

TECHNICAL DIVISION

PART VIII

ALVIN

JUNIOR

COLLEGE

Alvin, Texas 9/1/65

Published at Alvin, Texas, for
use by students, faculty, education-
al institutions, and business firms.

**For:
1965-66**

AREAS OF TRAINING IN TECHNOLOGY

In our rapidly expanding technological era, the community junior college has accepted the responsibility of offering educational training for a great number of students in the technical education fields. This type of training, offering students a program that will lead into an entry into a vocation and full citizenship responsibilities after the two years of formal education, is a necessity for many students, and therefore is felt to be an outstanding service in these areas.

Technical education is most often thought of as a highly organized post-high school training program designed to prepare men and women for work in occupations between that of the craftsman and the professional engineer, and most closely linked to the engineer. The technician is an important member of the industrial team and works with both groups.

The chief purpose of the training program is to prepare men and women for responsible positions in the semi-professional occupations. Also the program endeavors to offer intellectual breadth and personal enrichment as well as occupational proficiency. The total curricula is organized on a high quality level, with the aim in mind of providing needed services to those many students interested in the technical education professions.

NOTE: The program for Data Processing Technology began as a full program in September, 1963; the Drafting Technology began in 1964, the Chemical and Electronics Technology will be inaugurated for the 1965-66 school year, if possible.

A. OBJECTIVES

GENERAL:

The technical curriculum at Alvin Junior College aims to:

- (1) Prepare the graduate of the program to be employable and immediately productive in one of four fields: Chemical Technology, Drafting Technology, Electronics Technology, and Data Processing Technology.
- (2) Advance to positions of increasing responsibility by means of work experience and the taking of advanced technical studies.
- (3) Develop within each individual proper attitudes and responsibilities relative to his chosen field of work.
- (4) Develop and encourage the individual to participate in government on the local and state level and to assume other community responsibilities.

CRITERIA:

The Technical Division at Alvin Junior College has based the criteria for establishing technical training for its students on those which were outlined in seven regional conferences by the Bureau of Educational Assistance Programs, U.S. Office of Education, plus one additional item to give meaning to objective 4 listed above:

- (a) **Facility with mathematics:** The student in the technical division should develop an ability to use algebra and trigonometry as tools in the application of ideas that make use of scientific and engineering principles. In addition, he should gain an understanding of, though not necessarily facility with, higher mathematics through analytical geometry, calculus, and differential equations, according to the requirements of the technology.
- (b) **Proficiency in the application of physical science principles:** Studies will include basic concepts and laws of physics and chemistry that are pertinent to the individual's field of technology.
- (c) **Understanding materials:** This will include also an understanding of processes commonly used in the technology in which the student is enrolled for studies.
- (d) **Knowing fields of specialization:** The course should give each student an understanding of the engineering and scientific activities that distinguish the technology of the field. The degree of competency and the depth of understanding should be sufficient to enable the individual to do such work as detail design using established procedures.
- (e) **Communication skills:** The student must learn definitely to interpret, analyze, and transmit facts and ideas graphically, orally, and in writing.

- (f) **A citizen's role:** Our democracy depends on informed citizens who take an active part in their community and serve whenever they can to further the better life in their home communities. The core of studies will include studies which are designed to make the student proud of advancements made in the United States and in the heritage of our country. In addition, a special effort will be made to equip the student to be a contributing citizen.

I. DATA PROCESSING TECHNOLOGY

This program is designed to develop a technician capable of progressing to such positions as Senior or Chief Tabulator, Tabulating Supervisor, Systems Analyst, or Programmer. On completion of the total program the student will receive a Certificate of Technology in Data Processing, in addition to the Associate in Science Degree.

COURSES: First Year

Introduction to College Accounting, Acct. 183	(3)
Composition and Rhetoric, English 113	(3)
Algebra for Business Majors, B.A. 113	(3)
The United States to 1865, History 183	(3)
Introduction to Data Processing, DPT 103C	(3)
Unit Record Equipment Operation, DPT 103D	(3)
Introduction to College Accounting, Acct. 193	(3)
Business Machines and Machine Accounting, B.A. 183	(3)
The United States since 1865, Hist. 193	(3)
Technical Mathematics for Data Processing, DPT 103E	(3)
Advanced Control Panel Wiring, DPT 103F	(3)
Computer Programming I, DPT 103G	(3)

Second Year

Cost Accounting, Acct. 273	(3)
Principles of Economics, Eco. 183	(3)
American National and State Government, Govt. 213	(3)
Data Processing Applications, DPT 203C	(3)
Computer Programming II, DPT 203D	(3)
Technical Report Writing, Eng. 133	(3)
Fundamentals of Speech, S. 113	(3)
Statistics, B.A. 213	(3)
Accounting Systems and Data Processing, DPT 203E	(3)
Elective	(3)

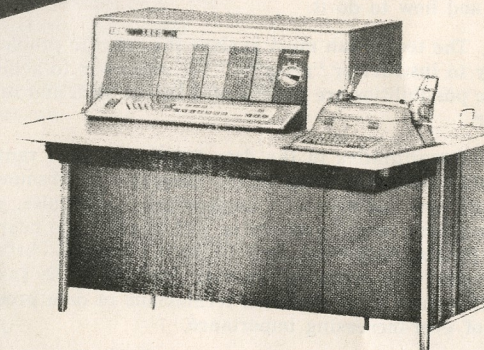
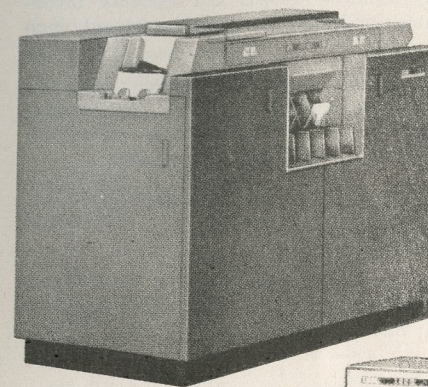
CREDIT: 60-66 semester hours

DIPLOMA: Associate in Science

Suggested Electives: B.A. 123, Economics 193, Government 223, DPT 103T, DPT 203F, Law 213, Accounting 283, DPT 203G.

ALVIN JUNIOR COLLEGE

ALVIN, TEXAS



DATA PROCESSING TECHNOLOGY

For

BUSINESS APPLICATIONS

ENGINEERING

SCIENTIFIC RESEARCH

YOU can now prepare for your place in the space age by earning an ASSOCIATE IN SCIENCE DEGREE in the new two-year program which began FALL SEMESTER 1963.

THE NEED — FOR DATA PROCESSING TECHNOLOGY

The new requirements of modern business, industry and science have created a tremendous demand for persons skilled in the technical field of data processing.

Skilled handling and control of business records and accounts, inventory, sales, income, and expenditures are essential to management decisions.

United States Department of Labor statistics indicate that seven positions will be available during the next decade for every five qualified persons. By 1970 it is estimated that the data processing industry will employ three million people; it now has less than one-third that number.

At the same time, all projections indicate a lessening demand for unskilled workers. This is the opportune time to prepare for a challenging and rewarding position in this growing field.

The data processing technician works side by side with the business executive, accountant, graduate engineer, or scientist. The computer is an amazingly rapid and versatile tool, but it must be "told" exactly what to do and how to do it.

The technician must analyze the specific problem at hand and devise a way to instruct or "program" the computer to achieve the desired results. The possibilities are limited only by the skill and ingenuity of the programmer.

Opportunities in the data processing field range from key punch and basic machine operator to the computer programmer and systems analyst. Many new industries in engineering, electronics, missiles, and manufacturing have recently moved or will move in the near future to Texas—many to Harris, Galveston, and Brazoria Counties—bringing wide demand for persons with technical training. The N.A.S.A. Installation at Clear Lake will require many qualified technicians in data processing. Data Processing is of ever-increasing importance.

THE ANSWER — AT ALVIN JUNIOR COLLEGE

The newly established Department of Data Processing Technology at Alvin Junior College offers courses leading to an Associate in Science Degree and qualification as a computer programmer.

The balanced two-year curriculum draws upon the offerings of other departments to provide courses in general education and supporting subject matter for specialized technical studies.

The two-year curriculum has four consecutive semesters of work. At the end of the **First Semester** the student is a qualified operator of electromechanical equipment concerned with data processing. At the end of the **Second Semester** he is qualified to supervise and operate most of the existing data processing unit-record equipment. By completing the **Third Semester** he becomes qualified as an assistant programmer.

II. DRAFTING TECHNOLOGY

The drafting technician is an essential member of the technician-engineering team. He should be proficient in both technical knowledge and skills involving drawing instruments as schematics, working drawings, and blueprints are developed. This program provides an opportunity for students to specialize in several phases of drafting, with proper qualifications for employment as Junior Draftsman in the fields of drafting technology.

COURSES: First Year

Fundamentals of Drafting, Dft. 113	(3)
General Engineering Problems, E.P. 113	(3)
Composition and Rhetoric, Eng. 113	(3)
Technical Mathematics I, Math 103D	(3)
General Physics	(4)
Descriptive Geometry, D.G. 183	(3)
Machine Drafting, Dft. 104D	(4)
Technical Report Writing, Eng. 133	(3)
Technical Mathematics II, Math 103E	(3)
General Physics	(4)

Second Year

Architectural Drawing, A.D. 113	(3)
Construction Drafting, Dft. 204D	(4)
Strength of Materials, Phy. 233	(3)
Government 213	(3)
History 183	(3)
Pipe Drafting, Dft. 204E	(4)
Surveying, E.D. 102	(2)
History 193	(3)
Elective *	(3)

CREDIT: 60-65 semester hours

DIPLOMA: Associate in Science

*Suggested Electives: Dft. 203F, Structural Drafting; Machine Shop 183; Psychology 213; Sociology 213; Economics 183; Speech 113 or 123; Geography 183; Government 223.

III. ELECTRONICS TECHNOLOGY

The electronics technician prepares himself for employment in the area of production and maintenance, research, medical laboratory work, and as assistants in the engineering fields of radio, television, communication, and electronic equipment sales. The curriculum is so designed to provide a basic general education in mathematics, science, English, and human relations; specialized instructions in electronics theory and circuits, vacuum tubes, transistors, amplifiers, power supplies, transmitters and test equipment applications; and practical demonstrations of industrial electronic central equipment.

COURSES: First Year

D.C. Theory and Laboratory, E.T. 104D	(4)
A.C. Theory and Laboratory, E.T. 104E	(4)
Technical Mathematics I, Math 103D or Alg. 113	(3)
Composition and Rhetoric, Eng. 113	(3)
Fundamentals of Drafting, Dft. 113	(3)
Alternating Current Circuit Analysis, E.T. 104G	(4)
Vacuum Tubes and Transistors I, E.T. 104K	(4)
Technical Math II, Math 103E or Trig 123	(3)
History 183	(3)

Second Year

Vacuum Tubes and Transistors II, E.T. 204L	(4)
Basic Electronic Systems I, E.T. 204R	(4)
Basic Electronic Circuits, E.T. 204D	(4)
Technical Writing, Eng. 133	(3)
History 193	(3)
Vacuum Tubes and Transistors III, E.T. 204M	(4)
Basic Electronic Systems II, E.T. 204S	(4)
Transistor Applications and Advanced Circuits, E.T. 204G	(4)
Advanced Electronic Circuits and Systems, E.T. 204T	(4)
Government 213	(3)
Elective*	(3)

CREDIT: 60-71 semester hours **DIPLOMA:** Associate in Science

*Suggested Electives: Government 223, Psychology 213, Economics 183.

Building and Equipment

The electronics department will be housed in a laboratory-lecture room, storeroom, and office which are a part of the new addition to be added to the existing science building.

The combination lecture-laboratory is equipped with four student benches arranged so that three groups of two students may work at each bench and with each group having 20 square feet of work area. Each

bench has ten cabinets and seven drawers and each is equipped with gas. There is a work bench and sink along one of the walls. The back of the room has a series of cabinets in which the students may store their own personal equipment such as projects and tools. In the front of the room there is a lecture platform, blackboard, projection screen, and entrances to the storeroom, and office. The remaining wall is covered with a test bench and glass storage cabinets. Also a tool chest, drillpress, bench grinder, and bench vises are placed about the room. The laboratory will accommodate 24 students, however equipment for only 20 students will be supplied until expansion is necessary.

The store room is equipped with adjustable wooden shelves. The office contains desk, filing cabinets, chairs, and shelves.

TECHNOLOGY

TUITION AND FEES

For tuition purposes, the students who enroll in Alvin Junior College will be classified as follows:

1. **In-District**—Students who are residents of the Alvin Independent School District.
2. **Out-Of-District**—Students whose homes are not in the Alvin Independent School District but who are residents of Texas.
3. **Out-Of-State**—Students whose homes are outside the State of Texas.

Tuition: (For Technical Division only)

Resident of Texas Student:

Tuition is \$8.00 per semester hour; maximum tuition is \$65.00 for a full load.

Out-Of-State Student:

Tuition is \$17.00 per semester hour; maximum tuition is \$200.00 for a full load.

Summer School Tuition: Ten dollars per semester hour. (\$10.00).
Auditors pay same tuition.

Laboratory Fees: Courses in the Technical Division carry a laboratory fee of \$8.00 per semester each.

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