STUDY — The College Work-Study program established by the Economic Opportunity Act of 1964 provides jobs for students from low-income families. The jobs are provided through the college, either on the campus or off. Preference is given to students from families receiving, or eligible to receive, public or private welfare assistance or from families with combined incomes below $7,500.

4) FEDRALLY SPONSORED LOANS — There now are two types of federally sponsored loans generally available:

A. Loans under the National Defense Student Loan Program, established by the National Defense Education Act of 1958. Eligible students may borrow up to $1,000 per year. Repayment and interest charges do not begin until nine months after the student leaves school. Repayment may be extended over a ten-year period.

B. Partly subsidized loans made through local lending institutions under the Guaranteed Loan Program. Information on these loans is available from local banks, savings associations, credit unions, and other lending institutions.

5) THE BASIC EDUCATIONAL OPPORTUNITY GRANT PROGRAM — This is a Federal Aid program designed to provide financial assistance to students who need it to attend post-high school educational institutions. The maximum award is $1400 minus the amount the family is expected to contribute toward the cost of college education. Applications may be secured from the college.

6) SCHOLARSHIPS — A limited number of scholarships are provided by private organizations and community groups for the use of deserving and needy students. These awards are made on the basis of academic performance with some consideration to need.

FOR CONSIDERATION FOR ANY OF THESE PROGRAMS, THE STUDENT SHOULD FILE (1) APPLICATION FOR FINANCIAL AID (2) A PARENTS' CONFIDENTIAL STATEMENT. EARLY FILING OR APPLICA-

TIONS WILL INCREASE YOUR POSSIBILITIES FOR SECURING AID.

VETERANS ADMINISTRATION — The Veterans Administration has approved Cincinnati Technical College for the education and training of veterans under th 1966 GI Bill and Orphans of Veterans under Public Laws 634 and 88-361. Contact your local VA office.

LIVING ACCOMMODATIONS

The Cincinnati Technical College has no student house facilities of its own as it is primarily a "commuter" institution. However, for individuals living too far from the College to commute, reputable, efficiently operated living accommodations are available at reasonable cost. A partial list of those that can be recommended are:

FOR MEN:

The Fenwick Club
435 Commerical Square
Cincinnati, Ohio 45202

The Friars Club
65 W. McMillan Street
Cincinnati, Ohio 45219

The L. B. Harrison Club
2368 Victory Parkway
Cincinnati, Ohio 45202

The Central YMCA
Central Parkway & Elm Street
Cincinnati, Ohio 45202

FOR WOMEN:

Anna Louise Inn
300 Lytle
Cincinnati, Ohio 45202

The Fontbonne Club
425 E. 5th Street
Cincinnati, Ohio 45202

The YWCA
9th & Walnut Streets
Cincinnati, Ohio 45202

All of these facilities are located on public transportation lines.

Further information regarding costs, reservations, etc., can be obtained by contacting the facility.

RESIDENCE OF STUDENTS

Presently the Ohio Board of Regents and the Cincinnati Technical College are reviewing the definition of Ohio residency for students and assessment of non-resident surcharges. This is a complex problem and every attempt is being made to reach a fair and equitable solution to all parties concerned. The college has current guidelines regarding the residency of students; however, the college reserves the right to revise their current guidelines based upon the final decision reached by the Ohio Board of Regents. Any non-resident student may apply to the college for a review of his or her residency status upon the completion of 12 consecutive months of residency in Ohio.

1. 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 the parents is gainfully employed on a full-time basis in Ohio.
2. 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 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 incomes tax purposes.
3. 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.
4. The residency status of a married student shall be determined without regard to the residency status of the student's spouse.
5. 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 that person is on active duty status in Ohio and has established a residence in Ohio.
6. 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.
7. 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.
8. 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 a non-resident 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.

9. An alien student admitted to the United States on a student visa or other temporary visa shall be considered to be a non-resident student. An alien holding an immigration visa may establish Ohio residency in the same manner as a citizen of the United States.
10. A student classified as a non-resident student 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:

    a. 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;
    b. 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.

Residence of Students (Proposed Guidelines)

In determining whether or not an enrolled student at Cincinnati Technical College is an Ohio resident, a determination of fact shall be made in accordance with these standards: A non-resident student may have his or her residency status reviewed after living for twelve months in Ohio.

A. Authority, History, and Effective Date.

1. It is the intent of the Ohio Board of Regents in promulgating this Rule to exclude from treatment as residents, as that term is applied here, those persons who are present in the State of Ohio primarily for the purpose of receiving the benefit of a state supported education while insuring that that same benefit is conferred equally on all bona fide domiciliaries of this State whose permanent residence and legal citizenship is in Ohio, and whose actual source of financial support is subject to Ohio taxation.

2. This Rule is adopted pursuant to Chapter 119, Ohio Revised Code, and under the authority conferred upon the Ohio Board of Regents by Am. Sub. H.B. 86 of the 110th Ohio General Assembly making general appropriations for the biennium beginning July 1, 1973 and ending June 30, 1975.

3. This Rule operated to rescind and replace Rule R.G. -1-2(D) adopted by this Board on July 1, 1972.

4. This Rule shall be effective as of September 1, 1973, and shall continue in effect until its rescission or amendment.

B. Definitions.

For purposes of this Rule:

1. A resident of Ohio "for all other legal purposes" shall mean any person who maintains a 12 month place of residence in Ohio, who is qualified as a resident to vote in Ohio and receive state welfare benefits, and who may be

subjected to tax liability under Section 5747.02 of the Revised Code; provided such person has not, within the time prescribed by this rule, declared himself or herself to be or allowed himself or herself to remain a resident of any other state or nation for any of these or other purposes.

2. "Financial support" as used in this rule, shall not include occasional gifts which do not materially contribute to the overall support of a person and his or her dependants, or grants, scholarships and awards from persons or entities which are not otherwise related to the recipient.

3. An "institution of higher education" as used in this rule shall mean any university, community college, technical institute or college, general and technical college, medical college or private medical or dental college which receives a direct subsidy from the state of Ohio.

C. General Residency from Subsidy Purposes.

The following persons shall be classified as residents of the State of Ohio for subsidy and tuition surcharge purposes:

1. Dependent students, one of whose parents or legal guardian has resided in the State of Ohio for all other legal purposes for 12 consecutive months or more immediately preceeding the enrollment of such student in an institution of higher education.

2. Persons who have resided in Ohio for all other legal purposes for at least 12 consecutive months preceeding their enrollment in an institution of higher education and who are not receiving, and have not directly or indirectly received in the preceeding 12 consecutive months, financial support from persons or entities who are not residents of Ohio for all other legal purposes.

3. Persons who reside and are gainfully employed on a full-time basis in Ohio and who are pursuing a part-time program of instruction at an institution of higher education.

D. Specific Exceptions and Circumstances.

1. A person on active duty status in the United States military service who is stationed in Ohio and his or her dependents shall be considered residents of Ohio for these purposes.

2. A person who enters upon active duty status in the United States military service while a resident of Ohio for these purposes as long as Ohio remains the state of such person's domicile.

3. Any alien holding an immigration visa shall be considered a resident of the State of Ohio for state subsudy purposes in the same manner as any other student.

4. No person admitted to the United States by virtue of a student or other temporary visa shall be eligible for Ohio residency for these purposes.

5. A dependent person classified as a resident of Ohio who is enrolled in an institution of higher education when his or her parents or legal guardian remove their residency from the State of Ohio, shall be considered a resident of Ohio for these purposes during continuous full-time enrollment and until his or her completion of any one academic degree program.

6. Any person once classified as a non-resident, upon the completion of 12 consecutive months of residency in Ohio for all other legal purposes, may apply to the institution he or she attends for reclassification as a resident of Ohio for purposes of state subsudy and tuition surcharge. Should such person present clear and convincing proof that no part of his or her financial support is, or has in the preceeding 12 consecutive months been provided directly or indirectly by persons or entities who are not

residents of Ohio for all other legal purposes, such person shall be reclassified as a resident.

Evidentiary determinations under this section shall be made by the institution which may require, among other things, the submission of information regarding the sources of a student's actual financial support to that end.

7. Any reclassification of a person who was once classified as a nonresident for these purposes shall have prospective application only from the date of such reclassification.

E. Procedures.

Institutions of higher education charged with reporting student enrollment to the Ohio Board of Regents for state subsidy purposes and assessing the tuition surcharge shall provide individual students with a fair and adequate opportunity to present proof of their Ohio residency for purposes of this Rule. Such institution may require the submission of affidavits and other documentary evidence which it may deem necessary to a full and complete determination under this rule.

ACADEMIC INFORMATION

1973-74 CALENDAR

September 4	3B	1A
November 12	4A	1B
January 28	4B	2A
April 8	5A	2B
June 17	5B	3A
August 26	Vacation	

The numeral refers to the term in the curriculum being offered; the letter refers to the group in school. The group starting the first year in September is Section A; the group starting the first year in November is Section B. The sequence of classes in school is 1A, 1B, 2A, 2B, 3A, 3B, 4A, 4B, 5A, 5B.

STUDENT SCHEDULES

The academic year begins in early September and ends in late August. It consists of five ten-week quarters.

Each associate degree program lasts two full years and consists of ten quarters.

In most programs, students spend five quarters in school in a sequence of academic instruction and five alternating quarters in paid cooperative employment. Exceptions: Aviation Technology, which requires seven

academic terms in order to meet the instructional requirements of the Federal Aviation Administration, and Ornamental Horticulture, which consists of three consecutive quarters in school, followed by two in cooperative employment, each of the two academic years.

Each class, with the exceptions noted, is divided into an "A" section and a "B" section which follow alternate schedules. In the chart below, quarters are designated by the month in which each begins. The Roman numeral indicates the academic quarter number. "E" indicates co-op sessions.

Schedule "A" students have a one-week vacation in August the first year and in December the second. Schedule "B" students have a one-week vacation in December the first year and in August the second.

	FIRST YEAR					SECOND YEAR				
Quarter	Sept	Nov	Feb	Apr	June	Sept	Nov	Feb	Apr	June
Schedule "A"	I	E	II	E	III	E	IV	E	V	E
Schedule "B"	E	I	E	II	E	III	E	IV	E	V

Classes may be scheduled at any time between 7:55 a.m. and 5:00 p.m. The average daily load will include five to six hours of instruction. Schedules for individual students are compacted to avoid undue delays between class assignments and to avoid long hours on campus unnecessarily.

Full time students spend from twenty-five to thirty hours per week in classrooms and laboratories plus ten to fifteen hours on outside study and preparation.

Part time schedules can also be arranged on an individual basis if special circumstances warrant it. For example, an individual who has family responsibilities and must be employed on a continuous, year round basis, may arrange a part-time schedule to fit his working hours. In such cases, a co-op job, as such, is not held by the student.

ACADEMIC REQUIREMENTS

Grading System

Academic standards are maintained at a high level. The following system is used to evaluate student achievement in each subject:

Grade	Quality	Points
A	Superior	4
B	Good	3
C	Average	2
D	Poor	1
F	Failing	0
Inc.	Incomplete	0
Wd.	Withdrawn	0
S	Satisfactory	0
U	Unsatisfactory	0

Grade Reports

Grade reports will be mailed to the student's home at the end of each term. Mid-term grades of students who are failing will be reported to the school adminsitration and special attention will be given those students to assist them in improving.

Dismissal

A student will be dismissed if his accumulative point-hour ratio is below any of the following levels:

After one term	1.00
After two terms	1.25
After three terms	1.50
After four terms	1.75
After five terms	1.90

In addition to the above listed overall requirements, a student is also subject to dismissal or placement on a probationary status if his accumulative grade point average in the core courses of his program falls below 2.00. The courses generally considered to be "core" within a program are those that are calssified as "Technical" by the Ohio Board of Regents.

Instruction exists in an adult atmosphere; there are few regulations. In the case of gross or repeated violations of the school's policies, the student will be dismissed.

Make-Up Work

Any student who has missed classwork should be given an opportunity to make it up. Students are reminded that make-up tests, since they must be "tailor-made" and therefore not designed for easy mass scoring, tend to be more difficult than the regular tests.

Academic Recognition

Students whose quality point averages for an academic term are 3.50 or higher receive special recognition for their superior work by being named to the Dean's list.

Graduation

A student successfully completing the course requirements and having the stipulated cumulative grade point average in any of the programs, is granted an Associate Degree in his area of study. Upon request, a transcript of the student's record will be forwarded to any employer or educational institution. Evaluation of the record is entirely in the hands of the reviewer.

Transferability of Credits

The amount of credit that a graduate of the Cincinnati Technical College can transfer to another institution of higher learning depends upon these factors: (1) the academic relationship of the curriculum he has completed to that which he intends to pursue at the receiving institution; (2) his academic record and promise of success; and (3) the policies of the receiving institution regarding graduation requirements and course requisites.

COOPERATIVE EDUCATION PROGRAM: OPTIONS, REQUIREMENTS, POLICIES

Options

Students attending Cincinnati Technical College may meet their associate degree requirements in any of three different ways:

(1) Participating in CTC's full co-op program, in which students alternate full-time quarters in the classroom with full-time quarters of co-op employment. All but a small percentage of the student body elect this option.

(2) Attending classes on a half-day schedule for ten consecutive quarters and co-oping in a half-time (or longer) position. A small percentage of co-ops choose this option.

(3) Pursuing a non co-op, totally academic program. Students wishing not to co-op may attend CTC ten consecutive academic quarters on a reduced load basis, averaging slightly more than ten quarter credits each quarter. This approach provides a more leisurely pace and a shorter day than that of the typically college program. It also provides the possibility of more academic electives than are available to students enrolled in the co-op program. Students who wish to complete a degree program in less than ten quarters should consult the appropriate department chairman to ascertain the feasibility of their desire, since some programs (specifically the health technologies) require work experience as clinical training.

A part-time program leading to graduation in more than two years can generally be arranged without difficulty.

Co-Ops Must Measure Up on the Job Just as Other Employees

Students who wish to participate in the co-op program must be able to demonstrate to prospective co-op employers that they have achieved a level of social and emotional maturity that qualifies them for employment. The decision to hire (and at what level) or not to hire a student rests solely with the employer.

The employer is solely responsible for decisions regarding the retention or dismissal, promotion or demotion, of a co-op. The merit of the co-op's work performance determines the degree of success he achieves.

As the co-op acquires more technical knowledge and more work experience, his chances of obtaining more challenging job assignments are enhanced. In short, a co-op is in a real work situation which requires him to meet all of the standards set by his employer. He enjoys no special privileges because of his student status.

Every effort will be made to place early enrollees on work-experience jobs during the summer months prior to the opening of the fall term. Students are encouraged to locate employment for themselves within a frameowrk which serves the purposes of technical education.

While the Cincinnati Technical College has been quite successful in placing students on cooperative work jobs, there can be no ABSOLUTE GUARANTEE. Cooperative employment and continued employment depend on what the individual student can offer to employers. Students who have not demonstrated employability in some form may be advised to discontinue the co-op program.

Violations of the work placement procedures are harmful to the student, to the cooperative employer, to the school, and to the business-industrial

community. No student nor any employer should attempt, under any circumstances, to influence the other for permanent employment until the student has completed the entire two-year program.

Types of Co-Op Jobs

The College classifies co-op positions in three categories: A—directly related to the technology; B—indirectly related; C—unrelated.

Following are the placement data in each category for the end of the January quarter of the 1972-73 academic year: A Jobs—83.0%; B Jobs—9.0%; C Jobs—4.5%; Not Placed—1.5%; Not Wishing to Co-Op—1.5%; Part-time Students—.5%.

The College would like to place all students in A type jobs if possible, in B jobs as a second choice, and in C jobs as the third choice. However, it should be recognized that both B and C jobs have many values. The work experience gained in such jobs helps the student mature socially and emotionally, helps him educationally, and prepares him for occupational advancement.

The lowest-paid, most menial, least related co-op job is better than no co-op experience at all; some of the most precious insights gained in life come from those experiences that accurately reflect both the frustrations and the rewards of the real world.

A more complete explanation of the benefits of co-op work experience appears in the first section of the catalog.

Services Provided in the Co-Op Program

The fees charged to co-ops help to defray the expenses incurred in the operation of the co-op program including: services the coordinating staff spent to develop co-op jobs, to refer students for placement interviews, to maintain coordination contacts with employers, to maintain records, and to provide reports relating to the co-op program, to handle evaluation of co-ops by their employer, to provide co-op grades, etc.

A student who has a full-time job before entering the College and for whom a more desirable co-op is not available at that time may elect to have this job serve as a cooperative employment position and receive co-op credit.

A student wishing not to receive credit for the work he is performing in a job may request to take an elective course equal in credit value to the credits that would normally be earned for the co-op term. The request must be approved by the Chairperson and Supervisor of the department in which the student is enrolled.

Orientation Day to Co-Op Program for New Students

Students who wish to participate in the cooperative education program must attend an Orientation Day relating to the program. The Orientation Day for students who plan to enroll in 1974-75 will be held in June and repeated in August.

MEMBERS OF THE GENERAL ADVISORY COMMITTEE
CINCINNATI TECHNICAL COLLEGE

Mr. John W. Blanton ..... General Electric Company
General Manager Advanced Technology Programs

Mr. Arthur Ehrnschwender..... Cincinnati Gas & Electric Company
Vice President — Administrative Services

Mr. Ralph Estes..... Sales Marketing Executives
President Association

Mr. Robert Gerdes ..... Plastic Moldings Corp.
President

Reverend Herman Kenning ..... The Archdiocese of
Superintendent of Schools Cincinnati

Mr. Steven Reece ..... Opportunities Industrialization Center
Board Chairman

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ADMINISTRATIVE OFFICERS

Clifford R. House, B.A., M.Ed. ..... President

Frederick B. Schlimm, B.S., M.Ed. ..... Vice President;
Academic Affairs

Charles E. Warman, B.S., M.Ed. ..... Vice President,
Cooperative Education and Development

Johnnie Mae Berry (Mrs.), B.A., M.L.S. ..... Librarian

Eleanor V. Bonner, B.S., M.A. ..... Director of
Student Services

Robert E. Gillespie, A.S.M., S.P.D.P. ..... Director of
Management Services

Irvin C. Kuehn, B.S., M.A. ..... Director of Student Activities

John Lalley, B.S. ..... Acting Special Assistant
to the President

Ann I. Rasche, B.S., B.Ed., M.Ed. ..... Director of Admissions

A. Wayne Vaughn, B.S., B.A. ..... Controller

Nick Visnic, A.B., M.A. ..... Director of
Continuing Education

Eugene T. Wieland, B.B.A., M.B.A. ..... Director Of Finance

DEPARTMENT CHAIRMEN

(Departmental Responsibilities: Instruction; Equipment Purchases; Textbook Selection; Departmental Employment; Curriculum Revision)

Johnnie Boggio (Mrs.), B.S., M.Ed. ..... Business Technologies

Robert Craigo, B.S., M.S. ..... Engineering Technologies

Hal G. Funk, B.S., M.Ed. ..... Industrial Technologies

Thomas Stark, B.S., M.Ed. ..... General Education (Acting)

Nancy Walters (Mrs.), B.A., M.T. (A.S.C.P.) ..... Allied Health Technologies

SUPERVISORS OF COOPERATIVE EDUCATION

(Departmental Responsibilities: Cooperative Job Development; Placement; Coordination; Student Recruitment and Admissions; Program Development.)

Nancy Walters (Mrs.) B.A., M.T., (A.S.C.P.) .. Allied Health Technologies
Robert Elmer, B.S., M.Ed. ..... Business Technologies
Charles Jonas, B.S., M.Ed. ..... Engineering Technologies
Eugene Krygowski, B.S. ..... Industrial Technologies

FACULTY

Dr. Christos N. Athanasiadis, M.D., Ph.D. ..... Instructor Health Technologies

Carmen Battistone, B.S., M.Ed. ..... Instructor — Social Science

Mrs. Anne Boechley, B.B.A., M.Ed. . Instructor — Business Technologies

Stewart Bonem, B.A., M.B.A. ..... Instructor — Business Technologies

James T. Brown, B.S., M.Ed. ..... Coordinator — Electro-Mechanical Technology

Richard D. Brown, A.S., B.S. ..... Coordinator — Business Data Processing

Jerome X. Cozart, B.S. ..... Instructor — Graphic Communications

Donald Dadey, B.S., M.Ed., M.A. ..... Coordinator — Ornamental Horticulture

Ronald Davidson, B.S., M.T. (ASCP) ..... Instructor — Health Technologies

Vicent J. DeVol (A&P License) ..... Coordinator — Aviation Technology

Robert Fairbanks, B.S..... Coordinator — Business Data Processing

James Farrer, A.E., B.S. ..... Coordinator — Air Conditioning

Elmer Flamm, A.B., M.Ed..... Instructor — Communication Skills

Maurice Fleischman, SPE., SAPE, ASTM ..... Coordinator — Plastics

Gary Graff, A.E.E., B.S..... Coordinator — Electronics

J. Alfred Gratton, B.B.A., M.B.A..... Instructor — Business Technologies

Marcus Green, B.S. ..... Instructor — Communication Skills

Fred Hartzel, C.F.E., (Chef License)..... Coordinator — Hotel-Motel-Restaurant Management

Harry Heink, B.A., M.Ed..... Instructor — Communication Skills

Richard Hendrix, B.S. ..... Coordinator — Hotel-Motel-Restaurant Management

DeLois Johnson (Mrs.), B.S., M.S. ..... Coordinator — Medical Laboratory Technician

Michael Jones, B.F.A. ..... Instructor — Communication Skills
Coordinator — Intramural Activities

Joseph Keenan, B.S.,M.Ed. ..... Coordinator — Automotive Service Management

Bernadette Kell (Mrs.), B.S., M.A..... Coordinator — Secretarial

Paul W. Kinzie, B.S., M.Ed..... Coordinator — Sales-Marketing Technology

Walter J. Klayer, B.S.I.D..... Coordinator — Plastics

Clyde Kobberdahl, B.S., M.Ed. ..... Coordinator — Business Management

Jerry A. Krismer, B.S., B.A..... Coordinator — Ornamental Horticulture

Joe R. Lower, B.S., M.A..... Coordinator — Secretarial

Theodore A. Mayer, B.S., C.P.M. ..... Coordinator — Real Estate and Property Management

Daniel O. Mellinger, A.B., M.Ed. ..... Instructor — Communication Skills

Donald Meyer, B.S.I.E. ..... Associate to the Chairman of Engineering Department

Thomas Miller, B.S., Printing Plant Mgt. ..... Coordinator — Graphic Communications

Billy D. Mullins, B.S.E.E. ..... Instructor — Engineering Technologies

Timothy E. Nolan, A.B. ..... Instructor — Communication Skills

Louis E. Owsley, B.S. ..... Instructor — Business Technologies

Ada M. Pack, A.S. & N.R.N., E.M.T. ..... Coordinator —

Leonard Penn, B.S., M.Ed. ..... Instructor — Economics — Social Sciences

Lloyd Pitman, B.S. ..... Coordinator — Sales-Marketing Technology

Richard Pulskamp, B.S. ..... Instructor — Mathematics

Herman Randell, B.A., M.A. ..... Instructor — Mathematics

Mrs. Sharon Reynolds, B.S., M.Ed. . Instructor — Business Technologies

William Rhein, B.S.I.M., M.B.A. ..... Coordinator — Industrial Engineering

H. Anthony Rinck, B.S., M.Ed., (A. & P. License), D.M.E.
Coordinator — Aviation Technology

Rodney Rupp, B.S., B.Ed. ..... Instructor — Physics

Gail Sauer, B.S., M.T. (ASCP) ..... Coordinator — Medical Laboratory Technician

Ralph Saunders, (A & P License) . . Instructor — Industrial Technologies

Ralph Schlueter, B.S., M.Ed. ..... Instructor — Mathematics — Science

Robert Schneider, B.S., P.E. (Prof. Surveyor, Ohio & Ky.)
Coordinator — Civil Engineering Technology

Erskine W. Staggs, B.S. ..... Coordinator — Surgical Assisting Program

V. Kenneth Steidley, B.S. ..... Coordinator — Mechanical Design

Briggetta E. Stewart (Mrs.) ..... Coordinator — Security Administration

Kenneth Stoll, B.S., M.Ed. ..... Coordinator — Electro-Mechanical Technology

Richard Strait, B.S., M.Ed. ..... Coordinator — Mechanical Design

Carl Sulek, B.S.Sc., M.Ed. ..... Coordinator — Business Management

Caroline Tatem (Mrs.), B.S., M.Ed. (C.P.S.) ..... Instructor — Business Technologies

Joseph L. Theisen, L.L.B. ..... Coordinator — Security Administration

Paul Tien, B.S.E.E., M.S.E.E., M.S.E., Ph.D.
Associate to the Chairman of Engineering Department

Alvin M. Tomb, B.S.C.E. (P.E., Ohio, Ky., Pa.)
Coordinator — Civil Engineering Technology

William S. Tulloss, B.S., M.Ed. ..... Instructor — Mathematics

Clayton Van Camp, R.S.E.S. ..... Coordinator — Air Conditioning Technology

Karl Von Kampen, B.S., M.S. ..... Coordinator — Automotive Service Management

Florence C. Weinel, B.S., R.A.A., M.S., Ph.D.
Coordinator — Medical Records Technician

Lawrence Ziegler, B.A., M.Ed. ..... Instructor — Psychology — Aviation Technologies

CLINICAL INSTRUCTORS FOR ALLIED HEALTH TECHNOLOGIES

Edward T. Bufford, M.D. ..... Family Practice

James J. Clear, M.D. ..... St. Francis Hospital

John Cranley, M.D. ..... Good Samaritan Hospital

Ronald Fallat, M.D. ..... Cincinnati General Hospital

Marshall Ginsburg, M.D. ..... Central Psychiatric Clinic — CGH

Charles J. Glueck, M.D. ..... Cincinnati General Hospital

Richard Kensolving, Ph.D., Pharmacology
Section Head, Autonomic and Gastroenterology
Department of Pharmacy, Merrell National Laboratory

Chris Landay, Ph.D., Microbiology ..... Instructor — U.C.,
Provident Hospital

Jessica Murdaugh, B.S., M.S.W. ..... Central Psychiatric
Clinical (CGH)

Walter Oka, B.S., M.S. ..... Instructor —
Medical Laboratory Technology

Larry Pendle, B.S., M.T. (ASCP) ..... Supervisor
Clinic Laboratory, St. Francis Hospital

Edward L. Pratt, M.D. ..... Children's Hospital Medical Center

Tony Rizzo, B.S. ..... Instructor — Health Technologies

Betty Sturm, R.N., P.N.A. ..... Children's Hospital
Medical Center

Ram Suga, B.A., M.T., C(ASCP), SC(ASCP) ..... Instructor,
Jewish Hospital

STUDENT ACTIVITIES
STUDENT SENATE

Because all of our students co-op, our Student Senate is divided into two groups, one for each of the two school sections, A and B. In order to promote continuity of action, both Senates use the same Constitution and Guide Lines. The Senate is composed of two students from each Technology in the college. Officers are elected annually.

The Student Senate sponsors all social activities and serves as the liasion between students and the college.

ATHLETICS

The Tigers of Cincinnati Technical College are working to build a winning tradition in athletics. As members of the Junior College League, the Tigers compete in an ever expanding Inter-collegiate sports program.

In Basketball, the Tigers have won several league championships and two tournament championships. Beginning in 1970, the Tigers have compiled a record of 71 wins and 11 loses. In Softball, the Tigers have won four league championships with a record of 49 wins and 5 loses.

Along with the intercollegiate competition, Cincinnati Technical College offers an expanding intra-mural program. Class competition is intense in Basketball and Softball. We hope to add more programs in the future. The gymnasium and swimming pool are open for student use several hours each day.

The success or failure of any of the athletic programs at the College depends upon the leadership and maturity of the students at Cincinnati Technical College. We depend on the students to help organize, conduct, and participate in all the activities sponsored by the college. If you want to continue the winning traditions at Cincinnati Technical College, participate and support the athletic program.

ALUMNI ASSOCIATION

The Students of Cincinnati Tech have always displayed a special type of loyalty and support.

Upon graduation, many continue to support the school's philosophy of cooperative career education and the traditions established in our brief history.

Following the school's fourth graduating class, the graduates of C.T.C. formed the Cincinnati Technical College Alumni Association in early 1972. The association was organized to promote the general welfare of the college and to create and maintain an active interest among alumni in extending the influence of the college. The association also provides a means of perpetuating friendships among alumni and in the future will aid the college in providing facilities to meet the educational needs of our society.

Cincinnati Tech is one of the very few Technical Colleges which can boast of an organized alumni association.

Our graduates are definitely of a special kind.

STUDENT SERVICES
LIBRARY

The Library is located on the second floor and contains a growing collection of materials including books, pamphlets, and periodicals. The attractive Developmental Laboratory is located in Room 254. Its chief function is to provide self-instructional materials for those students who have deficiencies in Mathematics, Reading, and English. Teachers with expertise in these subject areas are scheduled in the laboratory daily for consultations and assistance to individual students.

The laboratory is equipped with dry and wet carrels complete with electricity and viewing screen; Didactor teaching machines for self-paced individualized training; controlled reading machines, cassette tapes; microfilm readers for periodicals and a variety of programmed learning materials.

STUDENT BOOKSTORE

The Student Bookstore is located in the Student Lounge on the third floor. All textbooks, manuals, workbooks, and supplies needed for scheduled classes are sold there.

STUDENT PARKING

A number of parking spaces are available in the upper lots each term. Details concerning the price and how to obtain parking stickers and gate cards are sent with the registration materials to students each term. Students can park in the lower lot for twenty-five cents. There is also ample on-the-street parking.

Associate Degree Programs (Effective 1974-75)
DEPARTMENT OF BUSINESS TECHNOLOGIES

Business Data Processing Technologies

Computer Programming Technology

Teaching for one to design, write (code), and test computer programs based upon specifications provided by management.

Systems Analysis Technology

Teaching to study information and processing requirements in an organization, to design the flow of operations and preparation of the specifications for the processing system; to know principles of programming, discover the fundamental logic of a system, produce sound plans and appreciate the effects of new facts in planning.

Management Technologies

Business Management Technology

Educating for serving in a line or staff relationship at mid-management level in business, with an emphasis in accounting and managerial techniques.

Industrial Management Technology

Training for one to perform as a management aide in small and medium-sized industries.

Hotel-Motel-Restaurant Management Technology

Hotel-Motel-Resort Management Technology

Training to serve at mid-management level in hospitality industry, in food purchasing and preparation, catering, housekeeping, convention planning or front office management.

Marketing Technologies

Retail Marketing Technology

Training to serve at mid-management level in retailing organizations, and for providing sales and marketing services appropriate to the needs of the ultimate consumer.

Wholesale Marketing Technology

Instructing to serve sales and marketing functions in the movement of goods from the factory to the consumer through intermediate distribution organizations.

Industrial Marketing

Preparing to perform sales and marketing functions involving a specialized technical knowledge of products and/or services appropriate to industrial firms, manufacturers, and other business and governmental units.

Property Management Technology

Training to serve at mid-management level in a firm which manages residential or commercial properties, or as building manager of an office building, public building, or industrial plant.

Real Estate Technology

Preparing to serve as a real estate salesman or assist broker in a real estate office or as a specialist in a financial institution which has functions related to real estate.

Security Administration Technology

Instructing to serve at mid-management level in a private or public corporation performing managerial functions designed to safeguard person and property and to eliminate or minimize losses due to theft, arson, accidental fire, explosion, sabotage, industrial espionage, etc.

Secretarial Technologies

Executive Secretarial Technology

Instructing to perform general secretarial duties and assist the executive officer in effective and efficient operation of his office.

General Secretarial Technology

Training to perform general secretarial duties, such as filing, taking dictation, transcribing, typing, operating office equipment, and serving as receptionist.

Legal Secretarial Technology

Educating to perform general secretarial duties and to assist an attorney or someone in a judicial capacity in the effective and efficient operation of the office.

Court/Conference Reporting Technology

Training for performing court/conference secretarial duties and stenotyping testimony, speeches, discussions.

Medical Records Technology

Training to contribute to analyzing, correlating, transcribing and maintaining patient health/medical records in: hospital; public or private clinics at local, state, or fedral levels; industrial health clinic or insurance company.

Surgical Assisting Technology

Educating one to assist the surgeon in his office, performing clinical and administrative duties; and in the hospital operating room, performing such functions as preparing sterile surgical equipment, keeping operating room in order, passing instruments, holding retractors, cutting sutures.

DEPARTMENT OF INDUSTRIAL TECHNOLOGIES

Climate Control Technology

Educating to design, develop, plan, produce and install machines and systems that control the temperature and environment of buildings, materials or systems; to serve as trouble-shooter for this environmental equipment.

Automotive Service Management Technology

Preparing for one to serve at a mid-management level of a firm which supplies gasoline, oil, and related products to automobile service stations and other outlets; to perform functions related to warehousing, transportation, and whole or rental marketing of these products.

Aviation Technology

Training to maintain aircraft, including airframe and power plant, and supporting systems of both.

Printing Technology

Training to serve in various capacities in the printing industry, including — but not limited to — supervision in typography, typecasting, cold typesetting, and offset and platen press makeup and operation.

Ornamental Horticulture Technologies

Landscaping/Gardening/Turf Technology

Training for assisting horticulturalist in planning and establishing basic plantings and conveniences appropriate to gardens, parkways, parks, golf course greens, homes and commercial and industrial installations.

Nursery/Greenhouse Operation/Management Technology

Preparing one to produce and market ornamental nursery plants and greenhouse flowers and related crops for commercial purposes; to manage nursery, greenhouse, garden center, or flower shops.

Plastics Technology

Educating to plan, manage or supervise production of plastics products.

DEPARTMENT OF ENGINEERING TECHNOLOGIES

Civil/Construction Technology

Training one to participate in the construction process from initial planning to project completion, either of new structures or modification of existing structures.

Electro-Mechanical Technology

Training one to work with both mechanical and electrical controls and devices in handling, designing, developing, planning, making, installing, and trouble-shooting modern devices combining electrical, electronic, and mechanical systems.

Electronics Engineering Technology

Training to assist the electronics engineer in prototype development and testing, and in systems analysis (including design, selection, installation, calibration and testing).

Industrial Engineering Technologies

Industrial Technology

Training one to serve as para-professional to the industrial engineer as foreman or supervisor.

Air Quality Control Technology

Educating one to be skilled in the operation of monitoring and testing equipment, and qualified to perform air quality inspections required by federal and state laws.

Mechancial Technologies

Drafting and Design Technology

Instructing to plan, prepare, and interpret mechanical, architectural, structural, pneumantic, marine, electrical/electronic and topographical designs, with ability to design or re-design jigs, fixtures, dies, tools, mechanisms and machines.

Mechanical Engineering Technology

Training to assist the mechanical engineer in designing, building, testing and producing machines and devices, and in teaching the care and operation of these.

DEPARTMENT OF ALLIED HEALTH

Medical Assisting Technology

Educating one to perform receptionist, bookkeeping, and other office managerial duties and assist the physician in physical examinations, routine laboratory tests and patient-record keeping in private physicians' offices; or clinics; hospital out-patient departments; or to perform similar ambulatory patient services at local, state, or federal levels.

Medical Laboratory Technology

Teaching to assist the professional in performing specific pathology laboratory examinations such as chemical testing of body tissues and fluids, identification of micro-organisms, blood-cell typing and blood counts in public or private pathology laboratories of hospitals; clinics; physician offices at local, state, or federal levels.

ACCREDITATIONS & MEMBERSHIPS

Ohio Board of Regents

Division of Vocational Education, State Department of Education

Candidate Status with North Central Association of Colleges and Secondary Schools

FAA — Approved Aircraft Maintenance Technician School

Member of Association of Schools of Allied Health Professions

Member of Ohio Organization of Technical Colleges

Member of Cooperative Education Association

Member of American Technical Education Association

Member of American Association of Junior Colleges

CO-OPPORTUNITY MONTH SCHEDULE

FRIDAY, March 1. . . . . .— Ornamental Horticulture
MONDAY, March 4 . . . . . .— Automotive Service Management
TUESDAY, March 5. . . . . .— Air Conditioning
WEDNESDAY, March 6. . . .— Plastics
THURSDAY, March 7 . . . . .— Graphic Communications
FRIDAY, March 8. . . . . .— Aviation

MONDAY, March 11 . . . . . .— Hotel-Motel-Restaurant Management
TUESDAY, March 12. . . . . .— Sales-Marketing
WEDNESDAY, March 13. . .— Business Data Processing
THURSDAY, March 14 . . . .— Business Management
FRIDAY, March 15. . . . . .— Secretarial

MONDAY, March 18 . . . . . .— Medical Laboratory Assisting
TUESDAY, March 19. . . . . .— Medical Assisting & Medical Records
WEDNESDAY, March 20. . .— Electro-Mechanical & Electronics
THURSDAY, March 21 . . . .— Civil Engineering/Construction Engineering
FRIDAY, March 22. . . . . .— Mechanical Design & Industrial Engineering

Juniors are asked to contact their high school counselors if they are interested in attending one of the co-opportunity days on the schedule.

Complete the 4 page application, detach and mail to:

Cincinnati Technical College
3520 Central Parkway
Cincinnati, Ohio 45223

APPLICATION FOR ADMISSION

(1) SOCIAL SECURITY NUMBER:

(2) CITIZENSHIP IF NOT U.S.

(3) NAME (Print):

Last First Middle Maiden

(4) HOME ADDRESS:

Number & Street City County State Zip How Long?

(5) PRESENT ADDRESS (IF DIFFERENT FROM HOME ADDRESS ABOVE):

Number & Street City County State Zip How Long?

(6) HOME TELEPHONE (OR TELEPHONE WHERE YOU CAN BE REACHED)

(7) ARE YOU A RESIDENT OF OHIO?

Yes_____ No _____

(OVER)

(8) YOUR DATE OF BIRTH:

Month _____ Day _____ Year _____

(9) ARE YOU A RESIDENT OF THE CINCINNATI SCHOOL DISTRICT?

Yes _____ No _____

(10) PARENT(S) OR GUARDIAN(S) NAME & PHONE NUMBER:

(11) PARENT(S) OR GUARDIAN(S) ADDRESS:

Number & Street City State Zip

(12) PERSON TO BE NOTIFIED IN CASE OF HEALTH OR ACCIDENT EMERGENCY:

Name Address Phone

(13)

MALE_____ SINGLE_____

FEMALE_____ MARRIED_____

(14) WHEN DO YOU WISH TO ENTER CTC?

_____

(15) I AM INTERESTED IN THE FOLLOWING PROGRAMS AT CTC:

1st Choice_____Tech. 2nd Choice_____Tech.

Continued on next page

(16) VETERAN?
Yes_____ No _____

(17) SELECTIVE SERVICE NUMBER

(18) DATES OF MILITARY SERVICE:

From_____ To _____ Branch_____
Type of Discharge

Are you eligible for "G.I. Bill" Benefits?
Yes_____ No _____

(19) HIGH SCHOOL: DATE OF GRADUATION:

_____ _____

ADDRESS:
Number & Street City State Zip

HIGH SCHOOL MAJOR:

_____

(20) COLLEGE, UNIVERSITY OR BRANCH COLLEGE PREVIOUSLY ATTENDED:

Name_____ Major Fields_____ Dates_____

Name_____ Major Fields_____ Dates_____

(OVER)

(21) ARE YOU PRESENTLY EMPLOYED?

Yes_____ No _____

Where?_____

PLEASE INDICATE ANY PREVIOUS WORK EXPERIENCE:

Firm_____ Type of Work _____ Dates_____

Firm_____ Type of Work _____ Dates_____

(22) HEALTH -- DATE OF LAST PHYSICAL EXAMINATION: _____

ANY KNOWN PHYSICAL DEFECTS OR HEALTH PROBLEMS: _____

(23) HOW DO YOU PLAN TO FINANCE YOUR EDUCATION? (Parents, work, savings, VA, government loan, scholarship, grants, agency or other)

_____

I HEREBY CERTIFY THAT THE INFORMATION PROVIDED IN THIS APPLICATION IS TRUE & ACCURATE

_____ 19_____ _____

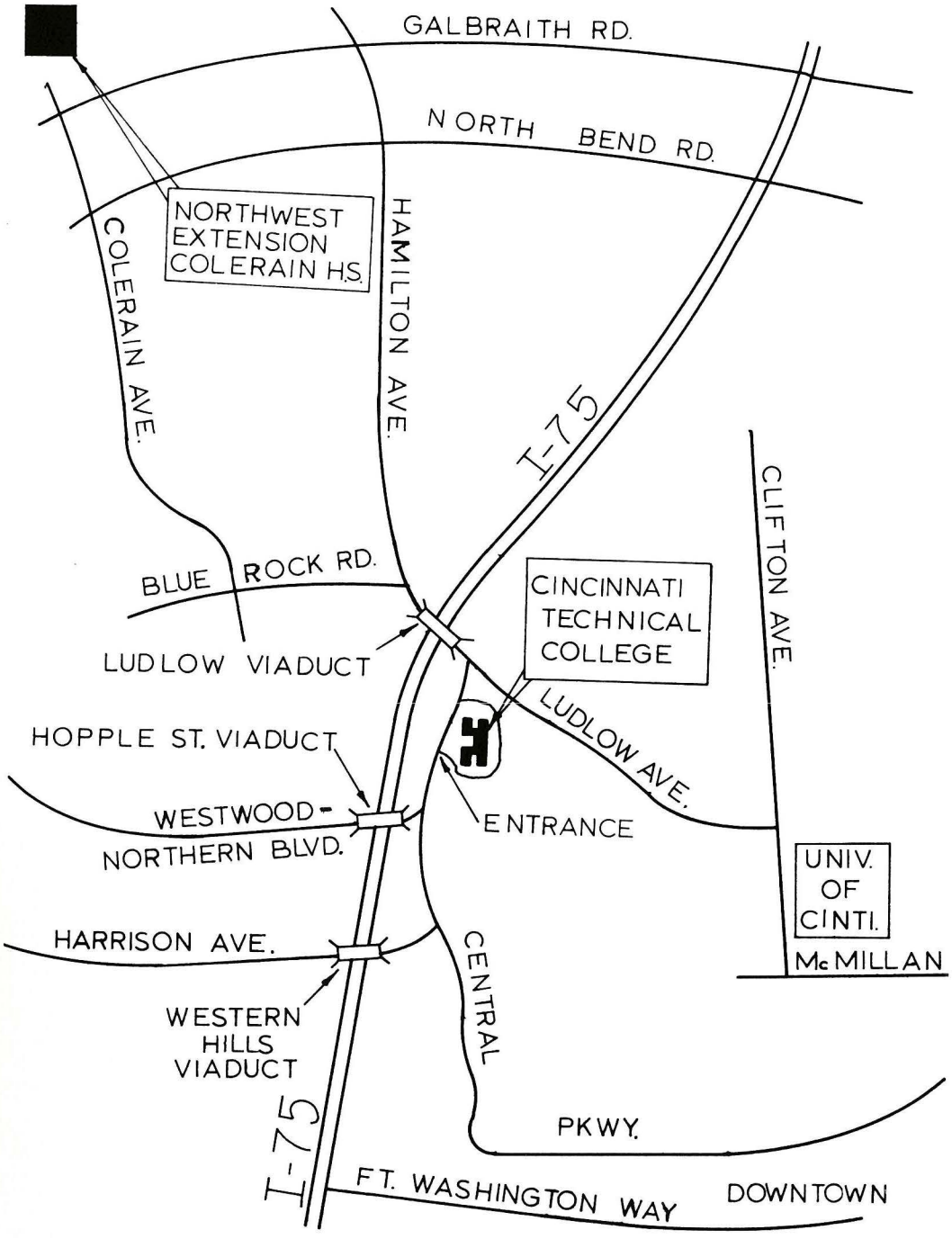
Date Signature

CHECK EACH ITEM LISTED BELOW BEFORE MAILING:

- Has this application been filled in completely?
- A $10 application fee (non-refundable) made payable to Cincinnati Technical College enclosed with this application?

NOTES

NOTES


GALBRAITH RD.
NORTH BEND RD.
NORTHWEST EXTENSION COLERAIN H.S.
COLERAIN AVE.
HAMILTON AVE.
I-75
CLIFTON AVE.
BLUE ROCK RD.
CINCINNATI TECHNICAL COLLEGE
LUDLOW VIADUCT
LUDLOW AVE.
HOPPLE ST. VIADUCT
WESTWOOD - NORTHERN BLVD.
ENTRANCE
UNIV. OF CINTI.
McMILLAN
HARRISON AVE.
CENTRAL
PKWY.
WESTERN HILLS VIADUCT
I-75
FT. WASHINGTON WAY
DOWNTOWN

ASSOCIATE DEGREE PROGRAMS
1973-74

DEPARTMENT OF
BUSINESS TECHNOLOGIES

DEPARTMENT OF
ENGINEERING TECHNOLOGIES

DEPARTMENT OF
ALLIED HEALTH

DEPARTMENT OF
INDUSTRIAL TECHNOLOGIES