BESSEMER STATE TECHNICAL COLLEGE

general catalog

1982  1984
CORRESPONDENCE DIRECTORY

Administrative Affairs and General Matters
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Financial Matters..............................The Business Manager
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Information for Prospective Students
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Job Placement and Student
   Follow Up..................................Coordinator of Job Placement
Night Classes.................................Coordinator of Evening Programs
Industrial Training and
   Cooperative Education..................Coordinator of Industrial Training

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General Catalog

April 1982                      Vol. No. 3

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ADMINISTRATION AND CONTROL

Bessemer State Technical College is part of the state system of technical colleges authorized by the Alabama Legislature under Act No. 93, approved May 3, 1963. This institution is under the supervision of the Alabama State Board of Education. The President of the College is directly responsible to the State Board of Education through the State Superintendent of Education.

ALABAMA STATE BOARD OF EDUCATION

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Bessemer State Technical College/Equal Opportunity
In Education and Employment

It is the official policy of the Alabama State Department of Education and Bessemer State Technical College that no person in Alabama shall, on the grounds of race, color, handicap, sex, religion, creed, national origin, or age, be excluded from participation, be denied the benefits of, or be subjected to discrimination under any program, activity, or employment. Bessemer State Technical College complies with non-discriminatory regulations under Title VI and Title VII of the Civil Rights Act of 1964; Title IX Educational Amendment of 1972; and section 504 of the Rehabilitation Act of 1973. Inquiries concerning this policy may be directed to Dr. Charles L. Payne, President, Bessemer State Technical College, P.O. Box 308, Bessemer, AL 35021.
COLLEGE ADMINISTRATION AND STAFF

Office of President
  President  Dr. Charles L. Payne
  Secretary  Gina Albright

Office of Dean of Instruction
  Dean of Instruction  Ed Blake
  Secretary  Betty Gamble

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  Secretary  Audrey Johnson

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  Registrar  Ruth Love
  Records Clerk  Marilyn Busby

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  Coordinator  Bettye Abbott
  Secretary  Dorothy Wall

Office of Student Financial Affairs
  Financial Aid Officer  H. L. Quisenberry
  Secretary  Willie Avery
  Secretary  Shirley Roy

Bookstore
  Manager  William Blackerby
  Bookstore Clerk  Lillie Pearson
  Bookstore Clerk  Betty Ginn

Job Placement Office
  Placement Coordinator  Richard Bivin

Office of Evening Programs
  Coordinator  James Natale
  Records Secretary  Wanda Donaldson
  Counselor  Don Daniel
COLLEGE ADMINISTRATION

Office of Industrial Training & Cooperative Education
Coordinator  Walter W. Henley

Office of Special Services
Director  Mattie Hendrix
Secretary  Deloris Smith

Cafeteria
Manager  Ruth Horn
Assistant  Marie McDaniel

Maintenance
Supervisor  John Hayes
            Joe Swedenburg
            Cleveland Martin
            Mildred Holderfield
            Richard Smith
            Robert Oakes

Security
Guard  William Foster
       Bill Donaldson
       Ivey Smith

FACULTY

Accounting  Tom J. Land, Instructor
Air Conditioning & Refrigeration  A. J. Knight, Instructor
Automotive Engine Rebuilding  Robert T. Reese, Instructor
Automotive Mechanics  Harold Kirkpatrick, Instructor
                      Chris Tortorici, Instructor
                      Roy Trucks, Instructor
Automotive Parts Technology  James O. Smith, Instructor
Building Construction Technology  Gorden E. Thomason, Instructor
Building Maintenance  Willie Carter, Instructor
Commercial Art  Tom Immier, Instructor
Data Processing Technology  Fred Baker, Instructor
                      Karen Lawley, Instructor
                      Charles Ramey, Instructor
Dental Assisting  Ruby D. Lewis, Instructor
Diesel Mechanics  Walter Ralph Pyle, Instructor
Drafting Technology  Don Daniel, Instructor
                      Melvin Hartley, Instructor
Dressmaking and Alterations ........ Dorothy Stone, Instructor
                                   Zettie Walters, Instructor

Electronics Technology .............. Ken Boswell, Instructor
                                   Clarence Johnson, Instructor
                                   Jack Walters, Instructor

Food Service ........................ Lesley Romano, Instructor

Horticulture ......................... Fred Kapp, Instructor

Licensed Practical Nursing .......... Shirley Bailey, Instructor
                                   Gale Bearden, Instructor
                                   Judith Bradley, Instructor
                                   Cavelie Conaway, Instructor
                                   Carol Copeland, Instructor
                                   Bobbie Daniel, Instructor
                                   Edna Dilmore, Instructor
                                   Lillie Harrington, Instructor
                                   Carol Scroggins, Instructor

Machine Shop Technology ............. H. R. Jones, Instructor
                                   Larry McCraw, Instructor

Major Appliance Servicing .......... A. J. Knight, Instructor

Metalcasting ........................ Howard Floyd, Instructor

Offset Printing ....................... Joe D. Phillips, Instructor

Retailing and Merchandising ........ Ronald M. Moon, Instructor

Secretarial Programs ................. Dr. Gladys N. Harvell, Instructor
                                   Hazel E. Morris, Instructor

Small Engine Mechanics .............. Willie Thomas, Instructor

Upholstery ........................... Joseph A. Cook, Instructor

Welding ............................... Hace L. Alldredge, Instructor
                                   Bobby Gunter, Instructor

Adult Basic Education ............... Estelle Willingham, Director
                                   Shirley Bush, Instructor
                                   Alma Jaynes, Instructor

Related Programs ...................... James Carnes, Related Mathematics
                                   Instructor
                                   Charles Ellison, Related Mathematics
                                   Instructor
                                   Joy Hester, Communicative Skills
                                   Instructor
                                   Dr. Louise Leigh, Communicative Skills
                                   Instructor

Special Services ..................... Annette Ray, Instructor
                                   Mildred Snyder, instructor
INTRODUCTION TO THE COLLEGE

Bessemer State Technical College is the largest college in Alabama's system of 29 technical colleges and institutes.

Tech offers 28 programs of technical, health, business, and skill training designed specifically to meet the occupational goals of students and the employment needs of businesses and industries in Central Alabama. Each course of study is planned for students who have the interest, desire, aptitude and ability to learn the occupation and, who upon completion, will become employed and prepared to progress satisfactorily in their chosen careers.

Course lengths vary from nine months to two years depending on the complexity of course content and the necessary time required to prepare an individual for the occupation he or she chooses to pursue. Graduates of the college receive either a diploma or Associate in Applied Technology Degree.

Students completing the programs offered at Bessemer State Technical College have an option of continuing their education toward an advanced degree. Athens State College, an upper division institution, is authorized by the State Board of Education to accept up to 65 quarter hours credit for technical college courses. State universities, depending on the institution, will apply technical college course work toward degrees.

Bessemer Tech is the only public institution of post-secondary education in Jefferson County devoted exclusively to skill and technical training. Opportunities for the college's graduates are great considering that 24 percent of the civilian work force of Alabama is employed in the Standard Metropolitan Area of Birmingham. Annual surveys of Tech graduates indicate 95 percent placement in occupations for which they trained or in closely related occupations.

GENERAL INFORMATION

HISTORY

During the 1963 session of the Alabama Legislature, a special tax was approved which created a comprehensive system of technical colleges and institutes. Bessemer State Technical College is one of the 29 technical colleges and institutes established by the action of the State Legislature.

Recognizing the urgent need to provide technical and skill training for persons in Jefferson County and in Bessemer, in particular, Bessemer business and industrial leaders and city offi-
GENERAL INFORMATION

Officials proposed a resolution to the State Department of Education requesting that Bessemer be selected as the site for one of the technical institutes. The resolution was approved in the fall of 1963.

A site of 34 acres was selected on U. S. Highway 11 South. The City of Bessemer purchased the property and deeded the property to the Alabama Trade School and Junior College Authority. Construction of the new campus began shortly thereafter.

Bessemer Tech accepted its first students on April 4, 1966 and offered six programs of study. The first class numbered 47 day-time students and 30 night students.

During the first stages of growth, the college was known as the State Vocational-Technical School. The first official name was the John R. Pelham Technical-Trade School. The name was changed later to Bessemer State Trade School. On August 16, 1966, the name was again changed by legislative action to Bessemer State Technical Institute. Bessemer Tech was accredited by the Southern Association of Colleges and Schools in 1972 and in August, 1973, achieved college status. Accreditation enabled Bessemer State Technical College to grant an Associate in Applied Technology Degree.

In order to meet the demands created by rapidly increasing student enrollment, the City of Bessemer acquired and donated an additional 23 acres of property in 1973 to allow for future expansion of Bessemer State Technical College. Construction on the new property began in 1975.

Expansion of facilities has continued from 1975 with the construction of the Jess Lanier Building and the Millsap Industrial Training Center. The new facilities enabled the college to expand its course offerings to programs in Automotive Parts Technology and Automotive Engine Rebuilding. The college also expanded services to businesses and industries by offering apprentice training, up-grade training and multi-craft training. A new position was created to coordinate the industrial training programs.

Services to Tech students were also expanded to include the establishment of a Placement Office to assist students and graduates with job placement and to maintain a current file of follow-up data on working graduates.

Bessemer State Technical College serves as the area test center of Alabama to administer the National Occupational Competency Training Institute (NOCTI) Examination. Since 1974 the NOCTI Examination has been recognized by the State of Alabama as certifying competency of the instructional staff prior to receiving continuing service status.

The college began developing a program of cooperative education in the Fall Quarter of 1981 which has enabled the college to
substitute practical application experiences off-campus for laboratory assignments conducted on campus. Bessemer Tech was instrumental in having the cooperative education experience approved by the State Department of Education for funding.

During the first 15 years of operation, the curriculum has been expanded to 28 programs of study, and enrollment has increased to over 2,500 students. Bessemer State Technical College is now the largest among the state's 29 technical colleges and institutes.

PHILOSOPHY

Bessemer State Technical College has the firm belief that this institution has an obligation to provide education that will train an individual for meaningful employment, leadership, and citizenship. The college, therefore, is committed to the development of the individual's ability to think clearly and critically, to communicate effectively, and to use various disciplines to solve the problems which face a productive worker. The college operates according to the principle that theory and knowledge gained in the classroom will be reinforced by practical experiences in shops and laboratories and that safe work practices will be strongly emphasized. The college believes that the necessary skills and knowledge can be acquired best under the instruction and supervision of an instructor who is proficient in his/her field.

The institution seeks (1) to offer training programs that are designed to meet the needs of students with varied educational backgrounds and wide ranges of interests, aptitudes, and abilities, (2) to develop the curricula to meet the needs and desires of business, industry, and the community, (3) to furnish a disciplined environment conducive to learning, and (4) to provide proficient instructors who offer leadership, guidance, and inspiration.

Through the above, the college strives to develop a skilled worker who understands the basic principles of his/her professional counterparts and who understands the basic principles of professional and/or semi-professional jobs. The college believes that as technological changes and developments occur, the skilled worker will play an even more essential role in the economy and will have the opportunity to rise to professional status through further study and experience.

OBJECTIVES

The specific objectives of Bessemer State Technical College are to:

1. Provide physical facilities, competent staff, equipment, and curricula necessary to prepare the student for a job commen-
1. Surate with the needs of business, industry, and the community.
2. Assist the prospective student in choosing an area of study in which he/she is likely to achieve success.
3. Give the prospective student a realistic assessment of the current employment opportunities in the field of his/her choice.
4. Develop in the student those leadership qualities and abilities which promote satisfactory and continuous employment in his/her chosen field.
5. Create the awareness that on-the-job proficiency is essential to a feeling of worth and self-respect which every citizen desires.
6. Instill in the student the importance of safe work procedures and train the student in the application of safe work practices.
7. Assist the student/graduate in obtaining employment.
8. Assist the student/graduate as technology changes.
9. Make available to each student pertinent information, such as: programs of study, cost of programs, financial assistance when available, counseling services, tutoring services and transportation.

ADVISORY COMMITTEES

The primary objective of vocational technical education is to train its graduates for useful and profitable employment. Therefore, it is important that vocational and technical educators work with community, industrial and business groups to constantly evaluate programs and to assure up-to-date course content. Bessemer Tech achieves this objective through advisory committees appointed for each department. These committees are composed of leaders from business and industry in the immediate area. Each committee makes recommendations concerning the total college program, suggests specific courses of study, and assists in recruitment and placement of students.

CALENDAR

Bessemer State Technical College enrolls students for day and night classes in September, December, March and June. BSTC is in session 220 days each year. Night classes are in session 175 days, Monday - Thursday each week.

Days not in session:
1. One week of spring holidays (to coincide with AEA).
2. Two weeks summer vacation.
3. One week in September for an instructor conference and in-service meetings.
4. One day for Fourth of July.
5. One day for Labor Day.
6. One day for Veteran’s Day.
7. Two days for Thanksgiving.
8. Two weeks for Christmas and New Year Holidays.

THE CAMPUS

Bessemer State Technical College occupies approximately 50 acres of rolling and wooded property in the southern section of Bessemer. The main campus is composed of 34 acres and is connected with the North campus by a drive paralleling the interstate system. North Campus provides acreage for Tech’s future expansion.

THE INSTRUCTIONAL BUILDINGS

Building A is located at the main entrance to the campus and provides facilities for administrative offices, the college’s bookstore and cafeteria; and classrooms, and laboratories for Licensed Practical Nursing, Dental Assisting, Data Processing Technology, Data Entry/Keypunch, Major Appliance Repair, Upholstery, Dressmaking and Alterations, Industrial Electronics Technology, Secretarial Programs, Accounting, and related courses.

Building B is a two-story structure located adjacent to Building A. Programs occupying the building are Offset Printing, Air Conditioning and Refrigeration, Welding, Drafting, Machine Shop, Metalcasting Technology, Adult Basic Education, Commercial Art and Special Services.

Building C is a single-story building providing facilities for Automotive Mechanics.

Building D is located on the southern most area of the main campus and houses programs in Diesel Mechanics and Small Engine Mechanics. The building also serves as headquarters for the college’s transportation department.

Jess Lanier Building provides facilities for the Automotive Parts Technology, Automotive Engine Rebuilding, and Retailing and Merchandising Technology programs.

Millsap Industrial Training Center is designed to accommodate classroom and laboratory instruction for apprenticeship, up-grade and multi-craft training for industry. The President’s Office, Dean of Instruction’s Office, Curriculum Lab, Industrial Training and Cooperative Education Coordinator’s Office, State Vocational Re-
GENERAL INFORMATION

habilitation Office, and the College's Pre-Entrance Testing and GED Testing Center are located in this building.

North Campus is composed of a cluster of buildings housing Building Construction Technology, Building Maintenance and Ornamental Horticulture Technology programs.

COLLEGE INFORMATION AND REGULATIONS

ENTRANCE REQUIREMENTS

1. High school graduates or GED equivalents will be considered for entrance into all training programs provided they score satisfactorily on pre-entrance admissions tests administered at the college. Applicants who do not achieve satisfactory scores as established by the college will be considered for admission into developmental courses or a more appropriate training program. Students successfully completing the developmental courses and otherwise eligible for admission will be placed in the applicant pool for the program requested and will be considered for admission as space becomes available.

2. Non-graduates of high school who have previously dropped from high school will be considered for entrance only into the trade programs provided they score satisfactorily on pre-entrance admission tests administered by the college. Each non-graduate of high school will be scheduled for GED preparation courses as part of each college day each quarter until the GED test is passed, unless exempted from these courses by the college. Non-graduates of high school who do not make satisfactory scores on the pre-entrance test will be considered for GED preparation courses only.

PROCEDURE FOR ADMISSION

1. A student eligible to enroll must obtain an application for admission from the Bessemer State Technical College Administrative Office.

2. The application must be completed in full, signed, and forwarded to the college with payment of a $5.00 application fee. This fee is not refundable. A transcript of grades from the last school attended must be received before entering day classes.

3. A health certification statement is required and must be on file before entering classes in health related programs and food service.

4. Each applicant for day classes must take an aptitude test which will be given by appointment only through the Student
Services Office. This test is used as an aid in determining the applicant's potential in the program he chooses. A personal interview is conducted by a counselor after completing the test.

5. Each properly completed application will be processed and approved or disapproved. The student will be notified if he/she is disapproved by the College’s Admissions Committee.

6. Bessemer State Technical College admits as regular students only those persons having a high school diploma or the recognized equivalent (GED Certificate). All other students are considered special students and must pass the GED.

TRANSFER STUDENTS

Any applicant who previously attended another post secondary college will be considered a transfer and will be required to furnish an official transcript of all work attempted at all other institutions prior to admission to BSTC.

1. Only those courses completed at other accredited institutions with a grade of “C” or better will be considered for transfer credit.

2. A transfer student whose cumulative grade point average is less than 1.00 on a 3.00 scale will be admitted on academic probation and be subject to the same probation and suspension regulations as returning students.

3. Any applicant who has been suspended from another institution for disciplinary reasons or has a criminal record will be considered for admission to BSTC only upon approval of the Admissions Committee.

4. Credit granted will be based on a comprehensive evaluation of the student’s ability and previous training. The college is authorized to award up to, but not more than, four quarters’ credit to students with previous academic training or experience.

5. The student must complete at least one quarter of work on campus to qualify for graduation.

6. Only equivalent courses will be considered for transfer of credit.

ARTICULATION

The college offers students who enter an occupational program, and who can document previous education or experience in the occupation, an opportunity to pass challenge examinations and receive advanced standing credit from the college. Students desiring to apply for advanced placement should do so by submitting a written request to the registrar prior to enrolling.
GENERAL INFORMATION

PRE-REGISTRATION

All students at Bessemer Tech are pre-registered each quarter prior to the beginning of classes. New students who have been accepted for admission will be notified when to pre-register. Due to the demand for many programs, it is imperative that new students pre-register during the period designated. Students who are unable to pre-register during the period assigned or who decide not to enroll should contact the Registrar's Office immediately.

Pre-registration for new students is conducted in the college Bookstore. A list of the required tools, supplies and books will be available for each person registering. Registration is completed with the payment of tuition or through arrangements for payment approved by the college's Financial Aid Office. Students must be prepared to begin classes with the necessary tools, supplies and books.

All students are required to pre-register for each subsequent quarter. Completion of pre-registration within the period designated for pre-registration of presently enrolled students will assure that classroom and laboratory space will remain available for those students to continue in their programs.

Students who pre-register and do not attend classes or students who fail to meet scholastic requirements for continuation in the program will receive a refund according to the State adopted refund policy.

EVALUATION OF STUDENTS

The instructor will evaluate students through tests, quizzes (oral or written), projects, and work assignments. Scheduled announced final examinations will be given during the last week of each quarter.

Students who miss tests and examinations have the responsibility of making arrangements with their instructors regarding make-up exams.

The criteria for determining grades are daily work, periodic examinations, initiative and neatness of work.

GRADING SYSTEM

Quarterly grade point averages are computed on a 3.0 system. A grade of A receives 3.0 quality points per credit hour; B, 2.0 quality points per credit hour; C, 1.0 quality points per credit hour; D and below, 0.0 quality points per credit hour. The quarterly grade point average is determined by computing the quality points earned for each course attempted and dividing by the total credit hours attempted during that quarter.
A .................. Excellent (90-100)
B .................. Good (80-89)
C .................. Average (70-79)
D .................. Passing (60-69)
F .................. Failure (Below 60)
I .................. Incomplete
FA ................. Failure for excessive absences
W .................. Withdrawal
WF .................. Withdrawal Failing

A grade of incomplete is assigned when the quality of work has been passing but the student has been prevented by illness or other justifiable causes from completing the required work or from taking the final examination. If the cause is personal illness, the student should present a statement signed by the attending physician. A grade of incomplete must be cleared within the first four weeks of the following quarter.

A grade of W (Withdrawal) is assigned as follows without loss of credit:
1. When a student withdraws within the first three weeks of the quarter.
2. When a student withdraws to accept employment in the field or related field upon recommendation of his or her major instructor.
3. When a student, who is maintaining satisfactory progress, must withdraw due to a justifiable cause, such as recommendation of a physician.

A grade of WF (Withdrawal Failing) is assigned as follows with loss of credit:
1. Failing to follow the procedure for change of status.
2. Failing to maintain satisfactory progress.
3. Withdrawing after the first three weeks of the quarter without acceptable reason.

To remain in college, a student must maintain a satisfactory progress report as determined by the instructor and the president of the college.

DEAN'S LIST
If a student's quarterly grade point average is 2.5 to 3.0, he/she will be placed on BSTC's Dean's List for that quarter.

SCHOLASTIC PROBATION AND SUSPENSION
If a student's quarterly grade point average is below 1.0 (C) in all subjects attempted or below 1.0 in his/her major course of
study, the student will be placed on probation. If the student does not improve the quarterly grade point average to an overall 1.0 and a 1.0 in his/her major course of study the next quarter attempted, the student will be suspended for one quarter. Consideration will be given for immediate transfer to another occupational training area if the student meets the program qualifications.

A student electing to serve one-quarter suspension will be permitted to re-enter his/her major program on probationary status; however, if the student is unable to remove probationary status the next quarter attempted, the student will be terminated from the major program. Special Services is available to students needing assistance.

Students on probation for two consecutive quarters as a result of lack of attendance will be terminated.

ATTENDANCE REQUIREMENTS

Day classes at Bessemer State Technical College begin at 8:00 a.m. and continue until 2:30 p.m. Monday through Friday. Evening classes are scheduled Monday through Thursday from 6:00 p.m. to 9:45 p.m.

The attendance policy applies to all students enrolled at Bessemer State Technical College and is approved by the State Board of Education. The college will permit only five (5) absences per quarter for any and all reasons. Any student exceeding five (5) absences per quarter or any student absent three (3) consecutive days will automatically be dropped. A decision to re-enter a student dropped due to excessive absences will be based upon the reason for the period of absences and an evaluation by the instructor to determine if the student has demonstrated the ability to satisfactorily complete the course requirements for the quarter. When a student has been dropped for excessive absences and wishes to re-enter, a re-entry form must be filled out by the student and approval given by the Admissions Committee before the student may re-enter at the beginning of the quarter. A student is responsible for arranging with his/her instructor to make up any lab or class work missed when he/she is absent from class.

Three (3) tardies will count as an absence. A student is tardy when he/she is more than five (5) minutes late for a scheduled class or leaves the class early or before the instructor officially dismisses class.

In the event an instructor is not present when the class is scheduled to convene, students must remain in the classroom until the instructor arrives or until official word is received.

Absences and tardies should be rare and occur only under the most compelling circumstances.
CHANGE OF STATUS

To discontinue a course, make a schedule change, or withdraw from college, a student must obtain from his/her Faculty Advisor an authorization to change schedule. This form should be filled out by the Faculty Advisor, signed by each instructor from whom the student takes a class, and returned to the Registrar’s Office by the Faculty Advisor. A student who unofficially discontinues a course without officially withdrawing will receive a grade of WF for the course.

CHANGE OF MAJOR

Students desiring to change their major course of study must notify the registrar at least six weeks prior to the beginning of the next quarter. Approval for a change of major will depend on recommendation of the counselor and availability of training space within the program.

CLASSIFICATION OF STUDENTS

A full-time student is one enrolled for 30 hours per week; a half-time student is one enrolled for 15 hours per week, and a part-time student is enrolled for less than 15 hours per week. Students attending evening programs are classified as part-time or half-time students.

GRADUATION REQUIREMENTS

A student successfully completing his/her course requirements will be awarded either an Associate in Applied Technology Degree, a diploma or certificate depending on the courses completed.

Because students complete course requirements at various times during the college year, BSTC has no scheduled graduation exercises except for Licensed Practical Nursing and Dental Assisting.

All fees and bills for services rendered by the college and a $10.00 degree/diploma fee must be paid to the cashier’s office before a student is granted an Associate in Applied Technology Degree or a diploma.

A college certificate of completion of a limited number of hours of training may be awarded to a student for short-term courses and evening course completions. All financial obligations to the college must be met before a certificate is awarded.

Each Associate in Applied Technology Degree, diploma or certificate will stipulate the specialty area in which it is earned.
GENERAL INFORMATION

Associates in Applied Technology Degrees, diplomas or certificates will be awarded to those who:

1. Satisfactorily complete prescribed curricula.
2. Abide by all regulations of BSTC.
3. Meet all financial obligations to the college.
4. Have an overall grade point average of 1.0 or above.
5. Have an overall grade point average of 1.0 or above in major field of study.
6. Are high school graduates or who have earned the GED equivalent.

The student's advisor must submit a request to the registrar recommending the student for either an Associate in Applied Technology Degree, diploma or certificate.

It is the responsibility of each student to check with his/her major advisor in scheduling classes in order to complete graduation requirements in the shortest length of time possible. Students should only take the courses shown on their curriculum unless otherwise approved by the Major Advisor and Dean of Instruction. All students are required to complete at least one quarter of math and one of communicative skills before any graduation award is issued.

An Associate in Applied Technology Degree is awarded to students who satisfy the basic requirements in all related and major courses as outlined in the Bessemer State Technical College catalog.

A Diploma is awarded to students in a day or evening program who satisfy the requirements of a specific terminal program as outlined in the catalog.

A Certificate is awarded only to students for evening training, short courses and special industry training with Continuing Education Units (CEU). The students must meet all course requirements.

PERSONAL CONDUCT

A student is expected to maintain at all times a proper respect for order, morality, the rights of others, and such sense of personal honor as demanded of good citizens. The college reserves the right to exclude at any time students whose conduct is deemed improper or prejudicial to the good order and interest of Bessemer State Technical College.

STUDENT GRIEVANCE PROCEDURE

A copy of the Student Grievance Procedure is available from the Dean of Instruction's Office to all students.
DRESS POLICY

The following dress code has been formulated by a committee with the objective of creating and maintaining an atmosphere conducive to learning.

The policies are consistent with efforts to improve the health, physical appearance, safety and welfare of BSTC students.

1. Students should always be well groomed and dressed appropriately for classes. Being well groomed refers to cleanliness of the body, hair and clothing.
2. Students should not wear any sign, symbol or other mode of dress which would antagonize other students, disrupt the atmosphere of learning, or attract undue attention to the wearer.
3. Students must wear shoes at all times on campus.
4. Hats may be worn in classrooms, laboratories and shops only in accordance with sound safety practices.
5. Students wearing long hair in shop training are required to follow sound health and safety rules of controlling the hair from hanging down in the face and being exposed to moving equipment.
6. All shop instructors are charged with the responsibility of requiring their students to wear clothes in keeping with good sound safety rules of the Federal Occupational Safety and Health Act.
7. Food Service students must wear hair covering.

VISITORS

All visitors to BSTC, regardless of the nature of their visit, must report to the receptionist's office and secure a visitor's pass. The visitor's pass must be in the possession of the individual at all times. Unauthorized visitors will not be permitted on campus.
FINANCIAL INFORMATION

Tuition Day Classes
Tuition is $500.00 per year, payable in installments of $125.00 per quarter for day courses.

Tuition Night Classes
Tuition for night classes is payable quarterly: $51.25 per quarter for students attending two nights each week: $101.25 per quarter for students enrolled four nights per week.

Tuition Out-of-State and International Students
Tuition for out-of-state students is $250.00 per quarter. Tuition for international students is $250.00 per quarter.
Rules and regulations for determining residence status are available in the Student Services Office.

Other Fees and Insurance
1. Application fee for initial entrance to the college $5.00 (non-refundable).
2. Insurance, $2.00 per quarter (day students only). Accident insurance provides full coverage of $1,000 maximum per accident.
3. Student identification card, $1.00.
4. Student parking decal, $1.00.
5. Late registration fee (incurred if registration is not completed on designated date without special provisions being made), $10.00.
6. Diploma and Associate Degree fee (payable at graduation), $10.00.
7. The first transcript is free. Each additional transcript, $3.00.

REFUND POLICY
If a student officially withdraws after registering but before classes begin, the total tuition paid will be refunded to the student. All students who officially withdraw during the first three weeks of classes will be refunded according to the following pro-rated schedule:

1. Withdrawal during the first week—75% of tuition refunded.
2. Withdrawal during the second week—50% of tuition refunded.
3. Withdrawal during the third week—25% of tuition refunded.
4. Withdrawal after close of third week—No refund.

Refunds are computed according to the day the student actually appears at the college to withdraw officially and not according
to the last day of attendance. An official request for a refund must be made at the College's Bookstore.

The following are nonrefundable:

1. Fee for first application to the college.
2. Late registration fee.
3. Fee for student identification.
4. Student insurance fee.
5. Parking decal fee.

FINANCIAL ASSISTANCE PROGRAMS

Bessemer State Technical College offers students a full-time comprehensive Office of Student Financial Aid.

Applying for Financial Aid:

1. Pick up a Basic Grant Application Form from the Financial Aid Office at Bessemer Tech in the Administrative Building. Follow instructions for completing the form carefully. Assistance is available from the Financial Aid Office.
2. After the application is completed, mail it to the Basic Grant Processing Center in the envelope provided. The application will be processed using a standard formula for determining eligibility for financial aid programs developed by the U.S. Department of Education.
3. Approximately six to eight weeks after the application has been received by Basic Grants, the applicant should receive several copies of a Student Eligibility Report (SER) in the mail. All copies of the SER should be brought to the Financial Aid Office as soon as possible.

Funds received by grant or work programs are not repayable. Funds received by loan programs must be repaid by the student to the lender.

Basic Educational Opportunity Grant (BEOG)—Pell Grants

A student is eligible for this program if: (1) He/she is determined to have financial need based on the Basic Grant eligibility formula and the cost of education at Bessemer Tech; (2) He/she is an undergraduate student enrolled in an eligible institution on at least a half-time basis; (3) He/she is a U.S. citizen, national, or permanent resident of the United States; and (4) Has not used up full eligibility for Basic Grant.

College Work-Study (CWSP)

The College Work-Study Program provides jobs for students who need financial assistance to attend BSTC.
GENERAL INFORMATION

In arranging a job and determining how many hours a week the student may work under this program, the financial aid officer will take into account: (A) The student's proven need for financial assistance; (B) The student's class schedule; and (C) The student's health and academic progress. Pay rates are based on the current minimum wage, but can be related to the type of work and proficiency required of the student.

Federal funds made available at BSTC are limited; therefore, not all students who apply and are otherwise eligible can be assisted.

To apply for College Work-Study the student must:

1. Provide a completed needs analysis. In most cases this will be accomplished when the student receives a Basic Grant SER. In many cases a student can be ineligible for a Basic Grant but be eligible for College Work-Study.
2. Have been enrolled for at least one full quarter in an eligible training program.
3. Be in good academic standing with at least a 1.00 grade point average.
4. Be enrolled as a full-time student.
5. Complete an institutional financial aid application.

Supplemental Educational Opportunity Grants (SEOG)

The SEOG program is for students of exceptional financial need who without this grant could not attend college. These are grants and are not repaid by the student.

Federal funds made available to sponsor this program at BSTC are limited; therefore, not all students who apply and are otherwise eligible can be assisted.

A separate institutional Financial Aid Application must be completed for SEOG along with the Basic Grant application. Institutional Financial Aid Applications are available in the Financial Aid Office.

Alabama Student Assistance Program (ASAP)

The Alabama Student Assistance Program is a State/Federal aid program designed to provide financial assistance to residents of the State of Alabama for undergraduate post-secondary education within the state.

All ASAP grants are awarded for one year. The grants are renewable, but a new application must be made each year. All awards are determined by student eligibility requirements, available funds, and student need. Awardees are notified by the Student Financial Aid Office.
Guaranteed Student Loans (GSL)

The Guaranteed Student Loan Program enables a student to borrow directly from a bank, credit union, savings and loan association or other participating lender which is willing to make the loan. The loan is guaranteed by a state or private non-profit agency or insured by the Federal Government.

The maximum a student may borrow as an undergraduate is $2,500 a year. The interest rate on these loans is 9 percent.

The Federal Government will pay the interest until repayment of the loans begins and during authorized periods of deferment.

The loan must be repaid. Payments normally begin between 9 and 12 months after students graduate or leave college, and students may be allowed to take up to 10 years to repay the loan. The amount of payments depends upon the size of the debt and the students' ability to pay; but in most cases payments must be at least $360 a year unless the lender agrees to a lesser amount.

Deferment is available any time students return to full-time study at an eligible institution or pursue a course of study under a graduate fellowship program approved by the Commissioner of Education. A single deferment for a period of not more than one year is also provided for students who are unable to find full-time employment.

Emergency Loans

The Sears-Roebuck Foundation has established a short-term emergency loan program at the college. Loans are only made for tuition and fees and must be repaid in thirty days. All loans are made on a first-come first-serve basis.

Students attending Bessemer State Technical College on financial aid have certain rights and responsibilities pertaining to their awards. These are listed below.

Student Rights — The student has the right to ask the college:

* What financial assistance is available, including information on all federal, state, and institutional financial aid programs.
* What the deadlines are for submitting applications for each of the financial aid programs available.
* What the cost of attendance is, and what the refund policy is.
* What criteria it uses to select financial aid recipients.
* How it determines financial need. This process includes how costs for tuition and fees, room and board, travel, books, and supplies, personal and miscellaneous expenses, etc., are considered in your budget.
* What resources (such as parental contribution, other financial aid, your assets, etc.) are considered in the calculation of your need.
GENERAL INFORMATION

* How much of your financial need, as determined by the institution, has been met.
* To explain the various programs in your student aid package. If you believe you have been treated unfairly, you may request reconsideration of the award which was made to you.
* What portion of the financial aid you received must be repaid, and what portion is grant aid. If the aid is a loan, you have the right to know what the interest rate is, the total is, the total amount that must be repaid, the payback procedures, the length of time you have to repay the loan, and when repayment is to begin.
* How the college determines whether you are making satisfactory progress, and what happens if you are not.

Student Responsibilities — It is the student’s responsibility to:
* Review and consider all information about a college’s program before you enroll.
* Pay special attention to your application for student financial aid. Complete it accurately and submit it on time to the right place. Errors can result in long delays in your receipt of financial aid. Intentional misreporting of information on application forms for federal financial aid is a violation of law and is considered a criminal offense subject to penalties under the U. S. Criminal Code.
* Return all additional documentation, verification, corrections, and/or new information requested by either the financial aid office or the agency to which you submitted your application.
* Read and understand all forms that you are asked to sign and keep copies of them.
* Accept responsibility for all agreements you sign.
* If you have a loan, notify the lender of changes in your name, address, or school status.
* Perform in satisfactory manner the work that is agreed upon in accepting a College Work-Study award.
* Know and comply with the deadlines for application and re-application for aid.
* Notify the Student Financial Aid Office in writing whenever there is a change of name or address by any student receiving aid.

OFFICE OF VETERANS AFFAIRS

BSTC has an Office of Veterans Affairs. This office assists the veteran in minimizing the problems of adaptation to an educational environment. Services provided by the Office of Veterans Affairs include counseling, referral services, general and specific information about all available benefits, and assistance in filing claims for such benefits.
The Office of Veterans Affairs is located in the Administration Building.

All persons who will be using V. A. educational assistance while enrolled at BSTC should contact the Office of Veterans Affairs as soon as initial admission requirements are completed. All questions concerning regulations governing the use of V. A. educational assistance should be directed to that office.

After course and beginning date have been determined, come by the Office of Veterans Affairs. Bring discharge papers (DD form 214), marriage license and birth certificates of dependent children. If you have previously drawn V. A. educational benefits, also bring your V. A. file number. At this time you will meet with the Coordinator of Veterans Affairs and the proper forms and applications for educational benefits will be completed. If paper work is submitted to the V. A. at least five weeks prior to enrollment, you may receive advance pay for the first two months of college attendance. This advance pay check will be sent to the college; all other checks will go to your home. Your monthly V. A. assistance is paid to you in arrears; this means that you will be paid after a month has been completed rather than in advance. Each quarter you will receive a white IBM certification card. You should sign this card and return it to the office immediately.

Absences should not exceed 30 days a year. Only national holidays are allowable absences. After the thirty days have been used, which includes college closed days, your check will be cut accordingly. If you should be absent three consecutive days, you will be dropped from college. You may re-enter upon the approval of your advisor and/or instructors.

V. A. benefits at BSTC are based on clock hours of attendance by the veteran. Thirty hours per week is full time and fifteen hours is half-time.

MOTOR VEHICLE INFORMATION

The traffic control and parking regulations administered by Bessemer Tech are in accordance with policies adopted and approved by the State Board of Education.

All students must register their motor vehicles when they register to attend classes. The student should be prepared to give his license number, make and model of the motor vehicle. Any motor vehicle, regardless of ownership, that is to be operated on the campus by the student must be registered. There is an annual fee for registration of $1.00. All parking permits expire at the end of summer quarter.

The operator will receive an identification decal to be affixed to the driver's side of the front windshield.
GENERAL INFORMATION

Decals should be removed from a motor vehicle when it is sold or traded. Any changes in motor vehicle ownership must be reported immediately to the business office.

PARKING AND TRAFFIC REGULATIONS

BSTC provides on-campus parking areas for student parking.
1. Students must park only in areas designated for student parking.
2. Faculty and staff members will park in the areas designated for them.
3. No one will be allowed to park in a “Loading” or “No Parking” zone.
4. All traffic signs must be obeyed.
5. The posted speed limit of 15 miles per hour will be enforced.
6. If a motor vehicle must be left on the campus overnight, the Campus Security Guard must be notified.

CITATIONS AND FINES

1. Traffic and parking violators will be issued a citation. The person in whose name the vehicle is registered will be responsible for all citations issued to his/her vehicle on the campus.
2. Fines must be paid within thirty days. Delinquent fines will be added to the student’s financial account with the college. The student will not be permitted to re-enroll until fines are paid. All fines will be paid at the cashier’s office in the bookstore.
3. A citation will be issued for failure to display the registration decal. A $3.00 fine for each violation will be charged.
4. A student parking in loading zones or faculty parking space will be charged a fine of $3.00.
5. A student charged with speeding or reckless driving will be charged a fine of $5.00.
6. Parking and traffic violation fees are only issued to individuals who have been given at least one written warning.
7. Individuals assessed parking and traffic fees may appeal their fee assessments and have their appeals heard within thirty (30) days by a committee appointed by the President.

IDENTIFICATION CARDS

Each student is issued a photo identification card during registration for $1.00. This card will be validated upon payment of tuition each quarter.

The following regulations apply to the ID card system:
1. A student should carry his/her card at all times. When requested by a faculty member or security officer for proper
identification, the student must present his/her card. Failure
to do so may result in disciplinary action or arrest for tress­
passing. Student ID cards are made for personal use only.
Students violating the ID card privileges are subject to proba­
tion.
2. Loss or theft of cards should be reported to the Business Man­
ger.
3. A replacement card will be issued for a fee of $1.00.
4. Each student is required, upon request, to show his/her ID
card to each instructor upon first attending a class.
5. Each student riding a school bus is required to show his/her
ID card to the bus driver.
6. Upon withdrawal from college, a student should turn in his/
her ID card to the Bookstore prior to leaving the campus.

COLLEGE SERVICES

Bessemer State Technical College offers student personnel
services concerned with the training and welfare of each student.
The general program is under the direction of the President with
the entire administrative staff and faculty responsible for seeing
that its objectives are carried out. Included are admissions, test­
ing, counseling, orientation, financial assistance, student records,
student activities, job placement, follow-up, and health services.

GUIDANCE AND COUNSELING

The close student-faculty association at BSTC is conducive to
a student's learning and is beneficial to growth and maturity. The
services of faculty advisors are available to every student. The
faculty advisor is familiar with the college and with the career in­
terest of the student and will assist the student in: (1) arranging
a program of studies and a schedule of classes, (2) planning for
long-range educational goals, (3) finding a job in the area in
which he is trained.

Professional counseling is available in the counseling office,
room A-157, by appointment. The office is open from 8 a.m. -
4 p.m. weekdays, and from 6 p.m. - 9:45 p.m. Monday through
Thursday.

JOB PLACEMENT

It is the philosophy of Bessemer Tech to provide skill training
which will lead to productive employment. Included in this pro­
cess is the development of the student’s personal traits and hab­
its which are important for job success and awareness of the
realities of the job market.
The counselor, job location officer and instructors cooperate fully to help students and graduates seeking part-time and full-time work. Announcements from agencies and private employers are posted for student information. Data concerning specific employers and the labor market are maintained in the Job Placement Office.

Bessemer Tech maintains a full-time Student Placement Office to assist students, graduates, and former students in finding employment and to coordinate the job placement activities of instructors. The Student Placement Office is staffed by an experienced Employment Counselor.

Services to students: Job referrals, job development, job search information, counseling, labor market information, resume writing assistance, job search seminars, civil service announcements, Employment Service job bank job listing, OJT positions, and employer contact files.

STUDENT ACTIVITIES AND ORGANIZATIONS

The faculty encourages extra curricular activities which develop individual initiative, group leadership, and cooperation. Student activities are faculty supervised.

The Intra-College Council has the purpose of coordinating student activities within all departments. Members of the Council consist of the president and vice president, or their proxies, of each student organization at BSTC. The Coordinator of Student Affairs and the guidance counselor are advisors for the Council.

VICA (Vocational Industrial Clubs of America) — The VICA Club, Post-Secondary Division, is open for membership to all students enrolled in vocational and technical courses at the college. The club motto is "Preparing for Leadership in the World of Work". The Skill Olympics Contests are held each spring with local winners competing in the state finals in April. National and international competitions are held in the summer.

PBL (Phi Beta Lambda) — Phi Beta Lambda is the business related club for students in business majors. State and national competitive events are held each year. Members sponsor activities relating to career information, establishing occupational goals, meeting with business personnel, preparing for transition from school to work, practicing efficient money management, and assuming community responsibility.

BSTC Horticulture Club — The BSTC Horticulture Club is open to students majoring in horticulture, as well as any other student with special interest in the area. Club members strive to stimulate interest and improve communication between the BSTC horti-
culture department, students, and nursery people in the industry. The club also sponsors a community beautification program.

**Dental Assisting** — The president serves as the class representative to the Executive Board of the Birmingham Dental Assistant’s Society. The students attend the annual meeting of the Alabama Dental Assistant’s Association and participate in demonstration, essay, and poster contests sponsored by the Society.

**Licensed Practical Nursing** — Each LPN Class elects class officers and sends representatives to the Intra-College Council. The classes sponsor two Red Cross blood drives at the college each year. The students participate in the health fairs throughout the community several times each year.

**The American Institute For Design and Drafting** — Bessemer Tech’s AIDD Chapter is a student organization which promotes professionalism, good citizenship and leadership. To encourage and develop students of design/drafting, AIDD offers a program for the enlightenment of work-a-day problems they will encounter when employed in their chosen career. The annual drafting contest allows student members to join in creative competition with other students throughout the nation. The organization strives to foster a spirit of fellowship among its members, previous drafting program graduates employed in the drafting field and also the employers of drafters in this area.

**STUDENT TRANSPORTATION**

Express school buses provide transportation on designated routes for enrolled students within the college’s attendance area. Buses arrive at the college by 8:00 a.m. and leave at 2:40 p.m. each day.

**TESTING CENTER**

Bessemer State Technical College is a Testing Center for GED (General Education Development) tests and re-tests. Appointments must be made with the GED testing office located in the Millsap Industrial Training Center.

**BOOKSTORE**

The Bookstore is open Monday through Friday, 8:00 a.m. - 3:00 p.m. The Bookstore is open nights from 5:00 p.m. until 8:30 p.m. Monday through Thursday.

**CAFETERIA**

The college serves meals at lunch in the cafeteria. The snack bar is open day and night.
SCHOOL OF PRACTICAL NURSING
Regulations and policies set forth in the preceding pages of this catalog apply to all students, including students enrolled in the Licensed Practical Nursing Program. However, to comply with standards adopted by the School of Practical Nursing and the Alabama Board of Nursing, students must also abide by the regulations and policies included in this section.

PHILOSOPHY

Practical Nursing Education is designed to prepare the graduate as a beginning practitioner, and to give safe and effective nursing care under supervision in a health care facility. The School of Practical Nursing concerns itself with meeting the ever-growing health needs of the community. The graduate of the practical nursing program is prepared to be a responsible and respected member of the community.

The concept of "Total Patient Care" is the primary emphasis in the curriculum. Total patient care can be defined as maintaining man's individuality, promoting normal body functions, and protecting the patient against accidents, infections, and other health hazards. Clinical laboratory experiences afford the student the opportunity to practice manual skills and to give total patient care to a selected group of patients.

Students are assisted to develop desirable attitudes and behavior necessary to obtain and keep a job as a licensed professional. Participation is encouraged in professional organizations as well as community health activities.

Graduates of the program are eligible to take the Alabama State Board of Nursing Examination and upon successful completion become Licensed Practical Nurses in the State of Alabama.

OBJECTIVES

The graduate will be able to:

1. give total patient care safely and effectively using the nursing process as a tool in recognizing and meeting the patient's total needs.

2. develop the necessary attitudes, emotional maturity, and communication skills that foster good inter-personal relationships with the patient, his family, co-workers, and others.
3. function effectively as a beginning practitioner in hospitals and other health care facilities.

4. assume responsibility for his/her actions and take pride in accomplishments within the ethical and legal role of the LPN.

5. continue personal and professional growth by participating in workshops, professional organizations, and advanced nursing education programs.

EDUCATIONAL STANDARDS

Grades are a measure of achievement and are determined on the basis of examinations, tests, and performance of assignments. Students receive numerical grades, which have a scale of 100%, as follows:

- 90-100% .................... A
- 80-89% .................... B
- 75-79% .................... C
- 74-Below .................... F

An average below 75 is not acceptable. A grade of 75 in each area of theory and clinical experience is required in order to be promoted to the next quarter.

EVALUATIONS

Student progress is constantly monitored by the tests given on each unit of instruction and clinical laboratory progress on the related nursing units. Records of these tests and grades are available to the students so that they are aware of their progress. These results are also used for counseling.

Students having academic, behavioral, and/or psychological problems receive counseling from their instructor. The findings and recommendations of the counseling session are recorded on a Student Referral Form which both the student and the instructor sign. Academic and/or disciplinary probation may be recommended if a student is in danger of being dropped from the program.

The following procedures are employed to record the individual student's skill development and educational progress: grade books and grade patterns, performance evaluations, anecdotal notes, cumulative folders, graphics, progress records, standardized achievement tests from the National League for Nursing and State Board examination results.
SEPARATION FROM THE SCHOOL

The faculty may recommend dismissal to a review board of any student whose academic progress, clinical laboratory progress, behavior, or non-compliance with rules makes it inadvisable for the student to remain in the school.

GRADUATION

The requirements for graduation are as follows:
Candidates must complete all four (4) quarters in the curriculum and must have a grade of 75 or above in each course taught in each quarter.
The diploma, school cap, and school pin may be acquired when all of the required areas of learning and clinical laboratory experience have been completed.
Upon successful completion in all areas of the courses of study and acceptable NLN Achievement Test Scores, graduates are eligible to write the examination for licensure as Licensed Practical Nurse in the State of Alabama. The examination for licensure is administered by the Alabama Board of Nursing.

UNIFORMS

A. FEMALE UNIFORM
   The female uniform consists of a green and white pinwale dress or pantsuit with the school emblem, namepin, green and white pinwale cap, white shoes, and white hose.

B. MALE UNIFORM
   The male uniform consists of white trousers, green and white jacket with the school emblem, namepin, white shoes, and white socks.
   White sweaters or white lab coats may be worn with uniform.
   The full uniform is to be worn at all times. This includes watch with second hand, pen, namepin, bandage scissors. A small pocket notebook is recommended.
   No other accessories may be worn except engagement and/or wedding rings, and small earrings.
   Cap is not worn on the street or in public places, unless at an official function approved by the school. It is to be worn in the clinical settings only.

STUDENT POLICIES

PROMOTION

A grade of 75 or above in all courses taught in each quarter is required.
GENERAL ADMISSION REQUIREMENTS

A high school diploma or GED certificate is required.
Applicants must be 17 years of age, or become 17 years of age by the time of admission.
Applicants must make a satisfactory score on nursing pre-entrance tests.
Applicants must have physical and dental examinations, and meet health requirements.
Applicants who have been enrolled in other post-secondary schools or schools of nursing are required to have a transcript sent to Bessemer State Technical College of the previous work.
Any applicant with a record of previous arrests and convictions will be reviewed on an individual basis by the Alabama Board of Nursing and the college's Admissions Committee prior to consideration for enrollment.

RE-ENROLLMENT

Students withdrawing during a quarter for personal problems, excessive absences, or personal illness may be re-admitted. Students are usually not considered for re-enrollment for a period of three months (one quarter) after withdrawal.
Students withdrawing for academic reasons will be evaluated on an individual basis and recommendations for re-enrollment will be made as a result of the evaluation. Students withdrawing with a failing average in any subject area will be considered as academic withdrawals.

ATTENDANCE

Students are expected to attend all sessions of the class in which they are enrolled.
Classroom Day: Students are in attendance from 8:00 a.m. to 2:30 p.m.
Clinical Laboratory Day: Students are in attendance in the clinical setting according to individual hospital policies.
Each student is expected to report to his/her assigned clinical experience unit prior to duty hour in order to receive patient report.

ABSENCES AND TARDINESS

Students are responsible for all material covered in class. Any material missed due to absence must be made up through the student's own effort. Any student who is absent over five (5) days per quarter shall be automatically terminated from the program.
Tardiness cannot be tolerated. Three (3) tardy times will constitute one (1) absent day.

ILLNESS

Five (5) days are allowed for personal illness during the course of study per quarter. Students absent due to personal illness may be required to have a permit from a physician stating they are in condition to resume their academic and clinical responsibilities.

All absent time for illness or other reasons cannot exceed five (5) days per quarter.

STUDENT RESPONSIBILITIES

Classroom Day: In case of absence or tardiness, the student must notify the clinical experience unit prior to the hour designated for assignment.

Students must report all absences daily.

Students are expected to abide by the student guidelines for appropriate classroom and clinical behavior as designated by the individual instructor.

STUDENT HEALTH

Good physical and mental health are a necessary attribute for the practical nursing student.

Good physical and mental health is maintained by daily exercise, good body posture, well cared-for mouth with regular dental inspection, clean body, wholesome mental attitude, proper use of leisure time, adequate rest, proper nutrition and periodical physical examinations and immunizations.

HEALTH REQUIREMENTS

Students are expected to complete the following prior to consideration for enrollment:

Complete Physical Examination
Immunizations, to include: Tetanus, Poliomyelitis, and TB Skin Test.
Dental Examination — Corrections if indicated.
Eye Examination — Corrections if indicated.
Laboratory Examinations, to include: Hemoglobin or Hematocrit, Blood Serology and Urinalysis.
Chest X-Ray
HEALTH RECOMMENDATIONS

It is recommended that students complete or obtain the following prior to consideration for enrollment:

- Weight in proportion to height.
- Hospitalization insurance.

PREGNANCY

If pregnancy occurs while enrolled in school, the situation will be evaluated on an individual basis. The student is required to bring written permission from her physician stating she is able to continue in school. Students may not begin a quarter if her expected date of delivery is prior to the last day of that quarter. Students who must be withdrawn due to pregnancy will be considered for re-enrollment at a later date.

The School of Practical Nursing assumes no responsibility for medical care or expenses before or during the student’s enrollments in the school.

PROVISION FOR ILLNESS

If illness or an accident occurs while on duty in the hospital, the student must notify the instructor and/or head nurse. In case of an illness or accident, the student may be sent to his/her personal physician or sent to the hospital emergency room for treatment.

Respective hospital policies will be followed in these situations.

COURSE OF STUDY

Classroom and clinical laboratory days are determined by the respective class and clinical laboratory schedules and the master rotation.
PROGRAMS OF STUDY
GENERAL INFORMATION

Sample curricula of the full-time programs of study offered at Bessemer State Technical College are included in this section. The sequence of the courses may vary according to student demand.

Students enrolled in the full-time programs are scheduled for 30 hours of training per week on a quarterly basis. The instructional day consists of a total of six hours including theory and the application of the theory in laboratory assignments. The courses are operated on a contact hour basis, and quarter hours credit is computed on the basis of one hour credit for each hour per week of theory and one hour credit for each three hours per week of laboratory training. The student's grade point average is computed on the credit hour basis.

Each program requires a minimum of one course in mathematics and one course in communicative skills. Related course requirements vary for each program. The college may substitute courses when necessary with the approval of the Dean of Instruction. The college reserves the right to make course changes within the curricula as technology changes.

Brief descriptions of the courses are contained in the Course Description section of this catalog.

Students desiring to attend classes less than full-time are referred to the programs offered at night. A complete listing of the night classes is contained in the Night Program section of this catalog.
ACCOUNTING TECHNOLOGY (ATT)
ASSOCIATE IN APPLIED TECHNOLOGY

The Accounting Technology program is designed to train through a sequence of experiences those students interested in the accounting skills for initial employment. Fundamental accounting principles and procedures, cost accounting, income tax procedures, payroll accounting, and accounting for business decisions are presented in detail. The curriculum also includes courses related to accounting which will provide the graduate with a better understanding of business processes.

Students entering the Accounting Technology program may choose either to pursue the Associate in Applied Technology program or diploma program. The diploma is achieved after completing the first four quarters of the program. Two additional quarters are necessary for the Associate in Applied Technology.

ACCOUNTING
Associate in Applied Technology

<table>
<thead>
<tr>
<th>FIRST QUARTER</th>
<th>Clock Hrs.</th>
<th>Per Week</th>
<th>Qtr. Hrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATT 111</td>
<td>Theory</td>
<td>5</td>
<td>Lab</td>
</tr>
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AIR CONDITIONING AND REFRIGERATION (ACR)

DIPLOMA PROGRAM

The air conditioning and refrigeration program trains the technician to service, install and repair refrigeration, air conditioning and heating equipment for domestic and industrial users, and to accept the responsibility for equipment selection, sizing, installation and service supervision.

The student is instructed in the procedure for determining malfunctions in equipment and to use mechanical, electrical and refrigeration processes for returning the equipment to efficient operation.

The student learns to dismantle defective equipment and to repair or replace parts such as switches, relays, fan motors, thermostats and other components using hand tools and power tools. In addition to servicing equipment, the student learns to install units, components, and accessories in a specified location using tools, instruments and welding equipment.

ATT 214 Advanced Accounting 5
ATT 264 " Lab 2
## AIR CONDITIONING AND REFRIGERATION

### Diploma Program

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ACR 222 Heat Pumps 5 0 5
ACR 272 Heat Pumps Lab 0 10 3
Total 10 20 16

AUTOMOTIVE MECHANICS (AMC)
DIPLOMA PROGRAM

The Automotive Mechanics program teaches the student to diagnose the mechanical problem and to make the necessary repairs to all components of the automobile. Students successfully completing the two-year program receive a diploma.

The course is designed to teach the student the mechanical theory of the automobile and to allow the student to immediately apply this newly gained knowledge in shop experiences including live-work projects.

The program is constantly up-dated as new and more complex mechanical and electrical features are added to the automobile.

AUTOMOTIVE MECHANICS
Diploma Program

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AUTOMOTIVE PARTS TECHNOLOGY (APT)

ASSOCIATE IN APPLIED TECHNOLOGY

DIPLOMA PROGRAM — AUTOMOTIVE ENGINE REBUILDING

Bessemer State Technical College provides the student desiring a career in the automotive aftermarket two options. The college offers a six-quarter Associate in Applied Technology Degree in Automotive Parts Technology and a one-year diploma program in Automotive Engine Rebuilding.

The Automotive Parts Technology program includes theory, laboratory and shop work and other specialized learning experiences relating to receiving, stocking, selling, and shipping merchandise in the automotive parts industry. Students completing this program are prepared for entry-level employment as an automotive parts counterman.
The Automotive Engine Rebuilding program includes the principles of power, and the fundamentals of the automobile engine and contemporary power plants. The program provides practical laboratory experiences in automotive engine overhaul, valve train systems and short block assembly.

AUTO PARTS TECHNOLOGY
Associate in Applied Technology

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| APT 141              | 5      | 0   | 2      |
| RMA 131              | 5      | 0   | 5      |
| ATT 222              | 5      | 0   | 5      |
| **Total**            | 20     | 10  | 24     |

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| APT 211              | 5      | 0   | 5      |
| APT 263              | 0      | 15  | 5      |
| APT 193              | 0      | 5   | 2      |
| MET 111              | 5      | 0   | 5      |
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| FOURTH QUARTER       |        |     |        |
| APT 271              | 0      | 15  | 5      |
| APT 142              | 5      | 0   | 5      |
| APT 192              | 0      | 10  | 3      |
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**Diploma Program**

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### BUILDING CONSTRUCTION TECHNOLOGY (BCT)

**ASSOCIATE IN APPLIED TECHNOLOGY DEGREE**

Bessemer State Technical College offers a six-quarter program for persons interested in pursuing a career in building construction. Students successfully completing the program receive an Associate in Applied Technology.

The curriculum is designed to prepare the graduate for employment as an estimator, expediter, assistant project manager, project manager, appraiser, inspector or carpenter.

The student learns the theory of building construction in classroom lectures and immediately applies this newly gained knowledge in laboratory experiences. The course includes concentrated study in construction print reading and drawing, electrical wiring, site preparation, building codes, construction methods and techniques, cost estimating, and supervision.
BUILDING CONSTRUCTION TECHNOLOGY

Associate in Applied Technology

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BCT 222 Special Problems
BCT 272 " " Lab
PROGRAMS OF STUDY

SIXTH QUARTER

BCT 221 Building Construction III (Principles of Foremanship) 5 0 5
BCT 271 Practical Application Lab 0 10 3
BCT 274 Field Applications Lab 0 5 2
BCT 225 Construction Print Drawing II 5 0 5
BCT 275 Construction Print Drawing II Lab 0 5 2

Total 10 20 17

BUILDING MAINTENANCE (BLM)

DIPLOMA PROGRAM

Building Maintenance includes theory, laboratory experiences, and live-work projects relative to the repair, alteration and modernization of existing structures. Students completing the nine-month course will qualify to enter the maintenance field in several job areas: industrial, commercial, institutional, as well as apartment and condominium buildings.

Specific training will enable the student to construct and repair partitions, ceilings, doors and windows; to replace and maintain electrical lighting fixtures and electrical outlets; to repair and replace plumbing fixtures, pipe, and hot water heaters; to maintain heating and air conditioning equipment; and to repair carpet, floor tile, plaster and furniture.

BUILDING MAINTENANCE

Diploma Program

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<td>RMA 111 Vocational Math</td>
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<td>RCS 111 Communicative Skills</td>
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<td>BLM 112 Basic Carpentry</td>
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<td>BLM 182 Practical Application Lab</td>
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ACR 113 GEN HVAC MAINT 3 3
ACR 163 " " " LAB 2 1
COMMERCIAL ART (COA)

DIPLOMA PROGRAM

The commercial art program at Bessemer State Technical College is designed to develop the artistic skills of persons who desire to work as graphic artists for advertising agencies and art studios; illustrators for advertising departments of large companies and department stores; advertising designers for mass media; and as freelance artists.

The student receives instruction in the fundamentals of commercial art including perspective, design, color harmony, composition, and the use of various art media. Specialized courses include drawing, advertising and graphic design, lettering, illustration, printing processes, airbrush techniques and photography.

COMMERCIAL ART
Diploma Program

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FIRST QUARTER
COA 111 Basic Drawing 5 0 5
COA 161 Basic Drawing Lab 0 15 5
RMA 111 Vocational Math 5 0 5
RCS 111 Communicative Skills I 5 0 5
Total 15 15 20

SECOND QUARTER
COA 121 Fundamentals of Commercial Design 5 0 5
COA 171 Commercial Design Lab 0 20 7
RCS 112 Communicative Skills II 5 0 5
Total 10 20 17

THIRD QUARTER
COA 131 Layout and Design 5 0 5
COA 181 Layout and Design Lab 0 25 8
Total 5 25 13

FOURTH QUARTER
COA 141 Basic Photography 5 0 5
COA 191 Basic Photography Lab 0 25 8
Total 5 25 13
PROGRAMS OF STUDY

FIFTH QUARTER

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DATA PROCESSING TECHNOLOGY (DPT)
ASSOCIATE IN APPLIED TECHNOLOGY

DIPLOMA PROGRAM — KEYPUNCH/DATA ENTRY

The Associate in Applied Technology program is an 18-month course of Data Processing Technology that is designed to prepare graduates for gainful employment in the field of data processing employing business applications.

Emphasis is placed on systems design, flowcharting, coding, peripheral computer equipment and computer center operations. Extensive laboratory training of practical application with a modern system used by many business and industries in Jefferson County is a plus feature for the Tech graduate entering the data processing field.

Programming languages studied are Assembly, RPG, and Cobol. College level courses in supervision, accounting and other job related courses are included in the curriculum.

Tech also offers courses in data processing of shorter duration. The Keypunch/Data Entry Operator diploma program is a 9-month course. The course is designed to prepare the graduate for a career in data entry or keypunch.

DATA PROCESSING TECHNOLOGY

Associate in Applied Technology

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# KEYPUNCH/DATA ENTRY

## Diploma Program

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<td>DPT 182 Cobol I Lab</td>
<td>0</td>
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| or
| DPT 112* Introduction to RPG | 5 | 0 | 5 |
| DPT 162* Introduction to RPG Lab | 0 | 5 | 2 |
| **Total** | **20** | **10** | **24** |

* One computer programming course is required.

## DENTAL ASSISTING (DAS)

### DIPLOMA PROGRAM

The dental assistant is trained to work with the dentist in the examination and treatment of the dental needs of the patient. In addition to learning clinical procedures, the dental assistant is taught business and laboratory techniques normally required in the occupation. The assistant performs these duties under the supervision of a licensed dentist.

Class activities include lectures, demonstrations, films, conferences, field trips, and attending the meetings of the local and state dental assistants associations.
Through practical application, the student learns operative chairside techniques, methods of sterilization and disinfection, dental instruments, operation and maintenance of equipment, exposing, processing and mounting dental radiographs, and the manipulation techniques and application of dental materials used in clinical dentistry.

During the third quarter of the one year program, the student applies the knowledge and techniques he/she has acquired working with dental students at the School of Dentistry. During the final quarter this knowledge and developed techniques are applied in a private dental practice under the supervision of a licensed dentist.

The Dental Assisting program is accredited by the Commission on Accreditation of Dental and Dental Auxiliary Programs of The American Dental Association. Graduates are eligible to write the certification examination administered by the National Dental Assisting Board.

DENTAL ASSISTING

Diploma Program

<table>
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<td>ATT 222</td>
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DIESEL MECHANICS (DMC)

The two-year Diesel Mechanics program is designed to train mechanics who will have the knowledge and basic skills necessary to repair on-the-road equipment.

The student receives the theory of the diesel engine and various components and immediately applies this knowledge in laboratory assignments with trucks and other diesel and gasoline-powered equipment used for the transportation of freight and people. Instruction includes the disassembly, repair, and assembly of engines (gasoline and diesel), final drives, clutches, hydraulic and pneumatic systems, and other components.

**DIESEL MECHANICS**

**Diploma Program**

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<tr>
<td><strong>AMC 112</strong> Basic Servicing</td>
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<td><strong>AMC 162</strong> Practical Application Lab</td>
<td>0 5 2</td>
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<tr>
<td><strong>RMA 111</strong> Vocational Math</td>
<td>5 0 5</td>
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<tr>
<td><strong>RCS 111</strong> Applied Communicative Skills</td>
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| **DMC 121** Electrical Systems | 10 0 10 |
| **DMC 171** Practical Application Lab | 0 20 7 |
| **Total** | 10 20 17 |

| **DMC 143** Minor Diesel Engine Overhaul | 5 0 5 |
| **DMC 193** Practical Application Lab | 0 25 8 |
| **Total** | 5 25 13 |

| **DMC 141** Clutches and Manual Transmissions | 5 0 5 |
| **DMC 191** Practical Application Lab | 0 10 3 |
| **DMC 132** Power Trains | 5 0 5 |
| **DMC 182** Practical Application Lab | 0 10 3 |
| **Total** | 10 20 16 |
FIFTH QUARTER
DMC 131 Fundamentals of Hydraulics 5 0 5
DMC 181 Practical Application Lab 0 10 3
DMC 212 Air and Hydraulic Brakes 5 0 5
DMC 262 Practical Application Lab 0 10 3
Total 10 20 16

SIXTH QUARTER
DMC 221 Blowers 5 0 5
DMC 271 Practical Application Lab 0 10 3
DMC 222 Turbochargers 5 0 5
DMC 272 Practical Application Lab 0 10 3
Total 10 20 16

SEVENTH QUARTER
DMC 222 Diesel Engine Tune-up 5 0 5
DMC 272 Practical Application Lab 0 25 8
Total 5 25 13

EIGHTH QUARTER
DMC 243 Major Diesel Engine Overhaul 5 0 5
DMC 293 Practical Application Lab 0 25 8
Total 5 25 13

DRAFTING AND DESIGN TECHNOLOGY
ASSOCIATE IN APPLIED TECHNOLOGY

The skilled drafting and design technician is an essential link between the engineer and the shop where the final product is constructed. As a member of a technical team, the drafting technician will do detail and layout drafting, design and development. He or she may advance to positions in checking, estimating, manufacturing, and supervision. The Associate in Applied Technology Degree program is designed to qualify the graduate for performance of these duties and for advancement.

The Drafting and Design Technology program requires six quarters to complete. Emphasis is on mechanical, structural, piping and electrical drafting. Courses in mathematics, science, and the humanities provide the graduate the ability and assurance that is needed on the job and to communicate with associates on various levels of management, engineering and shop.
# PROGRAMS OF STUDY

## DRAFTING AND DESIGN TECHNOLOGY

**Associate in Applied Technology**

<table>
<thead>
<tr>
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<th>Theory</th>
<th>Lab</th>
<th>Credit</th>
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<td>RMA 121 Applied Algebra I</td>
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<td>DRT 231 Advanced Drafting III (Structural/Welding)</td>
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**Additional Courses:**
- **DRT 215** Computer Aided Drafting (2-3)
- **DRT 265** CAD Lab (2-3)
- **DRT 225** DRT 275
DRESSMAKING AND ALTERATIONS (DRM)

DIPLOMA PROGRAM

The Dressmaking and Alterations program at Bessemer State Technical College can be completed in one year. Students are awarded a diploma in recognition of completing all course work.

The curriculum is designed to provide the student the opportunity to apply in practical laboratory assignments the knowledge gained through theory taught in the classroom.

Students successfully completing the program are proficient in all phases of clothing construction, alterations of clothing, and the repair of garments.

### DRESSMAKING AND ALTERATIONS

#### Diploma Program

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FOOD PRODUCTION AND SERVICES (FOS)

DIPLOMA PROGRAM

Bessemer State Technical College offers the person interested in pursuing a career in the vast field of food service the opportunity to gain necessary knowledge and practical experience for
an entry-level job. Persons completing the four-quarter program are awarded diplomas.

The student receives instruction from a staff that is highly skilled and experienced in quantity food production and service. The college's cafeterium, equipped with commercial kitchen equipment, provides a training laboratory and offers practical experience in the preparation and service of food.

**FOOD PRODUCTION AND SERVICES**

**Diploma Program**

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<td>FOS 121</td>
<td>Preparation of Salads, Breads,</td>
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<td>FOS 131</td>
<td>Preparation of Vegetables and Fruits</td>
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**INDUSTRIAL ELECTRONICS TECHNOLOGY (EIT)**

**ASSOCIATE IN APPLIED TECHNOLOGY**

Bessemer State Technical College offers an Associate in Applied Technology for the student preparing for a career as an industrial electronics technician.

The curriculum is designed to provide specific training in the generation, transmission, distribution and utilization of electrical power, electrical circuits, instrumentation and test equipment, transformers, direct and alternating current machinery, industrial
control equipment, electrical drafting, industrial electronic apparatus, digital and static control circuits including microprocessor based systems.

The student also learns the technical science of mathematics and technical drawing and is trained in written and oral communications.

Students participating in the Industrial Electronics program learn the theory through lectures and immediately apply this newly gained knowledge in laboratory experiences. The laboratories supporting this program are well equipped to provide the student with practical experience in working with equipment used by industry.

**INDUSTRIAL ELECTRONICS TECHNOLOGY**

**Associate in Applied Technology**

<table>
<thead>
<tr>
<th>Clock Hrs. Per Week</th>
<th>Qtr. Hrs. Credit</th>
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<tbody>
<tr>
<td>Theory</td>
<td>Lab</td>
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<tbody>
<tr>
<td>EIT 111</td>
<td>Electronic Theory I</td>
</tr>
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<td>Electronic Theory I Lab</td>
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# PROGRAMS OF STUDY

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**Total** 15 15 21

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### LICENSED PRACTICAL NURSING (LPN)

#### DIPLOMA PROGRAM

The objective of the School of Practical Nursing at Bessemer State Technical College is to offer a basic program of education which will prepare graduates to function effectively as Licensed Practical Nurses. Students graduating from the one-year program receive a diploma.

Emphasis is placed on the practical application of knowledge gained through lectures, demonstrations, and laboratory experiences. Students receive clinical experience under the supervision of qualified instructors at modern medical facilities in hospitals throughout Jefferson County.

The LPN Program is approved by the State Department of Education and the Alabama Board of Nursing. Graduates of the program are eligible to write the Examination for Licensure, State of Alabama.
### LICENSED PRACTICAL NURSING
#### Diploma Program

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PROGRAMS OF STUDY

MACHINE SHOP TECHNOLOGY (MST)

ASSOCIATE IN APPLIED TECHNOLOGY DEGREE

The six quarter associate in applied technology program in Machine Shop Technology prepares the student for entry-level positions in the machinist field.

The program provides instruction in the operation of standard metal cutting machine tools and equipment, such as the milling machine, lathe, shaper, drill press, jig borer, slotter, power saw; pedestal, cylindrical and surface grinders. The student learns the theory of operation of these various pieces of equipment and immediately applies what he/she has learned in shop assignments. These assignments are completed under conditions very similar to on-the-job situations.

To supplement shop experience, the curriculum includes related courses in blueprint reading, use of machinery handbook, mechanical drawing, applied mathematics, communicative skills, economics, and business and industrial psychology.

MACHINE SHOP TECHNOLOGY

Associate in Applied Technology Program

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## MAJOR APPLIANCE REPAIR (MAR)

### DIPLOMA PROGRAM

The Major Appliance Repair Program is four quarters in length and is designed to develop technicians who are capable of performing quality maintenance work and diagnosing technical difficulties encountered on the job. The student also learns the proper methods of installing major appliances in homes and businesses.

The initial courses in the program include instruction in basic principles of each major domestic appliance to provide the student an understanding of the cause of mechanical and electrical failures. Through laboratory experiences, the student learns to read schematic drawings to determine location, size, capacity, and types of components used in major appliances.

As the student progresses through the course, he or she receives instruction in the installation of units, components and accessories, and gains practical experience in the use of tools, instruments, wiring techniques and welding equipment.
## MAJOR APPLIANCE REPAIR

### Diploma Program

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### METALCASTING (MTC)

**Diploma Program**

The Metalcasting Technology program at Bessemer State Technical College has been developed with assistance from the American Foundryman's Society for the purpose of training foundry workers who will be capable of advancing to first-line foundry supervisory positions.
The program is designed to provide the student with a basic understanding of the theory of operation of the foundry plus the knowledge necessary to do the work associated with foundry operations including core making, pattern usage, molds, casting and furnace operation. The student will become familiar with testing, inspection, maintenance, material organization, economics and procedures.

The college has facilities, equipment, materials and faculty, plus related instruction and laboratories for foundry training, and has access to expert industrial personnel and specialized industrial facilities in the area to aid the student in meeting his career objectives.

METALCASTING
Diploma Program

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Clock Hrs. Per Week</th>
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</table>
Bessemer State Technical College offers a two-year diploma program for persons interested in entering the field of printing and publishing. The program is designed to acquaint the student with the major phases of producing quality printed material and to give the student the opportunity in his or her final year to specialize in a particular occupational area in offset printing.

Following a thorough introduction to offset printing, the student concentrates on learning the theory and practical application of offset press operation, graphic arts camera techniques, platemaking and stripping, and bindery processes. The final three quarters are devoted primarily to a printing production specialty in preparation for employment.

In addition to learning to perform with efficiency in the major departments of a printing or publishing firm, the student acquires a working knowledge of copy design and preparation and specialized printing techniques, including advertising and graphic design, typography and silk screen printing.

The student learns the theory of offset printing through individual and classroom instruction and applies this newly gained knowledge in a shop equipped with modern equipment identical, in most cases, to the equipment he or she will be using on the job.

### OFFSET PRINTING (OPR)
#### DIPLOMA PROGRAM

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SECOND QUARTER
OPR 121 Offset Press Operation 5 0 5
OPR 171 Offset Press Operation Lab 0 20 7
RCS 111 Applied Communicative Skills 5 0 5
Total 10 20 17

THIRD QUARTER
OPR 131 Graphic Arts Camera 5 0 5
OPR 181 Graphic Arts Camera Lab 0 20 7
RMA 131 Business Math 5 0 5
Total 10 20 17

FOURTH QUARTER
OPR 141 Platemaking and Stripping 5 0 5
OPR 191 Platemaking and Stripping Lab 0 25 8
Total 5 25 13

FIFTH QUARTER
OPR 211 Bindery 5 0 5
OPR 261 Bindery Lab 0 25 8
Total 5 25 13

SIXTH QUARTER
OPR 221 Production Specialty I 5 0 5
OPR 271 Production Specialty I Lab 0 25 8
Total 5 25 13

SEVENTH QUARTER
OPR 231 Production Specialty II 5 0 5
OPR 281 Production Specialty II Lab 0 25 8
Total 5 25 13

EIGHTH QUARTER
OPR 241 Production Specialty III 5 0 5
OPR 291 Production Specialty III Lab 0 25 8
Total 5 25 13

ORNAMENTAL HORTICULTURE (OHT)
ASSOCIATE IN APPLIED TECHNOLOGY DEGREE

The Ornamental Horticulture Program presents subject matter and laboratory learning activities that will prepare the student for successful employment in the production, management, sales, and services of horticulture enterprises.

The student receives general knowledge that will qualify him/her for greenhouse, nursery or garden center management; plus specialized courses in plant growth, propagation, landscaping, soils and fertilizers, pruning and maintaining trees and shrubs, establishing and maintaining lawns and golf course grounds, vegetable gardening, herbicides, insecticides and fungicides.
The course is designed to teach the student to operate and maintain any horticulture equipment and/or enterprise. Laboratory experience is provided at Tech's modern greenhouse and nursery facilities.

**ORNAMENTAL HORTICULTURE TECHNOLOGY**

**Associate Degree Program**

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<td>Landscaping Maintenance</td>
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SIXTH QUARTER
OHT 221 Special Problems 5 0 5
OHT 271 Practical Application Lab 0 20 7
RMA 131 Business Math 5 0 5
Total 10 20 17

RETAILING AND MERCHANDISING TECHNOLOGY (MET)
ASSOCIATE IN APPLIED TECHNOLOGY DEGREE

The Associate in Applied Technology Program in Retailing and Merchandising is designed to provide training for students whose career objective is in the marketing, sales and sales related areas. Special emphasis is placed on effective selling, advertising as it relates to retailing, retail supervision, business procedure and accounting.

The organizational structures of the sole proprietor business to the mass merchandisers are included to give the student a better understanding of varied business operations. Each major subject in the curriculum is complemented with a laboratory period which enables the student to gain the practical application of theory learned in classroom lectures.

An important facet of any business operation, credit and collection, is included. The student also participates in retail employee case studies which will prepare him as he advances to management level positions.

RETAILING AND MERCHANDISING TECHNOLOGY
Associate in Applied Technology Degree

<table>
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<th>Clock Hrs. Per Week</th>
<th>Qtr. Hrs.</th>
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<td>MET 171</td>
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PROGRAMS OF STUDY

THIRD QUARTER

MET 131 Retail Salesmanship 5 0 5
MET 181 Practical Application Lab 0 5 2
MET 132 Sales Promotion-Merchandise Display 5 0 5
MET 182 Practical Application Lab 0 10 3
MET 133 Retail Transactions 5 0 5

Total 15 15 20

FOURTH QUARTER

MET 141 Credit and Collection 5 0 5
MET 191 Practical Application Lab 0 5 2
MET 142 Retail Organization 5 0 5
MET 192 Practical Application Lab 0 5 2
ATT 222 Business Industrial Psychology 5 0 5
RCS 121 Technical Writing 5 0 5

Total 20 10 24

FIFTH QUARTER

MET 211 Retail Employee Case Studies 5 0 5
MET 261 Practical Application Lab 0 5 2
MET 212 Retail Buying 5 0 5
MET 262 Practical Application Lab 0 5 2
ATT 111 Accounting I 5 5 7

Total 15 15 21

SIXTH QUARTER

MET 221 Retail Communications 5 0 5
MET 271 Practical Application Lab 0 10 3
DPT 117 Introduction to Data Processing 5 0 5
MET 222 Applied Economics 5 0 5
MET 223 The Retail Consumer 5 0 5
MET 224 ENTREPRENEURSHIP 5 0 5

Total 20 10 23

RETAIL MERCHANDISING

Diploma Program

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<td>RMA 131</td>
<td>Business Math I</td>
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<td>RCS 111</td>
<td>Communicative Skills</td>
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<td>RCS 141</td>
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Total 15 15 22

SECOND QUARTER

MET 121     | Applied Advertising                      | 5 0 5              |
MET 171     | Practical Application Lab                | 0 5 2              |
SEC 112     | Beginning Typewriting                    | 0 5 5              |
RMA 132     | Business Math II                         | 5 0 5              |
RCS 121     | Communicative Skills II                  | 5 0 5              |

Total 20 10 27
### THIRD QUARTER

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<td>MET 212</td>
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<td>MET 182</td>
<td>Sales Promotion-Merchandise Display</td>
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<td>MET 183</td>
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**Total**: 20 10 24

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<td>MET 192</td>
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<td>MET 222</td>
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<td>RCS 121</td>
<td>Technical Writing</td>
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**Total**: 20 10 24

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**SECRETARIAL PROGRAMS (SEC)**

**DIPLOMA PROGRAM**

The Secretarial program is a comprehensive curriculum composed of planned learning experiences designed to enable the student to:
1. Develop saleable skills in shorthand, typewriting, office procedures, accounting, records management, math, letter writing, office machines, and transcribing machines.
2. Develop the attitudes and behaviors necessary to perform well and progress rapidly in an office environment.
3. Develop abilities to communicate and get along well with others.
4. Gain an understanding of the nature, demands, and importance of office work.
5. Know the kinds of office work in which employment may be found.
6. Make the transition from student to office employee with minimum difficulty.

Two programs are available. The diploma in Stenography is achieved after four quarters (12 months) of study. The diploma in Typing/Transcription is achieved after three quarters (9 months). A major difference in the Typing/Transcription program is that the student learns the use of dictation machines rather than shorthand.
## STENOGRAPHY
### Diploma Program

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TYING/TRANSCRIPTION

Diploma Program

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SMALL ENGINE MECHANICS (SMC)

DIPLOMA PROGRAM

The course in Small Engine Mechanics is designed to train the student to become a competent service and repairman.

The training involves instruction in diagnosis, repair, replacement of parts, unit assemblies, troubleshooting, disassembly and assembly, and testing.

The course includes the principles of small gasoline engines, both two and four cycle, and air-cooled and water-cooled engines. The first two quarters of the five-quarter course are devoted to fundamentals of gasoline engines, electrical systems and engine reconditioning.

The advanced courses are organized into domestic-use engines such as lawn and garden equipment; recreation-use engines including outboard engines; and industrial-use engines, such as chain saws and portable industrial equipment.
SMALL ENGINE MECHANICS
Diploma Program

FIRST QUARTER
SMC 111 Introduction to Small Engine Repair 5 0 5
SMC 161 Practical Application Lab 0 20 7
RMA 111 Vocational Math 5 0 5
Total 10 20 17

SECOND QUARTER
SMC 121 Fundamentals of Engine Reconditioning 5 0 5
SMC 171 Practical Application Lab 0 20 7
RCS 111 Communicative Skills 5 0 5
Total 10 20 17

THIRD QUARTER
SMC 131 Domestic Use Engines 5 0 5
SMC 181 Practical Application Lab 0 25 8
Total 5 25 13

FOURTH QUARTER
SMC 141 Recreation Use Engines 5 0 5
SMC 191 Practical Application Lab 0 25 8
Total 5 25 13

FIFTH QUARTER
SMC 211 Industrial Use Engines 5 0 5
SMC 261 Practical Application Lab 0 25 8
Total 5 25 13

UPHOLSTERY (UPH)
DIPLOMA PROGRAM

The two-year course in Upholstery is designed to prepare the student for an entry-level job in upholstery. The student learns the various styles and types of furniture and is given practical laboratory experience in the construction, spring up and covering of the frames.
# UPHOLSTERY
## Diploma Program

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Course Code</th>
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PROGRAMS OF STUDY

WELDING DIPLOMA PROGRAM

The Welding program provides the student the opportunity to acquire the necessary skills, knowledge and experience for employment in welding occupations.

The student learns the basic and more advanced processes and skills in oxyacetylene welding, electric arc welding, gas tungsten arc welding, metallic arc welding, gas metal arc welding, flux core welding, and submerged arc welding. Air arc preparation and AC-DC type welders are included, also.

Emphasis is on the technical aspects of welding. Instruction is offered in the welding of mild steel, stainless steel, cast iron and aluminum. Training is also conducted in torch burning, joint preparation, design and layout.

WELDING Diploma Program

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COURSE DESCRIPTIONS
ABBREVIATIONS

The following are the official catalog course abbreviations used by Bessemer State Technical College:

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<th>Abbreviation</th>
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<td>Air Conditioning And Refrigeration</td>
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<tr>
<td>AMC</td>
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<td>APT</td>
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<td>- Keypunch/Data Entry</td>
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<td>DRM</td>
<td>Dressmaking and Alterations</td>
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<td>DRT</td>
<td>Drafting And Design Technology</td>
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<td>Food Service</td>
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<td>Licensed Practical Nursing</td>
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<td>MET</td>
<td>Retailing and Merchandising Technology</td>
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<td>Metalcasting</td>
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<tr>
<td>WEL</td>
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</table>
Bessemer State Technical College identifies each course offered by catalog numbers which are composed of a three-letter prefix and three numerals. The prefix is an abbreviation of the program title. Course descriptions for each program are alphabetized according to the prefixes. All prefixes beginning with the letter "A" identify related courses. Prefixes ending with the letter "T" indicate major programs approved for Associate in Applied Technology Degrees.

The number of hours per week that each course is scheduled and credits earned for each course are listed with the sample curriculum included in the preceding Programs of Study section of the catalog. The term "credit" indicates the number of quarter hours credit granted upon the successful completion of the course with a minimum grade of "C".

The college reserves the right to withdraw any course for which the demand is insufficient.

(ABE) — Adult Basic Education

**ABE 120 — ABE READING**
ABE Reading is designed for those adults who read below a fifth grade level in order that they may become independent readers by improving word skills and comprehension.

**ABE 130 — ABE LANGUAGE SKILLS**
This course is designed for those adults who have less than a functional level command of the basic language skills.

**ABE 140 — ABE MATH I**
ABE Basic Math is a course in which the adult learner may become proficient in basic arithmetic functions of addition, subtraction, multiplication, and division for whole numbers, fractions and decimals.

**ABE 141 — ABE MATH II**
ABE Basic Math II is designed for those adults below the eighth grade level who must master percent problems, ratio and proportion, equations and word problems.

**ABE 150 — ABE SOCIAL STUDIES**
ABE Social Studies is designed to help the non-high school graduate who reads below the eighth grade level and is pursuing a course leading to the GED.

**ABE 190 — ABE LEARNING LAB**
The Learning Laboratory is designed as a place which encourages independent study by allowing learners to work at their own pace, with a teacher available for help with any problem encountered.
(ACR) — Air Conditioning and Refrigeration

Diploma Program

ACR 111 — REFRIGERATION (COMMERCIAL)
The student is introduced to refrigeration principles, system refrigerant cycles, matter and heat behavior, fluids and pressure, refrigeration brazed connections, types of tubing, special tools and equipment, and service procedures.

ACR 112 — ELECTRICITY FOR REFRIGERATION
The course covers fundamentals of electricity applied to commercial refrigeration. The study includes types and usage of motors and controls used in commercial refrigeration, refrigeration thermostats, and how to read and understand commercial refrigeration wiring diagrams.

ACR 121 — AIR CONDITIONING (COOLING)
The student is introduced to air conditioning (cooling) principles, system refrigerant cycles, electronic air cleaners, blowers, matter and heat behavior, fluids and pressure, air conditioning brazed connections, types of tubing, special tools and equipment, troubleshooting and service procedures.

ACR 122 — ELECTRICITY FOR AIR CONDITIONING (COOLING)
The course covers fundamentals of electricity applied to air conditioning (cooling) systems. The study includes controlling electrical circuits, motors used in air conditioning, electrical characteristics featuring three phase power, and how to read and understand air conditioning wiring diagrams.

ACR 131 — HEATING (FOSSIL FUELS)
The student is introduced to combustion principles, and types of systems, (systems include gas and oil fired equipment). The course will provide the student an opportunity to learn the component parts and their functions and applications. The study includes troubleshooting and service procedures.

ACR 132 — ELECTRIC HEATING
The student is introduced to all types of electric heating, including re-heat, duct heat, electric furnaces, etc. The course will provide the student an opportunity to learn the component parts and their functions and applications. The study includes troubleshooting and service procedures.

ACR 133 — ELECTRICITY FOR HEATING (GAS-OIL-ELECTRIC)
The course covers fundamentals of electricity applied to gas-oil-electric heating. The study includes types and usages of motors and controls, thermostats, ambient controls, and how to read and understand the many types of wiring used with gas-oil-electric heating.

ACR 141 — SPECIAL SYSTEMS
The student is introduced to hydromechanics in relation to chilled water systems, hot water systems for heat, and hot water systems for human consumption. The study includes pumps, water towers, valves and controls used in hydro-systems. The student is introduced to window-unit repair and absorption systems. The study includes troubleshooting and service procedures.

ACR 142 — RESIDENTIAL WIRING APPLIED TO AIR CONDITIONING
A course designed to give students an understanding of principles of power and electrical wiring as it relates to energy source for air conditioners, furnaces, air handlers, etc. The study includes proper load calculations, circuit design, layout and job safety. Basic materials and tools are also emphasized.

ACR 143 — BUSINESS PRACTICES FOR SERVICEMEN
This course of study includes basic technical writing techniques with customer relation (Problem Solving). This study also includes property protection,
parts and labor warranty procedures, completing report forms, ordering parts, maintenance inventory, completing work orders, and how to get and keep a job.

ACR 161 — REFRIGERATION (COMMERCIAL) LAB
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Soldering and brazing refrigeration tubing, etc.

ACR 162 — ELECTRICITY FOR REFRIGERATION LAB
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Troubleshooting control systems and wiring circuits.

ACR 163 — SPECIAL PROBLEMS
A course to provide the student an opportunity to acquire or upgrade his/her knowledge of air conditioning, heating, refrigeration, etc. The course includes subject matter and problems that will generate research. Study of operating systems will be included and written suggestions and plans will be submitted by student for system improvement.

ACR 171 — AIR CONDITIONING (COOLING) LAB
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Evacuating and charging refrigerant systems, etc.

ACR 172 — ELECTRICITY FOR AIR CONDITIONING (COOLING) LAB
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Troubleshooting control systems and wiring circuits.

ACR 181 — HEATING (FOSSIL FUELS) LAB
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Testing combustion by the different gas contents of flue gases.

ACR 182 — ELECTRIC HEATING LAB
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Determine the sequence of operation of controls.

ACR 183 — ELECTRICITY FOR HEATING (GAS-OIL-ELECTRIC) LAB
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Wiring an electric furnace.

ACR 191 — SPECIAL SYSTEMS LAB
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Troubleshooting water distribution in system.

ACR 192 — RESIDENTIAL WIRING APPLIED TO AIR CONDITIONING LAB
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Performing exercises required of a residential maintenance electrician.

ACR 211 — AIR DISTRIBUTION
The course is designed to introduce the student to basic air flow and its effect upon the refrigeration cycle. The study includes air flow effect upon human comforts and the procedures to follow for an accepted system. The study also includes duct sizing and system design. Air make-up systems and their relation to the heating and cooling system are emphasized. Balancing of the air distribution system is included. Psychometrics are also emphasized.

ACR 212 — SYSTEM SIZING AND APPLICATION
The course is designed to introduce the student to heat gain calculation and heat loss calculation. The study includes building construction materials in their relation to heat loss and heat gain, selection of equipment using manufacturers' specification sheets, and types of installations required for different types
of applications. The study also includes energy conservation and retrofit systems.

**ACR 221 — SOLAR SYSTEMS**
This course is a comprehensive study of solar water heating and solar space heating. The study will include solar energy principles, components for solar system construction, sizing a solar system, and application and installation of a solar system. The study includes electricity for solar systems which will include power and control wiring. Troubleshooting and service procedures are emphasized.

**ACR 222 — HEAT PUMPS**
This course is a comprehensive study of heat pump principles, application and installation. The study includes heat pump compressors, building construction for heat pump, refrigerant flow-controls, auxiliary heat (solar, gas, electric), defrost cycles and starting components. The study also includes electricity for heat pumps. Troubleshooting and service procedures are emphasized.

**ACR 261 — AIR DISTRIBUTION LAB**
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Balancing the air flow in a heating and/or cooling system.

**ACR 262 — SYSTEM SIZING AND APPLICATION LAB**
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Using form "J" to calculate heat gain and heat loss.

**ACR 271 — SOLAR SYSTEMS LAB**
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Installing control system for a water heating solar system.

**ACR 272 — HEAT PUMPS LAB**
The student is introduced to the "hands-on" study of the subjects covered in theory. Example: Charging a heat pump with refrigerant.

**(AMC) — Automotive Mechanics**

**AMC 111 — BASIC MECHANICS**
This course includes a brief history of the automotive industry, identification of tools, their use and care; identification of parts; use of measuring instruments; fasteners and specifications.

**AMC 112 — AUTOMOTIVE SERVICE**
The student learns the proper methods of light-duty service to the automobile including minor repairs, tire and wheel service, lubrication of the automobile, and cooling system service.

**AMC 121 — AUTOMOTIVE WELDING**
Designed to provide the student with the basics in welding including oxy-acetylene torch safety, lighting and adjusting torches, and adjusting welding equipment.

**AMC 122 — DRIVE LINES AND DIFFERENTIALS**
A study of drive shafts, universal joints, rear axles, differentials, bearings, and seals.

**AMC 131 — AUTOMOTIVE BRAKES**
A detailed study of types of braking systems; their service requirements, machine turning of brake drums and rotors, and types and service of vacuum power brakes.
COURSE DESCRIPTIONS

AMC 132 — AUTOMOTIVE ENGINES
The study of engine construction and engine operation, which includes engine types, cylinder arrangements, valve arrangements, cooling systems and lubricating system. It also covers measurements and performance, pistons, rings, valves and connecting rods; and includes the proper methods of grinding valves and seats.

AMC 141 — AUTOMOTIVE AIR CONDITIONING
A study of the fundamentals and principles of the operation and construction of the automotive air conditioning system.

AMC 142 — AUTOMATIC TRANSMISSIONS
A study designed to provide the student with an understanding of the construction, operation and service of automatic transmissions including hydraulics, fluid couplings, planetary gear systems, governor control valves, clutch units, servos, bands, and the methods of disassembly and reassembly making all necessary repairs, services and adjustments.

AMC 161 - AMC 192 — PRACTICAL APPLICATION LAB
Practical application of theory through laboratory assignments and live-work projects.

AMC 211 — FRONT END AND STEERING
The student learns to service and align front suspension and to replace and service front end components on both foreign and American automobiles.

AMC 212 — CLUTCHES AND STANDARD TRANSMISSIONS
The course involves an in-depth study of types and construction of clutches and transmissions and their service and troubleshooting.

AMC 221 — FUEL AND EXHAUST SYSTEMS
A study of the components of the fuel system including lines, pumps and carburetors; and components of the exhaust system including manifolds, exhaust pipes, mufflers, resonators and tail pipes.

AMC 222 — EMISSION CONTROLS
A study of automotive emissions and their effects on the environment to include familiarizing the student with components, types and their repair, replacement, and adjustments.

AMC 231 — AUTOMOTIVE ELECTRICITY
This subject includes the fundamentals of electricity and magnetism, and the basic circuitry and electrical charging systems.

AMC 232 — TUNE-UP AND TESTING
A student becomes familiar with mechanical and electrical testing equipment used to diagnose malfunctions of the ignition system and to determine the general condition of the engine.

AMC 241 — SHOP MANAGEMENT
The procedures for ordering parts, posting bills, making estimates on jobs, keeping good shop records, use of flat rate manuals and for establishing good customer relations.

AMC 242 — AUTOMOTIVE ACCESSORIES
The installation, operation, repair and adjustment of automotive accessories such as heaters, horns and instruments.

AMC 261 - AMC 292 — PRACTICAL APPLICATION LAB
Practical application of theory through laboratory assignments and live-work projects.
(APT) — Automotive Parts Technology

APT 111 — INTRODUCTION TO AUTO PARTS INDUSTRY
Introduction to the Auto Parts Industry presents an overview of the automotive parts aftermarket at all levels of distribution. Special emphasis is placed upon the history of the automotive parts industry; the functions of the automotive wholesaler and the jobber relative to buying; receiving, shipping and extending credit; terminology common to the auto parts industry; and the impact of the auto parts industry on the economy today.

APT 112 — INTRODUCTION TO PARTS CATALOG
The student becomes familiar with various automotive parts catalogs and learns how to locate the part desired by application of year, make and model of vehicle.

APT 132 — AUTO PARTS STORE PROCEDURES
The student learns to ship, receive, stock, order and inventory parts.

APT 133 — SPECIAL COUNTERMAN OPERATIONS
Emphasis is on customer relations while taking orders from a customer in the store and from customers via telephone.

APT 142 — AUTO MACHINING AND REBUILDING I
A course designed to familiarize the student with basic engine operation, disassembly, parts cleaning, and shop safety.

APT 174 — CATALOG USE I LAB
Practical experience in using the catalog to locate parts.

APT 184 — PARTS IDENTIFICATION LAB I
The student learns through practical experience to identify parts through inspection and comparison.

APT 192 — AUTO MACHINING AND REBUILDING LAB
Practical application of theory learned in Auto Machining and Rebuilding (APT 142).

APT 193 — PARTS IDENTIFICATION LAB II
Practical experience in identifying parts.

APT 211 — RETAIL PARTS SALESMANSHIP
Retail Parts Salesmanship is designed to develop basic persuasive abilities. The essential elements of professional salesmanship and the manner in which to use them meaningfully are presented. These elements of salesmanship are applied to actual selling situations and to hypothetical cases. The student applies his knowledge and ability in role-playing sales simulations as well as in problem-solving case situations.

APT 212 — AUTO MACHINING AND REBUILDING II
A course instructing the student on the proper methods of valve train repair.

APT 222 — AUTO MACHINING AND REBUILDING III
A course designed to instruct the student proper methods of valve seat and guide replacement, camshaft and lifter technology.

APT 223 — AUTO MACHINING AND REBUILDING IV
The student learns block boring and honing, crankshaft polishing and complete engine re-assembly.

APT 282 — AUTOMOTIVE MACHINING AND REBUILDING II LAB
Practical application of theory learned in Automotive Machining and Rebuilding II (APT 212).
COURSE DESCRIPTIONS

APT 283 — PRACTICAL APPLICATION LAB
Student gains experience through working in the college's automotive parts store.

APT 271 — PRACTICAL APPLICATION LAB
Student gains additional experience working counter in college's automotive parts store.

APT 272 — AUTO MACHINING AND REBUILDING III LAB
Practical application of theory learned in Auto Machining and Rebuilding III (APT 222).

APT 273 — AUTO MACHINING AND REBUILDING IV LAB
Practical application of theory learned in Auto Machinery and Rebuilding IV (APT 223).

(ATT) — Accounting Technology

ATT 111 — ACCOUNTING I (PRINCIPLES)
An introduction to the nature of accounting and procedures for the accounting of cash, payrolls, merchandise, notes and interest for a sole-proprietorship. Emphasis is placed on the accrual system, closing and adjusting books, and periodic reports.

ATT 121 — ACCOUNTING II (PARTNERSHIPS)
A study in accounting for purchases, sales inventories, assets and owner's equity. Emphasis is on end-of-year procedures and reports such as the income statement, balance sheet and interim statements.

ATT 131 — ACCOUNTING III (CORPORATE)
A study in corporate accounting including procedures and practices for the accounting of stock, capital earnings, bonds, intangibles, and investments. The voucher system is presented in depth, and the use of financial statements for comparative analysis is stressed.

ATT 132 — PAYROLLS
This course is a study of the various phases of the Social Security Act and other laws relating to the payment of wages and salaries. It includes the description of the basic payroll accounting systems and procedures used in computing wages and salaries and the timekeeping methods used to record time worked; the development of personnel and payroll records required under numerous laws; and the practice in all payroll operations, recording of accounting entries involving payroll, and preparation of payroll tax returns that are required.

ATT 160 — PRACTICAL APPLICATION LAB
Application of theory through laboratory assignments.

ATT 161 — ACCOUNTING I LAB
Practical application of theory learned in Accounting I (ATT 111).

ATT 162 — PRACTICAL APPLICATION LAB
Application of theory through laboratory assignments.

ATT 171 — ACCOUNTING II LAB
Practical application of theory learned in Accounting II (ATT 121).

ATT 181 — ACCOUNTING III LAB
Practical application of theory learned in Accounting III (ATT 131).
ATT 211 — INCOME TAX I
An introduction to the federal tax system with emphasis on individual returns. Items discussed are: Short Form 1040A, Form 1040, itemized deductions, retirement income, capital gains and losses, and farm income.

ATT 212 — COST ACCOUNTING I
The methods of accounting for materials, labor and overhead of a manufacturing firm. Emphasis is placed on the job-order system of costing.

ATT 213 — INSURANCE
The course examines the basis of insurance as related to risk and probability. Emphasis is on marketing systems of insurance and with types of coverage, such as health, liability, transportation, automobile, life insurance and annuities.

ATT 214 — MONEY AND BANKING
An overview of the money system and banking in the United States, the history of U.S. banking, the Federal Reserve System, and United States monetary policy. Emphasis is placed upon current issues of the financial institutions.

ATT 211 — INCOME TAX II
The course deals with the procedure and principles of corporate and partnership taxation and preparation of these taxes. Attention is also given to special tax problems which may be encountered.

ATT 222 — BUSINESS AND INDUSTRIAL PSYCHOLOGY
This course is designed to help the student understand himself and to introduce problems and solutions involved in an industrial society.

ATT 223 — COST ACCOUNTING II
The methods of accounting for manufacturing costs using the process cost system are stressed. Emphasis is also placed upon standards and variance analysis.

ATT 224 — APPLIED ACCOUNTING FOR BUSINESS DECISIONS
The course examines the use of accounting information in the decision process. Emphasis is placed on quantitative methods of decision making, cost behavior, and budgeting.

ATT 227 — ACCOUNTING SEMINAR
Practical application of accounting principles through the use of a business simulation. Duties emphasized include: accounting supervisor, general ledger clerk, payrolls, accounts payable, and receivable, sales and purchases.

ATT 262 — COST ACCOUNTING I LAB
Practical application of theory learned in Cost Accounting I (ATT 212).

ATT 273 — COST ACCOUNTING II LAB
Practical application of theory learned in Cost Accounting II (ATT 223).

ATT 274 — APPLIED ACCOUNTING FOR BUSINESS DECISIONS LAB
Practical application of theory learned in Applied Accounting for Business Decisions (ATT 224).

(BCT) — Building Construction Technology

BCT 111 — CONSTRUCTION PRINT READING I
The first of three courses in the interpretation, preparation, and utilization of construction prints and sketches. Includes study and use of current and proposed building plans.
COURSE DESCRIPTIONS

BCT 112 — BASIC ELECTRICITY FOR CONSTRUCTION
An introductory course in the study of electricity as applied to building construction.

BCT 122 — CONSTRUCTION PRINT READING II
The second in a series of three courses in Print Reading dealing primarily with residential plans and light commercial construction prints.

BCT 123 — ELECTRICAL WIRING
Fundamentals of electrical wiring are explored and developed with emphasis on the wiring needs and code requirements as applied to construction. The basic skills of wiring are set forth together with the use of the tools and equipment.

BCT 133 — SITE PREPARATION, PLANS, SPECIFICATIONS, AND CODES
Introduces the student to the construction office and to the application of construction plans, specifications, and national and local building codes.

BCT 134 — CONSTRUCTION PRINT READING III
The final course in a three part series which places emphasis on light and heavy commercial print reading.

BCT 141 — BUILDING CONSTRUCTION I
The first of three courses with emphasis initially on preparing for the job, site safety, equipment, layout, foundation, concrete and concrete forms.

BCT 142 — ESTIMATING
The course emphasizes the role of the estimator while working with specifications, drawings and measures. The student studies systematically all components of residential construction.

BCT 162 — BASIC ELECTRICITY FOR CONSTRUCTION LAB
Practical application of theory learned in Basic Electricity for Construction (BCT 112).

BCT 173 — ELECTRICAL WIRING LAB
Practical experience in the application of theory covered in Electrical Wiring (BCT 123).

BCT 191 — PRACTICAL APPLICATION LAB
Practical application of construction techniques using various materials.

BCT 211 — BUILDING CONSTRUCTION II
The intermediate level of three courses with emphasis on metals, structural steel, nonbearing wall construction, free-standing wall construction and framing. Includes metal studs and sheetrock.

BCT 221 — BUILDING CONSTRUCTION III
A study of the elements of successful supervision. Special emphasis is placed on supervisory problems common to the construction industry.

BCT 223 — CONSTRUCTION PRINT DRAWING I
A basic drawing course which introduces the student to the basics of architectural drafting, design, form, and practices.

BCT 225 — CONSTRUCTION PRINT DRAWING II
An advanced drawing course which provides the student the opportunity to apply previously learned competencies to design and detail a set of residential house plans.

BCT 281 — PRACTICAL APPLICATION LAB
Practical application of construction methods using various materials.
BCT 271 — PRACTICAL APPLICATION LAB
Practical application of construction methods using various materials.

BCT 273 — CONSTRUCTION PRINT DRAWING I LAB
Theory learned in Construction Print Drawing I (BCT 223) is applied on the drawing board.

BCT 274 — FIELD APPLICATIONS LAB
The student will observe the implementation of theories, ideas, concepts and skills learned in the construction classes and laboratories. This course will acquaint the student with problems, development and opportunities in building construction.

BCT 275 — CONSTRUCTION PRINT DRAWING II LAB
Theory learned in Construction Print Drawing II (BCT 225) is applied on the drawing board.

(BLM) — Building Maintenance

BLM 112 — BASIC CARPENTRY
A study of the basic parts of a building, basic building materials and finishing joints, floor framing techniques, hand and power tools.

BLM 141 — ADVANCED CARPENTRY
A study of the various construction materials for floors, walls, ceilings, roofs, roof sheathing, interior and exterior finishing.

BLM 142 — CONSTRUCTION REMODELING AND REPAIR
A study of the repair and remodeling of structures and various components of the structure to include plumbing, electrical, heating and air conditioning.

BLM 192 — PRACTICAL APPLICATION LABS
The student applies through laboratory and live-work assignments the knowledge and skills learned in theory. Developing safe work habits is emphasized.

(COA) — Commercial Art

COA 111 — BASIC DRAWING
Fundamentals of drawing using different materials, i.e., pencils, pen and ink, scratchboard and charcoal. Students explore art problems using a variety of drawing tools and drawing papers. This course is a prerequisite for all commercial art classes.

COA 161 — BASIC DRAWING LAB
Experience in use of various drawing media as an introduction to advertising drawing skills and illustration.

COA 121 — FUNDAMENTALS OF COMMERCIAL DESIGN
A study of the elements and principles of design. Students will acquire extensive knowledge of basic design formats and the use of color in advertising.

COA 171 — COMMERCIAL DESIGN LAB
Practical application of design elements and principles as applied to current advertising practices. Familiarization with art equipment and tools.
COURSE DESCRIPTIONS

COA 131 — LAYOUT AND DESIGN
Theory of advertising layout and design. Introduction to accepted steps in the process of creating layouts. Study includes layout design for commercial products, fashion illustration and storyboard sequences.

COA 181 — LAYOUT AND DESIGN LAB
Studio application and "hands-on" practice of theories learned in Layout and Design (COA 131).

COA 141 — BASIC PHOTOGRAPHY
Use of camera, commercial and fine art photography, black and white film developing and darkroom printing. Course covers composition and lighting.

COA 191 — BASIC PHOTOGRAPHY LAB
Experience in learned theory to include portraiture, product promotion and proper presentation of work. Introduction to color photography through color slides.

COA 211 — MECHANICALS
A study of advertising art with emphasis on paste-up and layout of elements (typography, copy and illustration). Includes use of grid systems, overlays and overlay register, and geometric drawing.

COA 281 — MECHANICALS LAB
Practical application of learned theories. Student prepares graphic art work and overlays to indicate half-tone screens and use of two or more colors, use of process color for four color printing plus sizing of elements, copy fitting and photo drop-out.

COA 221 — GRAPHIC DESIGN
Advertising design emphasizing creative thinking in the continuation of product promotion.

COA 271 — GRAPHIC DESIGN LAB
Students refine their skills in all areas of previous courses by producing an advertising presentation in book form to display their own finished work effectively. Graduating students design, set-up and promote an art show of student work. Work of graduating students will be especially featured.

(DAS) — Dental Assisting

DAS 111 — ANATOMY AND PHYSIOLOGY
A study of the eleven body systems as related to structure and function with emphasis on head and neck structure and function; including tooth morphology.

DAS 112 — DENTAL MATERIALS
A study of composition of dental materials and application of materials used in clinical dentistry and dental laboratory procedures.

DAS 113 — DENTAL ASSISTING I
A study of ethics and jurisprudence, methods of sterilization and disinfection, identification of dental instruments, and operative chairside technique of four-handed dentistry.

DAS 121 — DENTAL ASSISTING II
The duties of the dental assistant, assisting with procedures of the dental specialties recognized by the Council on Dental Education, American Dental Association.
DAS 122 — DENTAL RADIOLOGY
A study of history of radiology, theory of roentgen ray, film classification techniques for placing and exposing radiographic film; plus developing, mounting and filing.

DAS 123 — BASIC SCIENCE
A study of fundamental facts in the following areas: microbiology, pharmacology, oral pathology, anesthesia and histology of tooth development.

DAS 131 — DENTAL SECRETARIAL PROCEDURES
An introduction to office management to include: telephone techniques, appointment book, dental patient records, office records (business) recall systems, supplies and inventory control.

DAS 132 — DENTAL HEALTH EDUCATION
A study of diet and nutrition as related to dental health, patient education and motivation in personal oral hygiene.

DAS 141 — DENTAL ASSISTING SEMINAR
Student-Teacher evaluation of student practicum.

DAS 152 — DENTAL MATERIALS
Practical application of theory learned in Dental Materials (DAS 112).

DAS 163 — DENTAL ASSISTING I LAB
Practical application of theory learned in Dental Assisting I (DAS 113).

DAS 171 — DENTAL ASSISTING II LAB
Practical application of theory learned in Dental Assisting II (DAS 121).

DAS 172 — DENTAL RADIOLOGY LAB
Practical application of theory learned in Dental Radiology (DAS 122).

DAS 173 — DENTAL ASSISTING PRACTICUM
Practical application of the knowledge and skills learned during on-campus lab experiences while training with a dental school student and under the supervision of the instructor.

DAS 181 — DENTAL SECRETARIAL PROCEDURES LAB
Practical application of theory learned in Dental Secretarial Procedures (DAS 131).

DAS 182 — DENTAL HEALTH EDUCATION LAB
Practical application of theory learned in Dental Health Education (DAS 132).

DAS 191 — DENTAL CLINICAL PRACTICE
Practical application of theory and skills of dental assisting under the supervision of a dentist in private practice.

(DMC) — Diesel Mechanics

DMC 121 — ELECTRICAL SYSTEMS
The course includes fundamentals of electricity and magnetism, and basic circuitry and electrical charging systems as they relate to diesel mechanics. The student learns to use testing equipment to determine malfunctions of alternators, starters and generators and the procedures necessary to correct the malfunctions. The functions of cranking motors and controls are covered with emphasis on diagnosing malfunctions and performing the necessary procedures for returning the equipment to operating standards.
DMC 122 — DIESEL ENGINE TUNE-UP
The student becomes familiar with mechanical and electrical testing equipment used to diagnose malfunctions of the ignition system and to determine the general condition of industrial engines. The student learns the function of the injection fuel system and how to maintain the system for efficient operation.

DMC 131 — FUNDAMENTALS OF HYDRAULICS
A study of fluid power principles, physical properties of fluids, and the principles of operation and constructional features of hydraulic components.

DMC 132 — POWER TRAINS
A study of transmission of power from the engine with emphasis on drive shafts, universal joints, rear axles, differentials, bearings and seals.

DMC 141 — CLUTCHES AND MANUAL TRANSMISSIONS
The course includes an in-depth study of types and construction of clutches and transmission with emphasis on troubleshooting and service procedures.

DMC 143 — MINOR DIESEL ENGINE OVERHAUL
The student learns lubrication of all diesel components including proper lubrication methods, location of where lubricants should be applied and the types of lubricants. The course includes a study of the cooling system, heat transfer and the importance of the cooling system to assure efficient operation.

DMC 171 - DMC 193 — PRACTICAL APPLICATION LABS
The application of theory learned through practical laboratory assignments.

DMC 212 — AIR AND HYDRAULIC BRAKES
The student learns the operation of hydraulic and pneumatic braking systems, and the procedures for troubleshooting and servicing components.

DMC 221 — BLOWERS
A study of the function of blowers and their service and repair.

DMC 222 — TURBOCHARGERS
A study of the function of turbochargers and the procedure for replacing and troubleshooting them.

DMC 243 — MAJOR DIESEL ENGINE OVERHAUL
The student learns to disassemble various types of industrial engines, diagnose defective parts and make necessary replacements to return the engine to efficient operation.

DMC 271 - DMC 293 — PRACTICAL APPLICATION LABS
The application of theory learned through practical laboratory assignments.

(DPT) — Data Processing Technology

DPT 111 — DATA PROCESSING CONCEPTS
This course is designed to introduce definitions and terminology unique in data processing along with historical developments of first, second, and third generation machines, data processing equipment and data processing techniques, computer system configurations, computer capabilities, internal representation of data, internal operations of a computer, characteristics of a program, computer files, management of a computer facility, and quality control in data processing.
DPT 112 — INTRODUCTION TO REPORT PROGRAM GENERATOR
This study of RPG programming language prepares the computer programmer to communicate with computers to produce reports easily and efficiently. Every phase of RPG is studied including disk and tape I/O using sequential and indexed-sequential files.

DPT 113 — BASIC KEYPUNCH
This course introduces the use function and operation of the card punch machine.

DPT 115 — OFFICE PROCEDURES
This course is designed to introduce preparation for an office career, administrative activities, the use of communications media, records management, word processing, reprographics, how to apply computing, accounting and data processing skills, and how to get and keep an office job.

DPT 117 — INTRODUCTION TO DATA PROCESSING
This course is designed to introduce terminology and definitions unique to data processing along with the history of data processing equipment and techniques. Computer capabilities, internal operation of a computer, computer files, characteristics of a program and quality control in data processing are introduced.

DPT 121 — INTERMEDIATE REPORT PROGRAM GENERATOR
The course is a continuation of Introduction to Report Program Generator on the intermediate level.

DPT 122 — PROGRAM LOGIC AND DOCUMENTATION
This course introduces basic system and program flowcharting. Program switches, multicard file input, and decision making are covered in this course along with other common programming techniques.

DPT 123 — ADVANCED KEYPUNCH
This course introduces the use, function, and operation of the keytape data entry equipment. Emphasis is placed on speed and accuracy.

DPT 131 — DOS JOB CONTROL LANGUAGE
The concepts and practical applications of the Job Control Language for a disk operating system are included.

DPT 132 — COBOL PROGRAMMING I
COBOL is the primary commercial programming language in use today. All elements of COBOL are studied in this first of three courses. Experience and proficiency in COBOL programming techniques are gained by coding, executing, and testing numerous programs designed to reinforce each area.

DPT 133 — DATA ENTRY PROBLEMS
This course introduces the use, function, and operation of key-to-disk data entry equipment. Special emphasis is placed on speed and accuracy.

DPT 141 — COBOL PROGRAMMING II
This course is a continuation of COBOL Programming I at the intermediate level.

DPT 142 — BASIC ASSEMBLY LANGUAGE I
The course fills the need for a comprehensive treatment of symbolic programming techniques and third generation programming.

DPT 143 — BUSINESS SYSTEMS ANALYSIS AND DESIGN
The course introduces the student to six general business functions that are most commonly performed by electronic data processing techniques. The objective is to relate experiences in accounting and programming to actual data
processing applications. The student is required to work his or her way through a variety of applications in order to see how files are created for computer processing, the preparation and entry of input data, proper precautions and checking procedures, and typical output.

DPT 162 — REPORT PROGRAM GENERATOR I LAB
The practical application of the theory gained in Report Program Generator (DPT 112).

DPT 163 — BASIC KEYPUNCH LAB
The practical application of the theory gained in Basic Keypunch (DPT 113). A job related work kit is used.

DPT 167 — INTRODUCTION TO DATA PROCESSING LAB
The practical application of the theory gained in Introduction to Data Processing (DPT 117).

DPT 171 — INTERMEDIATE REPORT PROGRAM GENERATOR LAB
The practical application of the theory gained in Intermediate Report Program Generator (DPT 121).

DPT 173 — ADVANCED KEYPUNCH LAB
The practical application of the theory gained in Advanced Keypunch (DPT 123).

DPT 181 — DOS JOB CONTROL LANGUAGE LAB
The practical application of the theory gained in DOS Job Control Language (DPT 131).

DPT 182 — COBOL PROGRAMMING I LAB
The practical application of the theory gained in COBOL Programming I (DPT 132).

DPT 183 — DATA ENTRY PROBLEMS LAB
The practical application of the theory gained in data entry problems (DPT 133).

DPT 185 — KEYPUNCH PROBLEMS LAB
The practical application of the theory gained in office procedures.

DPT 191 — COBOL PROGRAMMING II LAB
The practical application of the theory gained in COBOL Programming II (DPT 141).

DPT 192 — BASIC ASSEMBLY LANGUAGE I LAB
The practical application of the theory gained in Basic Assembly Language I (DPT 142).

DPT 193 — BUSINESS SYSTEMS ANALYSIS AND DESIGN LAB
The practical application of the theory gained in Business Systems Analysis and Design (DPT 143).

DPT 211 — BASIC ASSEMBLY LANGUAGE II
A continuation of Basic Assembly Language at the intermediate level.

DPT 212 — OPERATING SYSTEMS
This course is designed to teach concepts in the areas including the operating system, system generation, library concepts and maintenance, multi-programming concepts and applications, and methods of computer management.

DPT 213 — ADVANCED REPORT PROGRAM GENERATOR
The course is a continuation of the introduction and intermediate level of Report Program Generator.
DPT 221 — COBOL PROGRAMMING III
This course is the advanced level of COBOL Programming.

DPT 222 — BASIC ASSEMBLY LANGUAGE III
The final phase of Basic Assembly Language is included.

DPT 261 — BASIC ASSEMBLY LANGUAGE II LAB
The practical application of the theory gained in Basic Assembly Language II (DPT 211).

DPT 283 — ADVANCED REPORT PROGRAM GENERATOR LAB
The practical application of the theory gained in Advanced Report Program Generator (DPT 213).

DPT 271 — COBOL PROGRAMMING III LAB
The practical application of the theory gained in COBOL Programming III (DPT 221).

DPT 272 — BASIC ASSEMBLY LANGUAGE III LAB
The practical application of the theory gained in Basic Assembly Language III (DPT 222).

(DRM) — Dressmaking and Alterations

DRM 111 — DRESSMAKING I
The student gains knowledge of basic clothing construction plus mathematical skills needed in dressmaking.

DRM 121 — ALTERATIONS I
Student gains an understanding of industrial power sewing through the use of power sewing machines with emphasis on safety and proper care. Basic fitting and alteration included.

DRM 131 — ALTERATION II
Construction methods and techniques employed by the alteration tailor for fitting and altering clothes. Management processes including work goals, utilization of time and work simplification are stressed.

DRM 141 — DRESSMAKING II
Advanced construction principles for dressmaking and design with emphasis on garment selection, pattern adaption and women's tailoring.

DRM 161 — DRESSMAKING I LAB
Practical application of theory learned in Dressmaking I (DRM 111).

DRM 171 — ALTERATION I LAB
Practical application of techniques learned in Alteration I (DRM 121).

DRM 181 — ALTERATIONS II LAB
Practical application of theory learned in Alteration II (DRM 131).

DRM 191 — DRESSMAKING II LAB
Practical application of theory learned in Dressmaking II (DRM 141).
COURSE DESCRIPTIONS

(DRT) — Drafting and Design Technology

DRT 110 — TECHNICAL DRAWING I (Related)
Introductory drafting techniques and procedures are presented to include lettering, linework, instrument use and geometric construction techniques as elementary basics. Also multiview orthographic projection, sectioning and dimensioning concepts are addressed. A drafting project relevant to the students' area of specialization will be completed.

DRT 111 — TECHNICAL DRAWING I
The material addressed includes freehand lettering; care and use of drafting instruments, materials and equipment; geometric construction with applications; pictorial representation of shape description; the theory of third-angle orthographic projection with extensive multiview drawing applications emphasizing the rules and exceptions established in the American National Standard Drafting Specification (ANSI Y-14).

DRT 112 — MANUFACTURING PROCESSES
This course is designed to provide knowledge of the manufacturing methods used in cold working processes. It covers the various types of machine tools, tooling, measuring, inspection, and forming and finishing.

DRT 121 — TECHNICAL DRAWING II
An in-depth study of the principles and applications of sectional view techniques to include full, half, broken out, revolved, aligned and off-set sections. Drawing requiring the application of several types of sections will be completed by the student. Auxiliary view techniques will be examined to include development of primary and secondary auxiliary views with solutions of dihedral angle applications. Basic descriptive geometry concepts as required in design applications will be addressed in practical applications.

DRT 131 — TECHNICAL DRAWING III
Dimensioning techniques with principles and special considerations are examined with analysis and interpretation required to complete selected projects. Limit dimensioning and tolerancing concepts are addressed to include application of the American National Standard (ANSI) Tables of Fits. Implications and specifications as pertaining to threads, fasteners and springs with typical application projects are completed by the student.

DRT 132 — MATERIALS OF ENGINEERING
A study of the production, properties, and strengths of engineering materials; including ferrous and non-ferrous alloys, rubber, wood, cements and concrete, heat insulators, plastics and other materials.

DRT 160 — TECHNICAL DRAWING I LAB (Related)
Problem applications related to the theory content of Technical Drawing I (Related) (DRT 110).

DRT 161 — TECHNICAL DRAWING I LAB
Practical application of theory learned in Technical Drawing I (DRT 111).

DRT 171 — TECHNICAL DRAWING II LAB
Practical application of theory learned in Technical Drawing II (DRT 121).

DRT 181 — TECHNICAL DRAWING III LAB
Practical application of theory learned in Technical Drawing III (DRT 131).

DRT 211 — ADVANCED DRAFTING I (MACHINE)
Machine Drafting is the largest specialty area of drafting in the United States in terms of the broadness of the field and also the number of job opportunities available. The study addresses the following five areas:
1. Examine documentation systems and techniques as pertaining to (a) engineering controls, (b) drawing organization and content, (c) single part drawing types, and (d) assembly drawing types.

2. Prepare assembly drawing with parts list and appropriate general notes along with detail drawings of design items of the assembly using the monodetail drawing system.

3. Learn the applications use and demonstrate a proficiency in measuring the features of machine parts with assembly relationships using the 0-1 inch micrometer, vernier caliper, thread pitch gauge, radius gauge, depth gauge and the 6 inch machinist's scale.

4. Prepare a design layout of an assembly with a bearing application along with form, fit and function considerations of the mating parts. Use of Machinery’s Handbook, Mechanical Engineer’s Handbook, and various vendor catalogs will be introduced.

5. Develop complete documentation to support manufacturing needs from a provided assembly sample taking all information from the sample using measurement, analysis, and research procedures.

DRT 221 — ADVANCED DRAFTING II (ELECTRICAL/ELECTRONICS)
Drafting and design techniques are introduced dealing with production of electronic equipment for consumer, commercial, and military applications. The various specialized drawings of electrical/electronics drafting are emphasized, specifically schematic diagrams, connection or wiring diagrams (four unique types), industrial electrical diagrams, ladder schematics, flow/block diagrams, and documentation types and techniques related to printed circuitry.

DRT 231 — ADVANCED DRAFTING III (STRUCTURAL/WELDING)
This introductory course in structural drafting familiarizes the student with the standard structural steel shapes along with the use of the American Institute of Steel Construction (AISC) Manual. The AISC Structural Steel Detailing manual is used as primary text in the study and drawing of (a) column and beam connection detail drawing, (b) a shop drawing, (c) an erection drawing, and (d) a bill of materials. A design project requiring the use of the Steel Construction Manual will serve as the principal instructional approach to meeting the course documentation requirements. The welding phase includes an in-depth study of welding symbols significance and applications along with an introduction to the welding process. Practical application drawings will be completed culminating in the drawing of a weldment assembly.

DRT 241 — ADVANCED DRAFTING IV (PIPING)
An introductory course in basic piping fundamentals as used in a refinery or petrochemical plant. Drawing types examined will be both the single line diagram and double line plan views of piping systems to include dimensioning, callouts and specifications. Also, the isometric drawing will be addressed using both the single and double line techniques with basic piping data integrated into the assigned projects.

DRT 261 — ADVANCED DRAFTING I LAB (MACHINE)
Practical application of theory learned in Machine Drafting (DRT 211).

DRT 282 — DRAFTING PROBLEMS I
This course provides the student an opportunity to increase his or her understanding of design related functions in either the mechanical or structural specialty fields.

DRT 271 — ADVANCED DRAFTING II LAB (ELECTRICAL/ELECTRONICS)
Practical application of theory learned in Electrical/Electronics Drafting (DRT-221).
DRT 273 — DRAFTING PROBLEMS II
The course provides an opportunity to expand the appreciation of electrical/electronics or piping design related functions through research, layout and evaluation and finally complete documentation tied back to the selected specialty field.

DRT 281 — ADVANCED DRAFTING III LAB (STRUCTURAL/WELDING)
Practical application of theory learned in Structural/Welding Drafting (DRT - 231).

DRT 291 — ADVANCED DRAFTING IV LAB (PIPING)
Practical application of theory learned in Piping Drafting (DRT - 241).

(EIT) — Industrial Electronics Technology

EIT 111 — ELECTRONICS THEORY I
Composition of matter, electrical units, circuits symbols and diagrams, color codes, Ohm's Law, Kirchoff's Laws, use of analog as well as digital instruments are stressed. Resistance in simple series, parallel and complex circuits, is covered. Soldering principles and practices are introduced. Uses of basic hand tools are covered.

EIT 121 — ELECTRONICS THEORY II
Alternating current theory, sine-wave analysis, vector and phase relationships, Lenz's Law and Ohm's Law of alternating current, capacitors and capacitance, inductors and inductance, transformers, frequency and the electromagnetic principles, resonance and tune circuits consisting of inductance, capacitance, resistance and combinations of these; operation and use of the cathode-ray oscilloscope are stressed. Basic solid state physics and active devices are introduced.

EIT 131 — ELECTRONIC THEORY III
Characteristics and parameters of semi-conductors; half-wave, full-wave and bridge rectifiers circuits, capacitance and inductance-capacitance filters in "L" and "Pi" configurations; semi-conductor amplifiers, methods of coupling, methods of biasing, frequency response, power transfer characteristics in push-pull, class A, B, C amplifiers, basic oscillator and receiver circuits.

EIT 141 — ELECTRONIC ASSEMBLY AND EVALUATION
The course is designed to teach the student the proper use of electronic test instruments, hand tools and power equipment used in electronic construction work. Includes electronic diagrams, schematics, circuit layout (electrical and mechanical). A construction project is assigned each student. The project is completed in all phases from mechanical layout, wiring, testing, and a final test is performed and documented using standard electrical forms and procedures.

EIT 142 — ELECTRICAL CONTROLS
Electrical Controls includes DC and AC manual starters, automatic starters, manual and automatic speed controls, line voltage control, and special control devices, electrical control design, troubleshooting, control analysis. Introduction to solid state control devices and circuits.

EIT 181 — ELECTRONIC THEORY I LAB
The practical application of theory learned in Electrical Theory I (EIT 111).

EIT 171 — ELECTRONIC THEORY II LAB
The practical application of theory learned in Electrical Theory II (EIT 121).
EIT 181 — ELECTRONIC THEORY III LAB
The practical application of theory learned in Electronic Theory III (EIT 131).

EIT 191 — ELECTRONIC ASSEMBLY AND EVALUATION LAB
The practical application of theory learned in Electronic Assembly and Evaluation (EIT 141).

EIT 192 — ELECTRICAL CONTROLS LAB
Practical application of theory learned in Electrical Controls (EIT 142).

EIT 211 — ELECTRICAL MACHINERY I (DC)
DC generators and motors, principles of operation; application, construction, and types of control are studied. Experiments and tests are made in lab to supplement the classroom instruction. Single phase transformers are included. Three phase transformers are introduced.

EIT 212 — REGULATED AND MULTIPHASE POWER SUPPLIES
This course is a continuation of the power supplies covered in course EIT 131. This course covers electronic voltage regulation, radio frequency power supplies, high voltage power supplies, three phase and six phase power supplies. It includes switching and analog type regulating systems. The student builds a regulated supply, partially designed and tailored to his use. The lab work includes setting up and operating a number of industrial solid-state type power supplies.

EIT 221 — ELECTRICAL MACHINERY II (AC)
A study of design, operation, performance characteristics, and application of alternators, transformers, and induction motors. This includes load division, calculation of equivalent circuits power factor, synchronization of alternators, speed and voltage regulation, losses, and efficiency. Three-phase transformers are included.

EIT 231 — PULSE AND DIGITAL TECHNIQUES
Wave shaping and signal-conditioning circuits, pulse rise-time analysis, gating circuits, multi-vibrators, flip-flops, binary and other math instructions. Encoding, decoding, readout devices, information storage and retrieval. Introduces basic microprocessor principles and programming.

EIT 222 — MICROPROCESSOR BASICS
Microprocessor and microcomputer terms are defined. System blocks are studied. Industrial applications are covered and simple programs are written and executed using a microprocessor trainer.

EIT 232 — MICROPROCESSOR INDUSTRIAL APPLICATION
Course consists of microprocessor and microcomputer applications in industrial systems, writing and running programs utilizing numerical control equipment and programmable controllers.

EIT 233 — ADVANCED THEORY AND PROBLEMS
Students are provided opportunity to expand their knowledge of electronics through advanced laboratory assignments.

EIT 281 — ELECTRICAL MACHINERY I (DC) LAB
Practical application of theory learned in Electrical Machinery I (DC) (EIT 211).

EIT 262 — REGULATED AND MULTIPHASE POWER SUPPLIES LAB
Practical application of theory learned in Regulated and Multiphase Power Supplies (EIT 212).

EIT 271 — ELECTRICAL MACHINERY
Practical application of theory learned in Electrical Machinery II (EIT 221).
EIT 272 — MICROPROCESSOR BASICS LAB
Practical application of theory and practices learned in Microprocessor Basics (EIT 222).

EIT 282 — MICROPROCESSOR INDUSTRIAL APPLICATION LAB
Practical application of theory learned in Microprocessor Industrial Application (EIT 222).

EIT 283 — ADVANCED THEORY AND PROBLEMS LAB
Application of practical experience gained in Advanced Theory and Problems (EIT 233).

(FOS) — Food Production and Services

FOS 111 — ORIENTATION TO FOOD SERVICE
An introductory course to familiarize the student with employment opportunities in food service, sanitation and health standards, safety, tools, measuring devices and equipment used in the preparation of quantity foods with emphasis on arranging food items, equipment and supplies needed for cafeteria style and banquet service.

FOS 121 — PREPARATION OF SALADS, BREADS, SANDWICHES, AND DESSERTS
The student learns the techniques of preparing salads, salad dressing for tossed and congealed salads, and sandwiches with spread fillings and prepared meats. Concentrated study in the preparation of breads, such as rolls, cornbread, and muffins, and the preparation of desserts such as congealed desserts, cakes and pies.

FOS 131 — PREPARATION OF VEGETABLES AND FRUITS
Concentrated study in the preparation of vegetables and fruits by baking, boiling, simmering and steaming. Techniques for glazing and sautéing are also covered.

FOS 132 — BASIC NUTRITION
A study of the basic nutritional requirements necessary to maintain good health in institutional environments.

FOS 141 — PREPARATION OF MEATS
Concentrated study in the preparation of meats, seafood and poultry with emphasis on techniques of roasting, barbecuing, braising, broiling, stewing, steaming and frying.

FOS 142 — MENU PLANNING
The planning and organization of meals through effective menu planning with emphasis on nutrition and variety to include special diets.

The student learns to place orders according to menu plans, inspect incoming food, receive, check and report shipments, inventory records and maintain a perpetual inventory of food items.

FOS 161 - FOS 191 — FOOD PREPARATION LABS
Practical application of theory learned using college’s kitchen and cafetorium as lab.
(GED) — General Educational Development

GED 120 — GED READING
This course is designed to improve reading skills for non-high school graduates to enable them to pass the GED test battery.

GED 130 — GED LANGUAGE SKILLS
This course is designed to improve language skills for non-high school graduates to enable them to pass the GED test battery.

GED 140 — GED MATH
This course is designed to teach the math skills necessary for non-high school graduates to get their high school equivalency certificate.

GED 141 — BASIC ALGEBRA
This course is designed to teach the four basic arithmetic functions in algebra and how to apply them to simple word problems and equations. This is a GED preparatory course.

GED 150 — GED SOCIAL STUDIES
This course is designed to cover the facts of U. S. History and Government. This course allows the student to have an understanding of how our governmental system works.

GED 190 — LEARNING LAB
This course is designed to allow free study on any subject covered in the GED test battery with an instructor available for individualized instruction.

(LP) — Licensed Practical Nursing

LPN 111 — PERSONAL AND VOCATIONAL RELATIONSHIPS I
This course is designed to assist the student in his/her adjustment to nursing. Students are introduced to the policies and regulations of the School of Practical Nursing, the college and course requirements. The course content provides the student with information concerning study techniques, the history of nursing, personal hygiene and grooming, hospital types and organization, nursing care patterns, communication techniques, the individualization of patient care, recognition of common defense mechanisms, problem solving techniques, and the role and responsibilities of the practical nurse.

LPN 112 — FUNDAMENTALS OF NURSING I
A course designed to develop skills in basic nursing procedures. Through the use of the nursing process, the student begins to acquire technical competence in meeting the basic needs of the individual patient. This course is a prerequisite to LPN 121.

LPN 113 — BASIC NUTRITION AND DIET THERAPY
This course introduces the student to the basic principles of normal nutrition for all ages; food safety; cultural and religious food habits; abnormal nutrition; therapeutic dietary modifications; and the practical nurse’s role and responsibility in meeting the patient’s nutritional needs. This course provides a base for Medical Surgical Nursing, Maternity and Newborn, and Nursing of Children.

LPN 114 — ANATOMY AND PHYSIOLOGY
A course designed to develop knowledge of the normal structure and function of the human body. This course provides the student with a base for Medical-Surgical Nursing, Cause and Prevention of Disease, Maternity and Newborn, and Pediatrics.
COURSE DESCRIPTIONS

LPN 121 — MEDICAL-SURGICAL NURSING I
This course builds on the knowledge and skills obtained in Fundamentals of Nursing Anatomy and Physiology, and Nutrition and Diet Therapy. Emphasis is placed on recognizing and meeting the total needs of the patient with medical and surgical conditions of the respiratory, cardiovascular, urinary, reproductive systems and patients with cancer and fluid and electrolyte imbalances.

LPN 122 — CAUSE AND PREVENTION OF DISEASE
This course is based on the knowledge and skills obtained in Fundamentals of Nursing Anatomy and Physiology, and Nutrition, and Diet Therapy. The student is introduced to the study of microorganisms and their effect on man's health. Causes and treatment of disease as well as preventative measures including medical and surgical asepsis are presented throughout the course. Emphasis is maintained on recognizing and meeting the total needs of the patient.

LPN 123 — PHARMACOLOGY I
A course that provides the student with a basic arithmetic review, methods of calculating and measuring drugs, and general principles and methods of medication administration. Prerequisite for 132.

LPN 125 — INTRODUCTION TO MENTAL HEALTH
This course builds on the knowledge of basic mental health concepts acquired in Personal and Vocational Relationships I. Greater emphasis is placed upon communication techniques and recognizing the emotional impact of disease or injury upon the individual patient. Man's vulnerability to the many stresses placed upon him by society is recognized, and normal and abnormal adjustments patterns are studied.

LPN 131 — MEDICAL-SURGICAL NURSING II
This course builds upon the knowledge acquired in Anatomy and Physiology, Basic Nutrition and Diet Therapy, Medical-Surgical Nursing I, Mental Health and Pharmacology I. Emphasis is placed on recognizing and meeting the total needs of the patient with medical and surgical conditions of the respiratory, cardiovascular, urinary, reproductive systems, and patients with cancer and fluid and electrolyte imbalances.

LPN 132 — PHARMACOLOGY II
This course is a study of the drugs affecting the body systems. Emphasis is placed on the classification, indications, usual dosages, side effects, and nursing implications. Pharmacology is also integrated throughout Medical-Surgical Nursing.

LPN 141 — MATERNITY AND NEWBORN
This course builds on the knowledge and skills previously acquired and prepares the student to render safe nursing care to obstetrical patients and newborns who are normal, those with complications, full term infants, and the premature. Emphasis is placed on proper care and observations during the prenatal, labor and delivery, immediate postpartal, and routine postpartal periods as well as care of the newborn.

LPN 142 — NURSING OF CHILDREN
A study of the normal growth and development of children from the newborn period through adolescent period. Utilizing previously acquired knowledge and skills, the student learns how to care for the sick and well child.

LPN 143 — PERSONAL AND VOCATIONAL RELATIONSHIPS II
This course is a continuation of Personal and Vocational Relationships I and is structured to help the student prepare for the responsibility of continued development as an individual and as a Licensed Practical Nurse. This course provides the student with information concerning nursing opportunities, ethical and
legal responsibilities of the practical nurse, professional nursing organizations and a job seminar.

LPN 162 — FUNDAMENTALS OF NURSING I CLASS LABORATORY
The practical application of theory learned in Fundamentals of Nursing I (LPN 112).

LPN 163 — FUNDAMENTALS OF NURSING I CLINICAL LABORATORY
The clinical application of theory learned in Fundamentals of Nursing I (LPN 112).

LPN 171 — MEDICAL AND SURGICAL NURSING I CLASS LABORATORY
The practical application of theory learned in Medical and Surgical Nursing I (LPN 121).

LPN 172 — MEDICAL AND SURGICAL NURSING I CLINICAL LABORATORY
The clinical application of theory learned in Medical and Surgical Nursing I (LPN 121).

LPN 173 — PHARMACOLOGY I CLASS LABORATORY
The practical application of theory learned in Basic Pharmacology I (LPN 123).

LPN 174 — PHARMACOLOGY I CLINICAL LABORATORY
The clinical application of theory learned in Basic Pharmacology I (LPN 123).

LPN 181 — MEDICAL AND SURGICAL NURSING II CLINICAL LABORATORY
The clinical application of theory learned in Medical and Surgical Nursing II (LPN 131).

LPN 191 — MATERNITY AND NEWBORN CLINICAL LABORATORY
The clinical application of theory learned in Maternity and Newborn (LPN 141).

LPN 192 — NURSING OF CHILDREN CLINICAL LABORATORY
The clinical application of theory learned in Nursing of Children (LPN 142).

LPN 193 — PHARMACOLOGY III CLINICAL LABORATORY
The clinical application of the theory learned in Pharmacology I (LPN 123).

(MAR) — Major Appliance Repair

MAR 111 — REFRIGERATION
The course of study includes fundamentals of refrigeration, refrigeration systems, control devices, service tools, component data and trouble diagnosis and checking procedures. Soldering and brazing techniques, principles of refrigeration, repair and replacement of sealed systems, shop repair procedures, electrical system checking, pressure controls and defrosters, and installation of compressors. Includes domestic automatic ice makers.

MAR 112 — BASIC ELECTRICITY FOR APPLIANCES
Fundamentals of electricity, magnetism, direct current, alternating current, and electromagnetic induction. Types and usage of motors, motor controls, distribution of electricity, heating and lighting, and how to read and understand wiring diagrams.
MAR 121 - COOLING AND HEATING EQUIPMENT
The student is introduced to the refrigeration system, electrical components, compressors, evaporators, system repairing and components replacing, and hermetic shop repair procedures for window air conditioning units. Includes resistance heat models and heat pumps.

MAR 122 - DISHWASHERS, DISPOSERS, COMPACTORS, AND WATER HEATING EQUIPMENT
This course of study includes types and usage, basis operation, installation, major components repair including controls, maintenance and trouble shooting of dishwashers, disposers, compactors, and water heaters. The student is also introduced to solar water heating.

MAR 131 - AUTOMATIC WASHERS
This course includes a history of washing and the way of washing different fabrics using different cleaning materials and mechanical cycles. The study also includes mechanical components, troubleshooting and laundry aids. The student is introduced to solid state controls and how to troubleshoot them. The student is also introduced to the effect that different types of water have on the washing of clothes. Dual-washers and dryers are included in course study.

MAR 132 - AUTOMATIC DRYERS (ELECTRIC AND GAS)
The course of study includes automatic dryer installations, identification and operation of assemblies, operation, and components of air circulation systems, electrical control systems, electric heating, gas heating, gas controls and automatic ignition systems. Included in the study are service procedures and troubleshooting and safety precautions.

MAR 133 - BUSINESS PRACTICES FOR SERVICEMEN
The course of study includes customer relations necessary for a successful service call, safety and property protection, parts and labor warranty, making product quality reports, ordering parts, completing work orders, how to get and keep a job and solving problems.

MAR 134 - APPLIED RESIDENTIAL ELECTRICAL WIRING
The course of study includes fundamentals and principles of electricity; how to plan a wiring installation for appliances; detail a wiring layout for appliances; layout a service entrance; install electrical wiring and electrical outlets for appliances; install individual circuits (Retrofit); troubleshooting electrical wiring systems.

MAR 141 - GAS RANGES AND CONTROLS
The course of study includes installation procedures, piping the gas line, study of different gases, adjusting pilots, tap burners, ovens with the use of pressure instruments, servicing gas controls, and electric controls used on gas ranges, use and care, proper venting and safety and troubleshooting.

MAR 142 - ELECTRIC RANGES AND CONTROLS
The course of study includes installation procedures, basic operating principles, understanding wiring diagrams, servicing surface units and switches, servicing oven heating elements and controls, operation of automatic timers, maintenance and troubleshooting.

MAR 143 - MICROWAVE OVENS
The course of study includes operation of microwave cooking, installation procedures, construction of ovens, identification of controls and servicing controls, how to diagnose malfunctions and the repair procedures. Included in the study is an introduction to solid state control and micro-processing.

MAR 161 - REFRIGERATION LAB
The practical application of theory learned in Refrigeration (MAR 111).
MAR 162 — BASIC ELECTRICITY FOR APPLIANCES LAB
The practical application of theory learned in Basic Electricity for Appliances (MAR 112).

MAR 163 — SPECIAL PROBLEMS IN MAJOR APPLIANCE REPAIR
The course provides the student with additional practice in the repair of major appliances. A special area of emphasis is assigned by the instructor.

MAR 171 — COOLING AND HEATING EQUIPMENT (RAC) LAB
The practical application of theory learned in Cooling and Heating Equipment (RAC) (MAR 121).

MAR 172 — DISHWASHERS, DISPOSERS, COMPACTORS, AND WATER HEATING EQUIPMENT LAB
The practical application of theory learned in Dishwashers, Disposers, Compactors, and Water Heating Equipment (MAR 122).

MAR 181 — AUTOMATIC WASHERS LAB
The practical application of service techniques learned in Automatic Washers (MAR 131).

MAR 182 — AUTOMATIC DRYERS (ELECTRIC AND GAS) LAB
The practical application of service techniques learned in Automatic Dryers (Electric & Gas) (MAR 132).

MAR 191 — GAS RANGES AND CONTROLS LAB
The practical application of service techniques learned in Gas Ranges and Controls (MAR 141).

MAR 192 — ELECTRIC RANGES AND CONTROLS LAB
The practical application of service techniques learned in Electric Ranges and Controls (MAR 142).

MAR 193 — MICROWAVE OVENS LAB
The practical application of service techniques learned in Microwave Ovens (MAR 143).

(MET) — Retailing and Merchandising Technology

MET 111 — INTRODUCTION TO RETAILING
Introduction to Retailing presents an overview of the entire field of distribution. Special emphasis is placed on the basic functions of business, the elements of marketing, classification of goods, channels of distribution, types of retail stores, retailing services, customer buying habits, product knowledge, basic salesmanship, retail merchandising and retail financing.

MET 121 — APPLIED ADVERTISING
Applied Advertising is designed for students who desire to enter the field of distribution with emphasis on retailing. The theory and practice of advertising as it actually is encountered in the business world is presented. The basic course approach is to train students to accomplish advertising tasks. Prerequisite: Introduction to Retailing (MET 111).

MET 122 — APPLIED BUSINESS LAW
Applied Business Law presents the fundamental principles of law and creates an awareness of the legal environment in which business enterprise operates. Legal rules and principles are presented in such a way that the students will
acquire a knowledge of law and apply this knowledge to their future profession. Course content includes courts and court procedure; criminal law and business; the law of torts and business; contracts; and agency and employment.

MET 131 — RETAIL SALESMANSHIP
Retail Salesmanship is designed to develop basic persuasive abilities. The essential elements of professional salesmanship and the manner in which to use them meaningfully are presented. These elements of salesmanship are applied to actual selling situations and to hypothetical cases. The student applies his sales knowledge and ability in role-playing sales simulations as well as in problem-solving case situations. Prerequisite: Introduction to Retailing (MET 111).

MET 132 — SALES PROMOTION-MERCHANDISE DISPLAY
Sales Promotion Merchandise Display concentrates on visual merchandising impact. Since display advertising is very inexpensive and most direct, its importance to the overall sales promotion of the store is obvious. Artistic ability is not a prerequisite for this course. The elements of display, neatness, background, motion, lighting, color, and textures are blended into display planning through the actual construction of merchandise displays by the students. Displays are planned and constructed to parallel an assigned or approved sales promotion theme. Practical experience is gained through the use of a practical application lab in which the student observes and constructs actual displays and arrangements and analyzes their visual impact and effectiveness. Prerequisite: Applied Advertising (MET 121).

MET 133 — RETAIL TRANSACTIONS
Retail Transactions is a continuation of Applied Business Law. Course content includes commercial paper; bailments; sales; insurance; real property; bankruptcy; and government regulation and business. Prerequisite: Applied Business Law (MET 122).

MET 141 — CREDIT AND COLLECTIONS
Credit and Collection presents fundamental principles and practices of establishing and maintaining a credit department. The areas of consumer, business, and residential mortgage credit are presented. The presentation is founded in theory with the instructional emphasis placed on the managerial aspects of credit. Course topics include: Nature of Credit, Credit Management, Consumer Credit, Risk Analysis, Management of Collection Function, and Control of Credit and Collection Operations. Theory presentation is paralleled by individually assigned research projects and case problems. Prerequisites: Retail Salesmanship (MET 131) and Introduction to Retailing (MET 111).

MET 142 — RETAIL ORGANIZATION
Retail Organization is designed to develop an understanding of major retail management functions and the skills that lead to managerial success. The effect of managerial performance on employee productivity and satisfaction is highlighted. The student's skill in planning, organizing, decision making, and controlling is sharpened by applying theory to directed work experience and hypothetical case situations. Prerequisites: Introduction to Retailing (MET 111) and Retail Buying (MET 212).

MET 161 — INTRODUCTION TO RETAILING LAB
Introduction to Retailing Practical Application Lab is designed to provide the beginning student in Retail Merchandising with individual project assignments and directed work experience that directly parallels the theory taught in Introduction to Retailing. Each student project is assigned and completed in accordance with the student's occupational objective and interest. Each theory section covered in the classroom is reinforced by a lab assignment. Prerequisite: Must be scheduled with Introduction to Retailing (MET 111).
MET 171 — APPLIED ADVERTISING LAB
Advertising Practical Application Lab is designed to provide the student with
individual project assignments and directed work experiences that directly par­
allel the theory of advertising presented in the classroom. Projects are assigned
and completed in accordance with the student’s career objectives and interests.
Each theory section covered in the classroom is reinforced by a lab assignment.
Prerequisite: Must be scheduled with Applied Advertising (MET 121).

MET 181 — RETAIL SALESMANSHIP LAB
Retail Salesmanship Practical Application Lab is designed to provide the stu­
dent with an opportunity to apply the knowledge gained in the classroom to an
actual work situation or a simulated work situation. This goal is accomplished
through individual student assignments paralleling each topic in the theory out­
line for Retail Salesmanship. Projects are assigned or selected in accordance
with the student’s career objective or interest. Prerequisite: Must be scheduled
with Retail Salesmanship (MET 131).

MET 182 — SALES PROMOTION-MERCHANDISE DISPLAY LAB
Sales Promotion-Merchandise Display Lab is designed to provide the student
with individual project assignments and directed work experiences that directly
parallel the theory of display presented in the classroom. Projects are assigned
and completed in accordance with the student’s occupational objective or inter­
est. Prerequisite: Must be scheduled with Sales Promotion-Merchandise Display
(MET 132).

MET 191 — CREDIT AND COLLECTION LAB
Credit and Collection Practical Application Lab is designed to provide the stu­
dent with individual project assignments and directed work experience that
directly parallel the theory of Credit and Collection presented in the classroom.
Projects are assigned and completed in accordance with the student’s occupa­
tional objective and interest. Each theory section covered in the classroom is
reinforced by a lab assignment. Prerequisite: Must be scheduled with Credit
and Collection (MET 141).

MET 192 — RETAIL ORGANIZATION LAB
Retail Organization Practical Application Lab is designed to provide the stu­
dent with individual project assignments and directed work experiences that
directly parallel the theory of Retail Organization presented in the classroom.
Projects are assigned and completed in accordance with the student’s occupa­
tional objective and interest. Each theory section covered in the classroom is
reinforced by a lab assignment. Prerequisite: Must be scheduled with Retail
Organization (MET 142).

MET 211 — RETAIL EMPLOYEE CASE STUDIES
Retail Employee Case Studies is designed to prepare students to become
effective employee-centered supervisors in the retail merchandising field. Stu­
dents are exposed to human relations, administrative, and technical aspects of
supervision. Through self-administered and self-graded tests, problems, proj­
ects and case problems, the student is able to see a cause and effect relation­
ship to the material presented in theory form. Prerequisites: Retail Organiza­
tion (MET 142) and Retail Organization Practical Application Lab (MET 192).

MET 212 — RETAIL BUYING
Retail Buying is based on the fundamental principles of buying merchandise
for resale. Student involvement is maintained through the use of meaningful
project activities corresponding to each theory section. Prerequisite: Introduc­
tion to Retailing (MET 111).

MET 221 — RETAIL COMMUNICATIONS
Since an in-depth study of retail management cannot be restricted to plan­
ning, organizing, supervising, and controlling, this course seeks to prepare the
student who wishes to enter the retail management field to investigate, negotiate, coordinate and represent his organization in a rapidly changing environment.

**MET 222 — APPLIED ECONOMICS**

This course is designed to acquaint the beginning student in economics with the basic laws of supply and demand through problematic situations, and to relate personal economic decision making to the total economy.

**MET 223 — THE RETAIL CONSUMER**

The Retail Consumer is an in-depth study of the alert, informed and responsible American consumer. The material presented attempts to show how purchasing decisions have psychological components and indicate what people are really buying when they make choices in the retail stores. The American consumer movement and new and existing government regulations are covered in detail. Prerequisite: Applied Economics (MET 222).

**MET 224 — RETAIL EMPLOYEE CASE STUDIES LAB**

This lab is designed to provide the student with individual project assignments and directed work experiences that directly parallel the theory of Retail Supervision presented in the classroom.

**MET 225 — RETAIL BUYING LAB**

Retail Buying Practical Application Lab is designed to provide the student with individual project assignments and directed work experience that directly parallel the theory of Retail Buying presented in the classroom. Projects are assigned and completed in accordance with the student's career objectives and interests.

**MET 226 — RETAIL COMMUNICATIONS LAB**

Retail Communications Practical Application Lab is designed to provide the student with individual project assignments and directed work experiences that directly parallel the theory of Retail Communications presented in the classroom. Projects are assigned and completed in accordance with the student's occupational objectives and interests. Each theory section covered in the classroom is reinforced by a lab assignment. Prerequisite: Must be scheduled with Retail Communication (MET 221).

**(MST) — Machine Shop Technology**

**MST 111 — INTRODUCTORY MACHINE SHOP OPERATIONS I**

Basic Machine Shop includes the use and care of measuring instruments, layout tools and hand tools used in bench work. The student becomes familiar with lubrication procedures and the use of abrasives.

**MST 112 — MACHINE TOOL PRINCIPLES I**

Following a brief history of the machinist trade, the student learns the variations and uses of the basic machines in the machine shop. Emphasis is placed on the safe use of machines and tools.

**MST 121 — INTRODUCTORY MACHINE SHOP OPERATIONS II**

Principles of tool design and grinding procedures with emphasis on threads and threading tools. Special set-ups and their uses are explained.

**MST 122 — MACHINE TOOL PRINCIPLES II**

An in-depth study of the construction and operation of the drill press, lathe, saw, and the tools and attachments used in operating these machines. The
course also includes the design, layout and set-up of projects produced by these machines.

**MST 131 — APPLIED MACHINE SHOP I**
The course consists of information and calculations required to accurately compute, set up machines, and measure tapers, angles and threads. The operation and safe use of the milling machine are covered.

**MST 141 — APPLIED MACHINE SHOP II**
The course consists of information and calculations required to set up a machine, and to measure finished products on the lathe, shaper and planer. The construction and use of the grinding machine are covered.

**MST 181 — INTRODUCTORY MACHINE SHOP OPERATIONS I LAB**
Practical application of knowledge acquired in Introductory Machine Shop Operations I (MST 111).

**MST 171 — INTRODUCTORY MACHINE SHOP OPERATIONS II LAB**
Practical application of knowledge gained in Introductory Machine Shop Operations II (MST 121).

**MST 181 — APPLIED MACHINE SHOP I LAB**
Practical application of knowledge gained in Applied Machine Shop I (MST 131).

**MST 191 — APPLIED MACHINE SHOP II LAB**
Practical application of knowledge gained in Applied Machine Shop II (MST 141).

**MST 211 — ADVANCED MACHINE SHOP I**
Use of formulas required to properly operate milling machines, index head, surface grinder and cylindrical grinder is covered.

**MST 221 — ADVANCED MACHINE SHOP I**
An in-depth study of gears including gear uses, methods of producing and inspecting gears. Emphasis is on grinding machines; grinding terms and proper operating procedures for grinding wheels are covered.

**MST 261 — ADVANCED MACHINE SHOP I LAB**
Practical application of theory learned in Advanced Machine Shop I (MST 211).

**MST 271 — ADVANCED MACHINE SHOP II LAB**
Practical application of theory learned in Advanced Machine Shop II (MST 221).

*(MTC) — Metalcasting*

**MTC 111 — MATERIAL TECHNOLOGY**
An introductory study of the basic structures of common commercial materials including atomic arrangements, physical and mechanical properties, crystals, grains, and amorphous solids. Covers phases, states of matter, equilibrium diagrams and organic polymers. Includes steels, cast iron, copper, aluminum, heat treating, alloying, stone, wood, cement, concrete and plastics.

**MTC 112 — DESCRIPTIVE METALLURGY**
Covers basic metal reduction, structure of atoms and molecules, bonding methods, corrosion; studies of iron, steel, cast iron, alloy steel, light and heavy
MTC 121 - FOUNDRY I
Reviews metal history and development, gives foundry basics including sand preparation and conditioning mold making, melting and pouring, and cleaning. Properties of aluminum, zinc, lead, copper, steel and iron; molding methods and machines, furnaces, gating problems, sand testing, patterns, cores, defects and testing.

MTC 141 - FOUNDRY II
Universal testing, equipment, use of cores, molding methods and devices, match plate patterns, gating alternatives are presented. More difficult castings are made from aluminum with control of sand, metal and dimensions stressed. Foundry personnel, salesmen and field trips introduce instrumentation, automation, metal and sand control and new technology.

MTC 142 - FOUNDRY ECONOMICS
Introduces basic needs, goods and services plus land, and labor and management's roles in supplying human needs. Relates the functions of the foundry to its ability to provide a product and make a profit. Covers the land, money, and goods; market, sales, warranty, training, experience, and quality cost, cultural changes, government rules, and court decisions, and competition. Places importance on jobs with growth and occupation security. Covers judgment and decisions made by foremen and managers, and responsibility of workers.

MTC 143 - FOUNDRY PLANNING
Course deals with the departmental responsibilities and the internal meshing of individual efforts. Covers the impact of inflation, quality, and competition; importance of location, transportation, access and subcontracting; function of the personnel department, cost department, engineering, scheduling, sales, legal, accounting, and manufacturing. The responsibilities and requirements of management, technical help and the labor are covered at length.

MTC 161 - MATERIAL TECHNOLOGY LAB
Practical application of theory learned in Material Technology (MTC 111) through demonstrations and experiments.

MTC 162 - DESCRIPTIVE METALLURGY LAB
Presents metallography, etching, heat treatment, alloy casting, destructive testing and microscope analysis.

MTC 171 - FOUNDRY I LAB
Practical application of theory learned in Foundry I (MTC 121) to include simple castings.

MTC 191 - FOUNDRY II LAB
Practical application of theory learned in Foundry II (MTC 141).

MTC 192 - METALCASTING PROBLEMS I
Includes sand technology using the foundry handbook and metalcasting texts. Covers the source, types, sizing, distribution and reuse of sand. All basic tests are repeated and described in results by reports. Requires reports on conditioning, additives, renewing and sand equipment and machinery. Defects caused by sand are described and correction methods. Usage studies all go deeper than normal sand courses.

MTC 194 - METALCASTING PROBLEMS II
Covers the technology associated with casting patterns in most foundries. Loose, pinned multiple, match plate and special patterns are made with gates, sprues, coreprints, and other details attached. Allowances, finishes, materials,
shrinkage and core placement must be calculated and applied. Several basic patterns are made and tested by casting in the lab.

**MTC 211 — METALCASTING**
- Instruction in use of arc, induction and fuel fired furnaces. Problems of pouring alloys, cast iron, steel, aluminum and copper are covered. Defect determination and correction is covered by example, experience, field trips and experts. Calculations of charge size, percentage change, scrap rates and relative economy are presented.

**MTC 222 — FOUNDRY QUALITY AND INSPECTION**
- Introduces the concept of industrial requirement of conformance and uniformity. Covers statistical analysis, sampling, inspection methods, documentation, reporting, and planning. Theory covers quality cost, scrap, rework, adjustments, testing and tolerances.

**MTC 231 — INSTRUMENTATION**
- Covers the basics of instrumental sensing and display. Includes heat, pressure, surface level, density, hardness, weight, flow measurement, metallography, pH, and carbon equivalent testing. The theory covers emission, spectrography, x-ray, and photography.

**MTC 233 — STRENGTH OF MATERIALS**
- Introduces statics, beams, levers, and mechanical strengths, stress, strain, yield, elasticity, creep temperature effects and design considerations. The coefficient of thermal expansion, Young's modulus and safety factors are introduced. Testing, published reports, codes, standards, and specifications are used to identify design requirements.

**MTC 261 — METALCASTING LAB**
- Includes special projects and reports plus castings, using all facets of metalcasting.

**MTC 272 — FOUNDRY QUALITY AND INSPECTION LAB**
- Laboratory demonstration covers tensile, hardness, impact, compression, fatigue and corrosion testing plus dye penetrant, ultrasonic, Eddy current, magnetic particle, x-ray, and visual non-destructive testing.

**MTC 281 — INSTRUMENTATION LAB**
- Instruction with demonstration and experiment covers galvanometer display, calibration and adjustment, rack and pinion movements, amplification and positioners. Specific coverage involves carbon analyzer, pyrometer, creep analysis, optical analysis, and strain gages.

**(OHT) — Ornamental Horticulture**

**OHT 111 — HORTICULTURAL SOILS AND FERTILIZERS**
- The study of different artificial and natural soils and the maintenance of their fertility.

**OHT 112 — HORTICULTURE SCIENCE**
- Designed to provide a broad understanding of the fundamental facts and principles of botanical sciences; crop science, horticulture, and the conservation of renewable natural resources.

**OHT 121 — PLANT PROPAGATION**
- Designed to study various techniques used in the propagation of plants grown by commercial nurseryman, using seeds, cuttings and grafts.
OHT 122 - TURF MANAGEMENT
The study of all major southern lawn grasses and their maintenance. Turf machinery, fertilizers and uses of lawn grasses are covered to a great extent.

OHT 131 - ORNAMENTAL AND TURF PEST CONTROL
The study of the different insect, disease and weed pests of ornamental plants. Emphasis is placed on identification and control.

OHT 132 - FOOD CROPS
The study of the basic temperate food crops with emphasis placed on vegetable and fruit crops and their growth.

OHT 141 - TECHNICAL LANDSCAPING
The study of landscape plant materials and their use in both residential and commercial landscaping.

OHT 142 - NURSERY MANAGEMENT
A study of how to operate a nursery, design nursery businesses, and how to develop good sales tactics and displays.

OHT 161 - OHT 192 - PRACTICAL APPLICATION LABS
Practical application of theory learned in the classroom through laboratory assignments scheduled according to seasonal growing conditions.

OHT 211 - GREENHOUSE PRODUCTION
The study of the most common greenhouse grown crops; bedding plants, pot flowers and tropical foliage plants are emphasized.

OHT 212 - LANDSCAPE MAINTENANCE
A study of landscape maintenance involving tree surgery, disease and pest control, planting shrubbery and trees, and pruning ornamentals.

OHT 221 - SPECIAL PROBLEMS
Individual study in an area of interest to the student and approved by instructor.

OHT 261 - OHT 271 - PRACTICAL APPLICATION LABS
Practical application of theory learned in the classroom through laboratory assignments scheduled according to seasonal growing conditions.

(OPR) — Offset Printing

OPR 111 — FUNDAMENTALS OF OFFSET PRINTING
The student is introduced to the offset printing industry, the various steps of production, safety, tools of the trade and major printing processes.

OPR 121 — OFFSET PRESS OPERATION
An in-depth study of the offset printing process, procedures for operation of various offset presses, inks and inking systems, regulating pressures and offset presswork troubleshooting.

OPR 131 — GRAPHIC ARTS CAMERA
A study of the function and operation of the graphic arts camera to achieve suitable copy preparation for printing. The course includes line and halftone photography and darkroom procedures for developing lithographic film.

OPR 141 — PLATEMAKING AND STRIPPING
A study of printing plate characteristics including surface plates and deep-
etch plates, and the exposure devices used in the preparation of plates for offset printing.

**OPR 161 — FUNDAMENTALS OF OFFSET PRINTING LAB**
Practical application of theory covered in Fundamentals of Offset Printing (OPR 111).

**OPR 171 — OFFSET PRESS OPERATION LAB**
Practical application of theory learned in Offset Press Operation (OPR 121).

**OPR 181 — GRAPHIC ARTS CAMERA LAB**
Practical application of theory learned in Graphic Arts Camera (OPR 131).

**OPR 191 — PLATEMAKING AND STRIPPING LAB**
Practical application of theory learned in Platemaking and Stripping (OPR 141).

**OPR 211 — BINDERY**
A study of the final step in the offset printing process which is finishing the product and preparation for delivery. The student learns folding, gathering and binding techniques.

**OPR 221 — PRODUCTION SPECIALTY I**
The student enters concentrated study in the area of offset printing which he or she has selected as a career goal.

**OPR 231 — PRODUCTION SPECIALTY II**
Concentrated study in a specific area of greatest interest of the student.

**OPR 241 — PRODUCTION SPECIALTY III**
Refinement of techniques in final preparation for an occupation in the offset printing industry.

**OPR 261 — BINDERY LAB**
Practical application of theory learned in Bindery (OPR 211).

**OPR 271 — PRODUCTION SPECIALTY I LAB**
Concentrated application of theory learned in a specific area of offset printing.

**OPR 281 — PRODUCTION SPECIALTY II LAB**
Concentrated application of theory learned in a specific area of the industry.

**OPR 291 — PRODUCTION SPECIALTY III LAB**
Concentrated application of theory learned in a selected area of offset printing.

(PRE) — Pre-Technical

**PRE 120 — BASIC READING**
This course is designed to strengthen reading skills of high school graduates who have applied to enter trade or technical areas at Bessemer State Technical College and who cannot read well enough to enter their course work.

**PRE 130 — BASIC LANGUAGE**
This course is designed to strengthen the basic language skills of those high school graduates preparing to enter trade/technical areas at Bessemer State Technical College.
PRE 140 — BASIC MATH
This course is designed to improve basic math skills in addition, multiplication, and division of whole numbers, fractions, and decimals required to master major course work.

PRE 141 — BASIC ALGEBRA
This course is designed to teach the basic skills of elementary algebra to students who will be entering trade/technical areas requiring algebra in major course work.

PRE 190 — LEARNING LAB
This course is designed to allow for independent study by learners with an instructor available for individualized instruction.

(RBP, RCH, RCS, RMA, and RPH) — Related Courses

RBP 111 — BLUEPRINT READING I
The course offers instruction in the principles of reading and interpreting industrial blueprints as applied to specific major programs.

RBP 112 — BLUEPRINT READING II
Emphasis is placed on developing an ability to read drawings skillfully with the same degree of accuracy and speed required by industry.

RBP 113 — BLUEPRINT READING III
The relationship of bills of material, detail drawings, and assembly drawings are studied.

RCH 111 — GENERAL CHEMISTRY I
Chemistry I is a general chemistry course designed to give the student a good understanding of the basic laws, theories, and methods of modern chemistry.

RCH 112 — GENERAL CHEMISTRY II
This course is a continuation of Chemistry I, with emphasis on analytical chemistry including molar and normal solutions and related phenomena required for practical application of analytical procedures.

RCH 161 — GENERAL CHEMISTRY I LAB
The laboratory work in Chemistry I is an essential part of the course. The experiments are carefully chosen by the instructor to fully illustrate and clarify the theories developed in General Chemistry I (RCH 111).

RCH 162 — GENERAL CHEMISTRY II LAB
Practical application of theory learned in General Chemistry II (RCH 112).

RCS 111 — COMMUNICATIVE SKILLS I
The purpose of Communicative Skills I is to provide the student an opportunity to acquire or up-grade his or her knowledge of basic grammar, usage, and punctuation. The course also provides instruction in reading, composition, spelling and vocabulary.

RCS 112 — COMMUNICATIVE SKILLS II
A continuation of Communicative Skills I with more in-depth study in basic grammar, usage, punctuation, reading, composition, spelling, and vocabulary.
RCS 121 — TECHNICAL WRITING
Technical writing involves the fundamental skills of selection, arrangement, and presentation of data basic to all writing. The course prepares the technician to communicate in written form information assembled by observation and personal discussion rather than information gained from a library. Emphasis is on clarity, selection and arrangement of material in a format and style which meets the needs of a particular situation.

RCS 131 — BUSINESS ENGLISH AND VOCABULARY
The course is designed to develop or to refine the student's skills in applying specific principles in a business style. Emphasis is on grammar, punctuation, vocabulary, spelling, and business letter writing principles.

RCS 141 — APPLIED SPEAKING
The course exposes the student to theories of communication, methods of preparation, and concepts of discussion. Emphasis is placed on speech purposes, organizing speeches, practicing delivery, and self-evaluation.

RMA 111 — VOCATIONAL MATH
A course in basic mathematics also including a brief study of the metric system. The fundamentals of arithmetic are covered and formula solution is introduced.

RMA 121 — APPLIED ALGEBRA I
A study of basic concepts and operations of algebra, algebraic symbols, signed numbers, equations of first degree, special products and factoring, fractions and applications.

RMA 122 — APPLIED ALGEBRA II
The course consists of a review of systems of equations in two and three unknowns, the use of determinants in solving simultaneous equations, exponents, roots and radicals, logarithms and applications, equations, variation and graphical methods.

RMA 123 — APPLIED TRIGONOMETRY
The main objective is solutions of right triangles. Time is also devoted to the trigonometric functions of any angle and working with the basic identities of trigonometry.

RMA 131 — BUSINESS MATHEMATICS I
The course is designed to give the student an understanding and application of mathematical concepts to business activities, and to improve competency in the fundamental mathematical and arithmetic skills. Emphasis is on learning these concepts through practical application in business situations.

RMA 132 — BUSINESS MATHEMATICS II
The course is designed to provide the student a further understanding of mathematical computations used in business and industry.

RMA 141 — USE OF MACHINIST HANDBOOK
This course enables the student to use the information contained in various tables of the Machinist Ready Reference for solving problems given in the workbook.

RPH 111 — APPLIED PHYSICS
This course is designed to give students a working knowledge of simple machines, levers, block and tackle, wheel and axle, incline planes, force and motion, and hydraulic power.

RPH 161 — APPLIED PHYSICS LAB
This course gives students practical application of the theory learned in RPH 111.
(SEC) — Secretarial Programs

SEC 110 — PRACTICAL APPLICATION LAB
Practical application or study of the theory learned in any subject in the secretarial curriculum.

SEC 111 — BEGINNING SHORTHAND
This is an introductory course in the theory of Gregg Shorthand, Series 90. Reading, dictation, and a limited amount of transcription of familiar material are included.

SEC 112 — BEGINNING TYPEWRITING
This course is designed to give the student practice in the basic typewriting operations. It covers developing basic skills, application of basic rules for memoranda, centering, tables, simple reports, and business correspondence.

SEC 113 — RECORDS MANAGEMENT
This course is designed to familiarize the student with the rules, procedures, and techniques of the various filing systems: alphabetic, numeric, subject, geographic, and chronologic. The specific skills to be developed are inspecting, indexing, coding, cross-referencing, sorting, and storing materials, according to the system that is being used. Attention is focused upon the management aspect of establishing filing systems and also storing, retrieving, transferring, and disposing of records. The use of automation is presented.

SEC 121 — INTERMEDIATE SHORTHAND
This course reviews the principles and furthers the development of skill in the reading and writing of shorthand. Each lesson continues to develop the student's ability to spell, to punctuate, and to apply rules of grammar correctly. Major emphasis is placed on building speed in taking new dictation and transcribing accurately. Prerequisite: SEC 111.

SEC 122 — INTERMEDIATE TYPEWRITING
This course is a continuation of the basic typewriting operations with emphasis on speed and accuracy. Special attention is devoted to the technicalities of typewriting basic business letters, business letters with special features, administrative communications, tables with special features, business forms, technical and statistical reports and employment communications. Emphasis is also placed on erasing and correcting errors. Prerequisite: SEC 112.

SEC 123 — SECRETARIAL ACCOUNTING
This course presents a system of accounting which can be used in any business office. In addition, special attention is paid to accounting problems and situations encountered by attorneys, physicians and dentists. The accounting cycle, income statement, and balance sheet are presented. Also, accounting for cash, banking procedures, payroll accounting are covered.

SEC 131 — ADVANCED SHORTHAND I
This course is designed to build a broader shorthand vocabulary, to develop speed in taking dictation and transcribing accurately from shorthand, to further the command of the English language, to develop efficient transcription techniques, and to develop competence in handling office-style dictation. Major emphasis is on mailability.

SEC 132 — ADVANCED TYPEWRITING
This course provides further development and refinement of typewriting skills through drills for speed and accuracy. Stress is placed on production and problem-solving activities in the preparation of business letters, manuscripts, statistical reports and business forms. Each production block is designed around a specific office and the jobs are typical of the jobs one would expect to find in that particular office. Prerequisite: SEC 122.
SEC 133 — OFFICE PROCEDURES
This subject is designed to develop competency in performing various assignments in the modern business office. The course includes the following: business forms, communications, use of resource material, typing duties and tasks, and general information concerning secretarial duties and responsibilities. Attention is given to human relations, personality development, and how to improve work habits and procedures. Prerequisite: SEC 112.

SEC 141 — ADVANCED SHORTHAND II
This course is devoted to strengthening the shorthand vocabulary and to developing an advanced degree of speed and accuracy in taking and transcribing dictation. A major concern is the transcription of mailable letters in conformity with the highest occupational standards. Prerequisites: SEC 131 and SEC 132.

SEC 142 — PRODUCTION TYPEWRITING
The practical side of typewriting is stressed, providing an opportunity for rapid and accurate typists to work on problems comparable to those found in actual office work: letter styles, invoices, statements, rough drafts, tabulation, and duplication. Emphasis is placed on application of typewriting technique to acceptable production standards in the preparation of business forms and communications. Prerequisite: SEC 132.

SEC 143 — BUSINESS COMMUNICATIONS
This course is designed to present a comprehensive treatment of the major principles of business communications and an analysis of the most widely used forms of business letters, reports, and memoranda. It provides writing activities with emphasis on good use of grammar, spelling, punctuation, and vocabulary. Prerequisite: SEC 122.

SEC 144 — OFFICE SIMULATION
This course is designed to provide students with realistic experiences in completing activities typically performed by office employees. It provides training in performing work requiring initiative, responsibility, and ability. Prerequisite: SEC 132.

SEC 161 — BEGINNING SHORTHAND LAB
Practical application of the theory learned in Beginning Shorthand (SEC 111).

SEC 171 — INTERMEDIATE SHORTHAND LAB
Practical application of the theory learned in Intermediate Shorthand (SEC 121).

SEC 181 — ADVANCED SHORTHAND I LAB
Practical application of the theory learned in Advanced Shorthand I (SEC 131).

SEC 184 — OFFICE MACHINES
This course offers coverage of the basic principles, operating procedures, and business applications of four major types of desk-top ten-key calculating machines in use today: electronic printing calculator, electronic display calculator, mechanical printing calculator, and ten-key adding/listing machine.

SEC 185 — TRANSCRIBING MACHINES
In this course the student will learn the correct techniques for operating the transcribing unit. Attention is given to setting up letters, business documents, and manuscripts correctly with special emphasis on spelling, grammar, and punctuation. This course also helps to develop the student's proficiency in administrative and word processing information and procedures.

SEC 191 — ADVANCED SHORTHAND II LAB
Practical application of the theory learned in Advanced Shorthand II (SEC 141).
SEC 194 — OFFICE SIMULATION LAB
Practical application of the theory learned in Office Simulation (SEC 144).

(SMC) — Small Engine Mechanics

SMC 111 — INTRODUCTION TO SMALL ENGINE REPAIR
This course is designed to familiarize the student with shop safety, hand tools, fasteners, and the proper use of measuring devices. Includes the fundamentals of power and the theory of operation and maintenance of the two-cycle and four-cycle engines. Emphasis is on air-cooled engines, power transfer systems, fuel, carburetion, and electrical systems.

SMC 121 — FUNDAMENTALS OF ENGINE RECONDITIONING
The student learns techniques of diagnosing engine malfunctions and techniques of tune-up and overhauling small engines.

SMC 131 — DOMESTIC USE ENGINES
Designed to instruct the student in small gasoline-powered engines used on lawn mowers, tillers, chainsaws, and other pieces of equipment used primarily for domestic use.

SMC 141 — RECREATION USE ENGINES
The course includes the fundamentals of repair and maintenance of engines used primarily for recreation including outboard motors, motorized carts and motorcycles.

SMC 161 - SMC 191 — PRACTICAL APPLICATION LABS
The student gains practical experience through live-work projects and laboratory assignments.

SMC 211 — INDUSTRIAL USE ENGINES
This course includes the fundamentals of repair and maintenance of small gasoline-powered engines for industrial use.

SMC 261 — PRACTICAL APPLICATION LAB
The student gains practical experience through live-work projects.

(SSS) — Special Services

SSS 110 — SPECIAL SERVICES TUTORING LAB
This course offers additional academic support for eligible students in a variety of major courses. Students work one hour per day with a Special Services instructor or a qualified tutor clarifying and strengthening problem areas in specific courses.

SSS 111 — SPECIAL SERVICES READING / ENGLISH
This course is designed to prepare eligible students to perform satisfactorily or above in various major and related courses. The individualized and small group instruction approach is employed to emphasize vocabulary building, reading comprehension, grammar, spelling and composition.

SSS 112 — SPECIAL SERVICES MATH
This course prepares eligible students for various major and related courses.
and everyday situations by developing and strengthening essential math competencies. Students are provided with individualized and group instruction which includes whole numbers, fractions, decimals, percentage and measurement and occasionally other areas.

**SSS 114 — SPECIAL SERVICES ALGEBRA**
This course prepares eligible students for various major and related courses by strengthening and developing the concepts and skills of arithmetic and elementary algebra. Students are provided with individualized and group instruction which includes signed numbers, exponents, evaluating literal expressions and solving equations and other topics.

**(UPH) — Upholstery**

**UPH 111 — INTRODUCTION TO UPHOLSTERY**
A brief introduction to the upholstering industry and familiarization of basic hand tools and equipment used in the industry.

**UPH 121 — FOUNDATION AND BODY WORK**
The objective of this course is to develop skills needed to build and rebuild furniture foundations.

**UPH 131 — PADDING AND STUFFING**
The student is taught to properly pad the contour of the frame for comfort. Emphasis is on dinette chairs and occasional chairs.

**UPH 141 — JOB PLANNING**
The student learns to select the necessary materials and to plan his/her work to conserve energy and time.

**UPH 161 - UPH 191 — GENERAL REPAIR LABS**
Practical application of theory through laboratory assignments.

**UPH 211 — COVERINGS**
The student learns the materials and masters the skills in planning, attaching and installing covers to sofas and bar sets.

**UPH 211 — PANELING**
The student learns the techniques of paneling. Emphasis is placed on recognizing and correcting flaws in workmanship.

**UPH 231 — FINISHING AND REFINISHING**
The student learns the techniques of brushing and becomes familiar with the durability of different types of finishes including shellacs and varnishes.

**UPH 241 — AUTOMOTIVE UPHOLSTERY**
The objective of this course is to familiarize students in removing, repairing and replacing interiors of automobiles.

**UPH 261 - UPH 291 — GENERAL REPAIR LABS**
Practical application of theory through laboratory assignments.

**(WEL) — Welding**

**WEL 111 — BASIC ARC WELDING AND OXYACETYLENE BURNING**
Designed to introduce the student to the welding field, and to give him or her
COURSE DESCRIPTIONS

a working background in basic electric arc welding, flame cutting, welding terminology and safe practices of each.

WEL 121 — FUNDAMENTALS OF OXYACETYLENE AND ARC WELDING
Instruction in the principles, reasons, alternatives and the manipulative skills in the use of oxyacetylene and electric arc welding.

WEL 131 — ELECTRODE IDENTIFICATION AND INTERMEDIATE WELDING THEORY
The student learns to select the correct electrode for a prescribed job and produces a weld in accordance with the American Welding Society specifications.

WEL 141 — ADVANCED THEORY FOR FLAT, HORIZONTAL, VERTICAL AND OVERHEAD WELDING
The student learns to control the weld bead in the flat, horizontal, vertical and overhead positions and to produce a weld that has suitable appearance and quality.

WEL 161 — PRACTICAL APPLICATION LAB
The practical application of theory learned in Basic Arc Welding and Oxyacetylene Burning (WEL 111).

WEL 171 — PRACTICAL APPLICATION LAB
The practical application of theory gained in Fundamentals of Oxyacetylene and Arc Welding (WEL 121).

WEL 181 — PRACTICAL APPLICATION LAB
The practical application of theory learned in Electrode Identification and Intermediate Welding Theory (WEL 131).

WEL 191 — PRACTICAL APPLICATION LAB
The practical application of theory learned in Advanced Theory for Flat, Horizontal, Vertical and Overhead Welding (WEL 141).

WEL 211 — FUNDAMENTALS OF METALLIC INERT GAS AND TUNGSTEN INERT GAS WELDING
The student will learn the fundamentals and applications of metallic inert gas and tungsten inert gas welding and aluminum welding.

WEL 261 — PRACTICAL APPLICATION
The practical application of knowledge gained in Fundamentals of Metallic Inert Gas and Tungsten Inert Gas Welding (WEL 211).
NIGHT PROGRAMS
Bessemer State Technical College offers more than 20 major programs through evening certificate classes. Students enrolling in the evening programs typically wish to enter a chosen occupation or are presently employed and wish to upgrade their skills.

The major programs offer training in four general areas: health, business, trade and technical. The health program consists of Emergency Medical Technician training. The business programs are accounting, secretarial, computer programming, and data entry-keypunch. The trade cluster consists of automobile mechanics, automotive engine rebuilding, building maintenance, commercial art, commercial photography, commercial sewing, diesel mechanics, major appliance repair, metalcasting, offset printing, small engine mechanics, upholstery and welding. The technical programs are air conditioning and refrigeration, drafting, electronics, electromechanical, horticulture, machine shop and mine maintenance. The shortest time necessary to complete a certificate ranges from 3 to 10 quarters, depending on the number of evenings of attendance per week and the complexity of the program. Students should consult individual program listings to determine specific program lengths and requirements.

Each certificate program listing consists of (a) certain required courses in the major subject, (b) required related courses (these always include a minimum of one course in mathematics and one course in communicative skills), and (c) optional related courses for students who wish to take additional course work to expand their knowledge and experience. Students who choose not to complete a certificate program may complete only the required major courses to gain minimum entry-level skills in an occupation.

Tech operates on a quarterly schedule. Students have the option of attending two or four evenings per week. Each class is scheduled from 6 p.m. to 9:45 p.m. on Monday/Wednesday or Tuesday/Thursday nights. Tuition and fees must be paid each quarter before students are officially registered. Students attending two nights per week pay tuition of $51.25 per quarter. Students attending four nights per week pay tuition of $101.25 per quarter. Students annually pay $1 for a parking decal and $1 for a student identification card. In addition, a one-time application fee of $5 is charged new students. All new students are required to take a pre-entrance aptitude exam before admittance to a program; the fee for administration of this test is included in the application fee.

Students enrolled in evening certificate programs are classified as attending either quarter-time or half-time, depending on whether...
Whether they enroll for one class (two evenings per week) or two classes (four evenings per week). Some financial aid programs require a minimum of half-time enrollment, and students receiving financial assistance are responsible for learning the enrollment and attendance policies that apply to them prior to registration.

Evening certificate programs typically constitute segments of the full-time, day programs leading either to a diploma or an Associate in Applied Technology degree. Students enrolled in evening certificate programs who wish to continue their training in a full-time program must file a written request with the registrar and meet all entrance requirements for the full-time program before the application for transfer can be considered. Evening students who gain entry into the full-time program will receive advanced placement reflecting that portion of the program they have completed at night.

The listing of each certificate program on the following pages is a sample curriculum. Courses may not be offered in the sequences they are listed. Bessemer State Technical College reserves the right to cancel or postpone courses due to insufficient enrollment. All policies, regulations and rules of conduct at the college are in effect both day and night.

(ATT) — Accounting

Certificate Program

Evening Classes

ATT 111 — ACCOUNTING I (PRINCIPLES)
An introduction to the nature of accounting and procedures for the accounting of cash, payrolls, merchandise, notes and interest for a sole proprietorship. Emphasis is placed on the accrual system, closing and adjusting books, and periodic reports.

ATT 121 — ACCOUNTING II (PARTNERSHIPS)
A study of accounting for purchases, sales inventories, assets and owner's equity. Emphasis is on end-of-year procedures and reports such as the income statement, balance sheet and interim statements.

ATT 131 — ACCOUNTING III (CORPORATE)
A study in corporate accounting including procedures and practices for the accounting of stock, capital earnings, bonds, intangibles and investments. The voucher system is presented in depth, and the use of financial statements for comparative analysis is stressed.

ATT 132 — PAYROLL ACCOUNTING
A study of the various phases of the Social Security Act and other laws relating to the payment of wages and salaries. Includes the basic payroll accounting systems, procedures used in computing wages and salaries, methods used to record time worked, the development of personnel and payroll records required under numerous laws, practice in all payroll operations, recording of accounting entries involving payroll, and preparation of payroll tax returns.
ATT 212 — COST ACCOUNTING

The methods of accounting for materials, labor and factory overhead in a manufacturing firm are covered. The job order, process and standard cost systems are stressed, with emphasis on financial decisions based on the analysis of these systems. Prerequisites: ATT 111, ATT 121, and ATT 131.

ATT 198 — PRACTICE SET LAB

Working experience in an accounting department is simulated through the use of practice sets. The sets cover sole proprietorship service-oriented firms, and partnerships in a retail organization and a manufacturing organization. Prerequisites: ATT 111, ATT 121, and ATT 131.

Required Related Courses

RCS 111 — COMMUNICATIVE SKILLS I
RMA 131 — BUSINESS MATHEMATICS I
DPT 111 — DATA PROCESSING CONCEPTS

Optional Related Courses

DPT 132 — COBOL I
DPT 141 — COBOL II
DPT 221 — COBOL III
SEC 101 — BEGINNING TYPEWRITING AND LAB
DPT 212 — BASIC KEYPUNCH OPERATOR TRAINING
RCS 112 — COMMUNICATIVE SKILLS II
RCS 121 — TECHNICAL WRITING
RMA 132 — BUSINESS MATHEMATICS II

(ABE) — Adult Basic Education

Evening Classes

ABE 059 — ADULT BASIC EDUCATION

Objectives of the ABE program are to teach learners the basic skills which will enable them to secure jobs at their ability or to continue study for completion of the GED test battery.

GED 060 — GENERAL EDUCATION DEVELOPMENT

Objectives for GED are to master the basic skills in the five academic areas (mathematics, natural science, social science, language, and reading comprehension) necessary for completion of the GED test battery.

PRE 061 — DEVELOPMENTAL SKILLS

Objectives of the Developmental Skills program are to offer review courses which are needed by high school graduates (or GED certificate holders) to upgrade skills or enable learners to enter another field of study.

(ACR) — Air Conditioning & Refrigeration

Certificate Program

Evening Classes

ACR 101 — FUNDAMENTALS OF REFRIGERATION

The student is introduced to air conditioning and refrigeration principles, sys-
NIGHT PROGRAMS

tem refrigerant cycles, matter and heat behavior, fluids and pressure, refrigeration brazed connections, types of tubing, special tools, and equipment. Safety is emphasized in classroom and lab presentation.

**ACR 102 — BASIC APPLIED ELECTRICITY**

The course covers fundamentals of electricity, magnetism, direct current, alternating current, and electromagnetic induction. The study includes types and usage of motors, motor controls, refrigerant flow controls, cooling and heating temperature controls, thermostats, and how to read and understand wiring diagrams. The student is introduced to solid state and microprocessors. Prerequisite: ACR 101.

**ACR 103 — SERVICE AND MAINTENANCE**

The course covers troubleshooting system, repairing and charging refrigeration system, evacuating the refrigerant system, using test equipment, correcting and repairing the control system, servicing single and three phase motors. Safety is emphasized in classroom and lab presentation. Residential and commercial HVAC principles are stressed. Prerequisites: ACR 101 and ACR 102.

**ACR 104 — AIR DISTRIBUTION, SIZING, AND APPLICATION**

The course is designed to familiarize the student with basic air flow and its effect upon the refrigeration cycle, system design, load (heat gain-heat loss) calculation, forced air duct systems. The student is introduced to air-make-up systems. The right selection of equipment is demonstrated in the use of specification of equipment. A complete layout (heat and cool) is drawn by the student. Prerequisites: ACR 101 and ACR 102.

**ACR 201 — SPECIAL SYSTEMS**

This course is a comprehensive study of solar water heating and solar space heating. The student is introduced to water cooled systems and absorption refrigeration. Hot water systems from standard air conditioners, system using air as the refrigerant and auto air conditioning are covered. The student studies the repair of window-type units including heat pumps. Prerequisites: ACR 101 and ACR 102.

**ACR 202 — HEAT PUMP SYSTEMS**

An introduction to heat pump principles, application and installation. Heat pumps compressor, building construction for heat pump, refrigerant flow-controls, electrical systems, auxiliary heating, defrost cycles and starting components are stressed. Prerequisites: ACR 101 and ACR 102.

**Required Related Courses**

- RMA 111 — VOCATIONAL MATHEMATICS
- RCS 111 — COMMUNICATIVE SKILLS I

**Optional Related Courses**

- BLM 101 — BASIC THEORY FOR ELECTRICIANS
- BLM 102 — RESIDENTIAL WIRING
- BLM 301 — PLUMBING I
- WEL 101 — BASIC ARC WELDING AND OXYACETYLENE BURNING
(APT) — Automotive Engine Rebuilding
Certificate Program
Evening Classes

APT 142 — AUTO MACHINING AND REBUILDING I
A course designed to familiarize the student with basic engine operation, micrometer reading, disassembly and parts cleaning, and shop safety.

APT 212 — AUTO MACHINING AND REBUILDING II
A course instructing the student on the proper methods of valve train repair. Includes grinding valve seats and valves.

APT 222 — AUTO MACHINING AND REBUILDING III
A course designed to instruct the student on the proper methods of valve seat and valve guide replacement. Includes crankshaft and lifter technology.

APT 232 — AUTO MACHINING AND REBUILDING IV
The student learns block boring and honing, crankshaft polishing and complete engine re-assembly.

Required Related Courses
RMA 111 — VOCATIONAL MATHEMATICS
RCS 111 — COMMUNICATIVE SKILLS I

Optional Related Course
AMC 111 — BASIC AUTO MECHANICS

(AMC) — Automotive Mechanics
Certificate Program
Evening Classes

AMC 111 — BASIC MECHANICS
The course includes a brief history of the automotive industry; identification of tools, their use and care; use of measuring instruments; fasteners; and specifications.

AMC 122 — FRONT END AND STEERING
The student learns to service and align front suspension and to replace and service steering sectors and linkage.

AMC 123 — ENGINES I
A study of engine construction, including types, cylinder arrangements, valve arrangements, engine cooling systems and lubricating systems.

AMC 131 — AUTOMOTIVE BRAKES
A detailed study of types of braking systems and their service requirements, machine turning of brake drums and rotors, and vacuum power brakes.

AMC 132 — ENGINES II
The student studies engine operation, measurements and performance, pistons, rings, valves and connecting rods, and learns the proper methods of grinding valves and seats. Prerequisite: Engines I (AMC 123).
AMC 133 - CLUTCHES AND STANDARD TRANSMISSIONS
An in-depth study of types and construction of clutches, service and troubleshooting.

AMC 143 - DIFFERENTIALS AND DRIVE LINES
A study of drive shafts, universal joints, rear axles, differentials, bearings and seals.

AMC 151 - AUTOMOTIVE WELDING AND SHOP MANAGEMENT
Designed to provide the student with the basics of welding. Include oxyacetylene torch safety, lighting and adjusting torches, and adjusting welding equipment. The shop management segment introduces the student to the procedures for ordering parts, posting bills, making estimates on jobs, keeping shop records, using flat rate manuals, and establishing good customer relations.

AMC 211 - AUTOMOTIVE ELECTRICITY
Includes fundamentals of electricity and magnetism, basic circuitry, and electrical charging systems.

AMC 212 - FUEL AND EXHAUST SYSTEMS
A study of the components of the fuel system including lines, pumps, and carburetors; and components of the exhaust system including manifolds, exhaust pipes, mufflers, resonators and tail pipes.

AMC 221 - AUTOMATIC TRANSMISSIONS I
Designed to provide the student an understanding of the construction and operation of automatic transmissions. Includes hydraulics, fluid couplings, planetary gear systems, governor control valves, clutch units, servos and bands.

AMC 223 - AUTOMOTIVE AIR CONDITIONING
A study of the fundamentals and principles in the construction and operation of automotive air conditioning systems.

AMC 231 - TUNE-UP AND TESTING
The student becomes familiar with mechanical and electrical testing equipment used to diagnose malfunctions of the ignition system and to determine the general condition of the engine.

AMC 232 - AUTOMATIC TRANSMISSIONS II
A continuation of the study of automatic transmissions to include methods of disassembly and assembly and making necessary repairs and adjustments. Prerequisite: Automatic Transmissions I (AMC 221).

AMC 233 - EMISSION CONTROLS
A study of automotive emissions, their effects on the environment, and devices to control the effect. Includes components, types, and their repair, replacements, and adjustments.

Required Related Courses

RMA 111 - VOCATIONAL MATHEMATICS
RCS 111 - COMMUNICATIVE SKILLS I
(APT) — Automotive Parts Technology
Certificate Program

Evening Classes

APT 111 — INTRODUCTION TO AUTO PARTS INDUSTRY
An overview of the automotive parts aftermarket at all levels of distribution. Special emphasis is placed on the history of the automotive parts industry; the functions of the automotive wholesaler and the jobber relative to buying, receiving, shipping and extending credit; terminology common to the auto parts industry; and the impact of the auto parts industry on the economy.

APT 113 — AUTO PARTS CATALOG
The student becomes familiar with various automotive parts catalogs and learns how to locate the part desired by application of year, make and model of vehicle. Includes practical experience in using the catalog to locate parts.

APT 132 — AUTO PARTS STORE PROCEDURES
The student learns to ship, receive, stock, order and inventory parts.

APT 134 — ADVANCED COUNTERMAN OPERATIONS
Emphasis is on customer relations while taking orders from a customer in the store and from customers via telephone.

Required Related Courses

APT 142 — AUTO MACHINING AND REBUILDING I
RCS 111 — COMMUNICATIVE SKILLS I
RMA 111 — VOCATIONAL MATHEMATICS

Optional Related Courses

APT 212 — AUTO MACHINING AND REBUILDING II
APT 222 — AUTO MACHINING AND REBUILDING III
APT 232 — AUTO MACHINING AND REBUILDING IV
AMC 111 — BASIC MECHANICS

(RBP) — Related Blueprint Reading

Evening Classes

RBP 101 — BASIC BLUEPRINT READING AND SKETCHING
A course for machinists. Includes basic line weights; review of basic math; the interpretation of orthographic projection, title block and bill of material; basic screw and thread representation; dimension types and methods. Includes dimensioning with shop notes.

RBP 111 — BASIC BLUEPRINT READING FOR WELDERS
A course for welders. Includes interpretation of orthographic projection, title block and bill of material; basic screw and thread representation; dimension types and methods; structural shapes and the interpretation of basic welding symbols.

RBP 102 — INTERMEDIATE BLUEPRINT READING
An in-depth study of orthographic projection with applicable drawing assignments. Includes the identification, interpretation and application of sectional...
NIGHT PROGRAMS

views as related to visual and dimensional development of a drawing. The ma­
machinist handbook is used to familiarize the student with standard tables and
their utilization. Prerequisite: RBP 101.

RBP 103 - ADVANCED BLUEPRINT READING
In-depth study and application of special sections for complicated interiors.
Includes definition and application of assembly drawings and multi-scale draw­
ings; comparison of pictoral and orthographic projection drawing; interpretation
and application of cams, spur, bevel and worm gears. Prerequisites: RBP 101
and RBP 102.

(BLM) - Building Maintenance - Carpentry
Certificate Program
Evening Classes
BLM 201 - BUILDING MAINTENANCE - CARPENTRY I
A course involving the identification, care, adjustment and proper use of hand
and power tools. Safe use of various tools is stressed. Measuring and layout
tools, leveling instruments and building materials are also stressed.

BLM 202 - BUILDING MAINTENANCE - CARPENTRY II
A study of footings and foundations. Floor, wall, ceiling and roof construction
are emphasized. The student also learns to read blueprints.

BLM 203 - BUILDING MAINTENANCE - CARPENTRY III
A study of roofing materials, window and door installation, wall finishing,
thermal and sound insulation, and floorings. Roof layout and construction,
cornice construction, interior and exterior finishing are also included.

BLM 204 - BUILDING MAINTENANCE - CARPENTRY IV
A study of the techniques of construction and developing required of build­
ing maintenance workers. Includes stair construction, post and beam construc­
tion.

Required Related Courses
RMA 111 - VOCATIONAL MATHEMATICS
RCS 111 - COMMUNICATIVE SKILLS I

(BLM) - Building Maintenance - Electrical
Certificate Program
Evening Classes
BLM 101 - BASIC THEORY FOR ELECTRICIANS
A course designed to give students an understanding of the basic technical
electrical aspects of the devices and concepts they will work with as electrici­
cans. Includes lecture and lab exercises on electricity and how it flows, Ohms
law for DC circuits, magnetism, alternating current, resistors, inductors, capaci­
tors, transformers and power factor. Safety procedures are also emphasized.

BLM 102 - RESIDENTIAL WIRING
Lecture and practical lab exercises in the basic skills required of a residen-
tial maintenance electrician. Includes proper load calculations, circuits design, layout of dimensions, and job safety. Basic materials and tools are also emphasized. Prerequisite: BLM 101 or acceptable job-related experience.

BLM 103 — COMMERCIAL-TYPE ELECTRICAL WORK
Includes conduit bending, circuit design, controls, rigging, pulling of cables, and switch-gear design. Generation principles, along with transformers, are emphasized. Prerequisites: BLM 101 and BLM 102.

BLM 104 — ADVANCED ELECTRICAL WIRING
Extensive experience in practical problems faced by a maintenance electrician. Lab experience in electrical troubleshooting and renovation are emphasized, along with recognition of safety hazards. Prerequisites: BLM 101, BLM 102, and BLM 103.

Required Related Courses
RCS 111 — COMMUNICATIVE SKILLS I
RMA 111 — VOCATIONAL MATHEMATICS

Optional Related Courses
BLM 105 — ELECTRICAL CODE
A thorough, in-depth study of The National Electrical Code. Preparation for Journeyman or Master's Test given by city or county inspection services. Workbook, tests, and explanations cover the National Electrical Code from cover to cover. Students become aware of and familiar with many little known, but important aspects of the National Electrical Code. Prerequisites: 1½ to 2 years minimum of in-the-field experience or equivalent electrical knowledge. Reading and comprehension important.

EIT 142 — ELECTRICAL CONTROLS
EIT 211 — ELECTRICAL MACHINERY I (DC)

(BLM) — Building Maintenance - Plumbing
Certificate Program

Evening Classes
BLM 301 — BUILDING MAINTENANCE - PLUMBING I
Lecture and practical lab exercises in the basic skills needed to be a maintenance plumber. Job safety, plumbing materials and plumbing tools are studied in detail.

BLM 302 — BUILDING MAINTENANCE - PLUMBING II
A continuation of the skills learned in Plumbing I. The joining, installing and supporting of different type pipes are emphasized. Sizing of sanitary drainage and vent piping are also studied.

BLM 305 — BUILDING MAINTENANCE - PLUMBING III
A study of water supplies, plumbing fixtures, and appliances. The student also learns testing and inspection procedures. Prerequisites: Plumbing I and II.

Required Related Courses
RMA 111 — VOCATIONAL MATHEMATICS
RCS 111 — COMMUNICATIVE SKILLS I
Optional Related Courses

RMA 121 — APPLIED ALGEBRA I

(COA) — Commercial Art
Certificate Program

Evening Classes

COA 100 — MECHANICALS
A study of advertising art with emphasis on mechanical paste-up, grids, and geometrical drawing.

COA 101 — BASIC DRAWING
Theory, lettering, shading, perspective and fundamental sketching, pen and ink illustration, and introduction to advertising.

COA 102 — LAYOUT AND DESIGN
Color design, thumbnail sketching, fashion illustration and layout, pen and ink watercolor wash, and storyboard art.

COA 103 — GRAPHIC DESIGN
Advertising design with emphasis on creative thinking, layout and design, composition and balance, continuation of product design from beginning to finished printing. Students completing certificate program design and layout an advertising book demonstrating their work, also design, set-up and promote an art show featuring their work. Prerequisites: COA 100, COA 101, COA 102, COA 205 and OPR 100.

Required Related Courses

COA 205 — BASIC PHOTOGRAPHY
Commercial and fine arts photography, film developing, basic darkroom printing. This course covers good composition and design, shooting with available light, theory on strobe lighting, portrait posing, wedding posing, color slides, and finished presentation.

OPR 100 — INTRODUCTION TO OFFSET PRINTING

RMA 111 — VOCATIONAL MATHEMATICS

RCS 111 — COMMUNICATIVE SKILLS I

Optional Related Courses

COA 206 — PHOTOGRAPHY II
Strobe lighting with live model, product and advertising photography, multiple printing, solarization, bleaches, photo-copying, and photo-layout. Prerequisite: COA 205.

COA 207 — PHOTO AIRBRUSH
Airbrush exercises, airbrush art, photography airbrush and retouch, and airbrush advertising. Includes “Mock Billboard Art.” Prerequisites: COA 101 and COA 102.

OPR 101 — PRESS OPERATION I
OPR 201 — PROCESS CAMERA I
(DPT) — Data Entry / Keypunch

Certificate Program

Evening Classes

DPT 113 — BASIC KEYPUNCH OPERATOR TRAINING
Introduction to the use, function and operation of the card punch machine. A job-related kit is used.

DPT 123 — ADVANCED KEYPUNCH OPERATOR TRAINING
A continuation of DPT 113, this course introduces the use, function and operation of key-to-tape data entry equipment with special emphasis placed on speed and accuracy.

DPT 133 — DATA ENTRY PROBLEMS
The use, function and operation of key-to-disk data entry equipment. Special emphasis is placed on speed and accuracy.

Required Related Courses
RMA 111 — VOCATIONAL MATHEMATICS
RCS 111 — COMMUNICATIVE SKILLS I

Optional Related Courses
SEC 101 — BEGINNING TYPEWRITING

(DPT) — Data Processing

Certificate Program

Evening Classes

DPT 111 — DATA PROCESSING CONCEPTS
A course designed to introduce definitions and terminology unique in data processing, along with historical developments of first, second, and third generation machines, data processing equipment and data processing techniques, computer system configurations, computer capabilities, internal representation of data, internal operations of a computer, characteristics of a program, computer files, management of a computer facility, and quality control in data processing.

DPT 122 — PROGRAM LOGIC AND DOCUMENTATION
An introduction to basic system and program flowcharting. Program switches, multilcard file input, and decision making are covered, along with other common programming techniques.

DPT 131 — DOS JOB CONTROL LANGUAGE
The concepts and practical applications of the job control language for a disk operating system are included.

DPT 132 — COBOL PROGRAMMING I
COBOL is the primary commercial programming language in use today. All elements of COBOL are studied in this first of three courses. Experience and proficiency in COBOL programming techniques are gained by coding, executing, and testing numerous programs designed to reinforce each area.
DPT 141 — COBOL PROGRAMMING II  
A continuation of COBOL programming I at the intermediate level.

DPT 221 — COBOL PROGRAMMING III  
The advanced level of COBOL programming.

DPT 142 — BASIC ASSEMBLY LANGUAGE I  
A comprehensive treatment of symbolic programming techniques and third generation programming.

DPT 211 — BASIC ASSEMBLY LANGUAGE II  
A continuation of basic assembly language at the intermediate level.

DPT 222 — BASIC ASSEMBLY LANGUAGE III  
The final phase of basic assembly language is included.

Required Related Courses
ATT 111 — ACCOUNTING I (PRINCIPLES)  
RCS 111 — COMMUNICATIVE SKILLS I  
RMA 121 — APPLIED ALGEBRA I

Optional Related Courses
ATT 121 — ACCOUNTING II (PARTNERSHIPS)  
ATT 132 — PAYROLL ACCOUNTING  
DPT 112 — INTRODUCTION TO REPORT PROGRAM GENERATOR  
DPT 121 — INTERMEDIATE REPORT PROGRAM GENERATOR  
DPT 213 — ADVANCED REPORT PROGRAM GENERATOR  
DPT 281 — COBOL PROGRAMMING IV  
DPT 282 — FORTRAN IV

(DMC) — Diesel Mechanics  
Certificate Program

Evening Classes
DMC 121 — ELECTRICAL SYSTEMS  
Fundamentals of electricity and magnetism, basic circuitry and electrical charging systems as they relate to diesel mechanics. The student learns to use testing equipment to determine malfunctions in the electrical system and the procedures necessary to correct the malfunctions. Emphasis is on diagnosing problems and returning the equipment to operating standards.

DMC 122 — TROUBLESHOOTING, SERVICE AND TUNE-UP  
The student becomes familiar with mechanical and electrical testing equipment used to diagnose malfunctions. Includes setting overheads, adjusting injectors and valves and all tune-up techniques to maintain the system for efficient operation.

DMC 132 — POWER TRAINS  
A study of transmission of power from the engine with emphasis on drive shafts, universal joints, rear axles, differentials, bearings and seals.

DMC 141 — CLUTCHES AND MANUAL TRANSMISSIONS  
In-depth study of types and construction of clutches and transmissions; power
flow, ratio and major overhauls. Emphasis is on troubleshooting and service procedures.

DMC 143 — MINOR DIESEL ENGINE OVERHAUL
The student learns lubrication of all diesel components including proper lubrication methods, location of where lubricants should be applied and the types of lubricants. The course includes a study of the cooling system, heat transfer and the importance of the cooling system to assure efficient operation.

DMC 212 — AIR AND HYDRAULIC BRAKING SYSTEMS
A study of braking systems activated by air and fluid pressure. The student learns the operation of brake service equipment and troubleshooting procedures.

DMC 243 — MAJOR DIESEL ENGINE OVERHAUL
The student learns to disassemble various types of diesel engines, diagnose defective parts and make necessary replacements to return the engine to efficient operation.

Required Related Courses
RMA 111 — VOCATIONAL MATHEMATICS
RCS 111 — COMMUNICATIVE SKILLS I

(DRT) — General Drafting
Certificate Program

Evening Classes
DRT 101 — DRAFTING - BASICS
This is a beginning course for students who have had little or no previous experience in drafting. The material addressed includes freehand lettering; care and use of drafting instruments, materials and equipment; and single view drawings with an in-depth study of geometric construction with applications.

DRT 102 — DRAFTING - ORTHOGRAPHIC PROJECTION
Pictorial representation of shape description. The theory of third-angle orthographic projection is addressed with extensive multiview drawing application emphasizing the rules and exceptions established in The American National Standard Drafting Specification (ANSI Y-14). Freehand sketching and shape description through development of pictorial and multiview sketches. Multiview orthographic projection representations pertaining to machine parts with emphasis on the alphabet of lines, edges, and surfaces, selection of views, and precedence of lines.

DRT 103 — DRAFTING - SECTIONAL VIEWS
An in-depth study of the principles and applications of sectional view techniques to include full, half, broken out, revolved, aligned and offset sections. Drawing requiring the application of several types of sections will be completed by the student.

DRT 104 — DRAFTING - AUXILIARY VIEWS
Auxiliary view techniques will be examined to include development of primary and secondary auxiliary views to include solution of dihedral angle applications. Basic descriptive geometry concepts as required in design applications will be addressed in practical applications.
DRT 105 - DRAFTING - DIMENSIONING AND TOLERANCING
Dimensioning techniques with principles and special consideration are exam­
ined with analysis and interpretation required to complete assigned projects. Limit dimensioning and tolerancing concepts will be addressed to include ap­
plications of The American National Standard Tables of Fits.

DRT 106 - DRAFTING - PRODUCTION DRAWINGS
Implications and specifications as pertaining to threads, fasteners, and
springs along with welding symbols on a (production) working drawing as pre­
sentated with typical applications required for completion by the student. Com­
prehensive working drawings to include both detail and assembly drawings will
be discussed with application projects completed by the student.

Required Related Courses
RCS 111 — COMMUNICATIVE SKILLS I
RMA 121 — APPLIED ALGEBRA I

Optional Related Courses
RMA 123 — TRIGONOMETRY
EIT 111 — DC THEORY
EIT 121 — AC THEORY

(DRM) — Dressmaking and Alterations
Certificate Program
Evening Classes
DRM 111 — DRESSMAKING I
The student gains knowledge of basic clothing construction plus mathemati­
cal skills needed in dressmaking.

DRM 121 — ALTERATIONS I
Student gains an understanding of industrial power sewing through the use
of power sewing machines with emphasis on safety and proper care. Basic fit­
ting and alteration included.

DRM 131 — ALTERATIONS II
Construction methods and techniques employed by the alteration tailor for
fitting and altering clothes. Management processes including work goals, utili­
zation of time and work simplification are stressed.

DRM 141 — DRESSMAKING II
Advanced construction principles for dressmaking and design with emphasis
on garment selection, pattern adaption and women's tailoring.

DRM 151 — DRAPERY DESIGN AND CONSTRUCTION
Covers many aspects of drapery making, including methods of measurements,
handling drapery fabrics, utilization of time, and responsible uses of materials
and equipment.

Required Related Courses
RMA 111 — VOCATIONAL MATHEMATICS
RCS 111 — COMMUNICATIVE SKILLS I
(RCS) — Related English

Evening Classes

RCS 111 — COMMUNICATIVE SKILLS I
A course to provide the student an opportunity to acquire or up-grade his or her knowledge of basic grammar, usage and punctuation. The course also provides instruction in reading, composition, spelling, vocabulary and oral communication.

RCS 112 — COMMUNICATIVE SKILLS II
A continuation of Communicative Skills I with more in-depth study in basic grammar, usage, punctuation, reading, composition, spelling, vocabulary and oral communication.

RCS 121 — TECHNICAL WRITING
Involves the fundamental skills of selection, arrangement and presentation of data basic to all writing. The course prepares the technician to communicate, in written form, information assembled by observation and personal discussion rather than information gained from a library. Emphasis is on clarity, and on selection and arrangement of material in a format and style which meet the needs of a particular situation.

Electromechanical

Certificate Program

Evening Classes

MIT 112 — BASIC MECHANICS
An introductory course for millwrights and mechanics. Includes selection, safe use and care of hand and power tools; fasteners; precision measuring instruments; lubrication principles and methods; types and uses of fluids.

MIT 123 — MECHANICAL POWER TRANSMISSION
Principles and applications of belt drives; pulleys, flat belts and drive arrangements; gears; chain drive installation, maintenance and replacement.

MIT 131 — INDUSTRIAL MECHANICS
Covers bench work, machinery installation and pipefitting. Includes rigging, abrasives, heat treatment of seals, piping strains and alignment, analysis of vibration with moving machinery.

EIT 111 — ELECTRONIC THEORY I (DC)
EIT 120 — ELECTRONIC THEORY II (AC)
EIT 142 — ELECTRICAL CONTROLS
WEL 101 — BASIC ARC WELDING

Required Related Courses

RHY 101 — HYDRAULICS
Covers the properties of fluids, basic physics review of force and motion. Calculations of volume, area and displacement. Cover components for power transfer, arrangements for controlling flow and power, methods of joining pipe, tubing and special conduits, and special application concepts of hydraulics and pneumatics.

RBP 101 — BASIC BLUEPRINT READING
RMA 111 — VOCATIONAL MATHEMATICS
RMA 121 — APPLIED ALGEBRA I
RCS 111 — COMMUNICATIVE SKILLS I

(EIT) — Electronics
Certificate Program

Evening Classes

EIT 111 — ELECTRONIC THEORY I (DC)
Composition of matter; electrical units; circuits, symbols and diagrams; color codes; Ohm’s Law; Watt’s Law; Kirchhoff’s Law. Resistance in simple series, parallel and complex circuits, is covered.

EIT 120 — ELECTRONIC THEORY II (AC)
Alternator theory, sine function, sine-wave analysis, vectors and phase relationships, and Ohm’s Law for alternating current, capacitors capacitance, inductors and inductance, transformers, frequency and the electromagnetic spectrum, time-varying circuits consisting of inductance, capacitance, resistance and combination of these. Operation and use of the cathode-ray oscilloscope are stressed. Prerequisite: EIT 111.

EIT 130 — SEMICONDUCTOR DEVICES
Review of atomic structure with emphasis on valence and bonding; semi-conductors, diodes, half-wave and full wave networks and bridge rectifier circuits; power supply filters, methods of coupling, methods of biasing frequency response, power transfer in circuits; receiver circuits, phase-shift networks. Prerequisites: EIT 111 and EIT 120.

EIT 140 — SEMICONDUCTORS CIRCUITS
Semi-conductor rectifiers; transistor construction and characteristics; static and dynamic considerations; biasing, load-lines and application to basic circuits; common-base, common-emitter and common-collector configurations. Oscillators, silicon controlled rectifiers and advanced silicon devices and integrated circuits are covered. Basic logic and digital circuits are introduced. Prerequisites: EIT 111, EIT 120 and EIT 130.

EIT 142 — ELECTRICAL CONTROLS
Includes DC and AC manual starters, automatic starters, manual and automatic speed controls, line voltage control and special control devices, electrical control design, troubleshooting and control analysis. Also includes an introduction to static control symbols, devices, and circuits. Prerequisites: EIT 120 or permission of instructor.

EIT 211 — ELECTRICAL MACHINERY I (DC)
DC generators and motors, principle of operation, application, construction, and types of controls are studied. Experiments and tests are made in lab to supplement the classroom instruction. Single phase transformers are included. Prerequisite: EIT 142.

EIT 221 — ELECTRICAL MACHINERY II (AC)
A study of design, operation, performance characteristics, and application of alternators, transformers, and induction motors. Includes load division, calculation of equivalent circuits power factor, synchronization of alternators, speed and voltage regulation, losses and efficiency. Three-phase transformers are included. Prerequisite: EIT 142.

EIT 231 — PULSE AND DIGITAL TECHNIQUES
Wave shaping and signal-conditioning circuits, pulse rise-time analysis, gating
circuits, multi-vibrators, flip-flops, binary, octal, decimal and hexadecimal numbering systems. Encoding, decoding, readout devices, information storage and retrieval. Analog to digital conversion, arithmetic and logic functions using medium scale integrated circuits. Prerequisites: EIT 140 and EIT 142 or permission of instructor.

EIT 243 — MICROPROCESSOR BASICS
Microprocessor and microcomputer terms are defined. System block diagrams are studied. Industrial applications are covered and simple programs are written and executed using a microprocessor trainer. Student performs practical industrial control experiments using a programmable logic controller. Prerequisite: EIT 231.

EIT 248 — ADVANCED MOTOR CONTROLS
A continuation of Electrical Controls, with particular emphasis on design and troubleshooting analysis of controls used in mining. Prerequisite: EIT 142.

Required Related Courses
RMA 121 — APPLIED ALGEBRA I
RMA 122 — APPLIED ALGEBRA II
RCS 111 — COMMUNICATIVE SKILLS I

Optional Related Courses
Other specialized courses for advanced students are scheduled according to industrial demands and student needs.

(EMT) — Emergency Medical Technology

Evening Classes
EMS 099 — EMERGENCY MEDICAL TECHNOLOGY I (BASIC)
Emergency Medical Technicians provide immediate health care at the scene of illnesses or traumatic emergencies. Bessemer State Technical College offers courses in Emergency Medical Technician, Levels I and II.

The requirements for entry into EMT I include a health statement from a physician, a transcript of school grades, and application papers to Bessemer Tech. The following course fees must be paid during registration:

- $65.00 Tuition
- 1.00 Parking Decal
- 1.00 I. D. Card

A lab jacket, 3-way pen, stethoscope, bandage scissors, and pen light must also be obtained prior to doing hospital rotations. These supplies, plus textbooks can be purchased in the school bookstore. The Department of Transportation requires that each EMT I have a minimum of 81 classwork hours of training. During the course, each student is also required to complete 40 hours of emergency room training in local hospitals designated by the instructors and Bessemer Tech's administration.

After completion of all hourly requirements, the student will then be tested by the Department of Health for licensing as an EMT I (Basic).

EMS 199 — EMERGENCY MEDICAL TECHNOLOGY II (INTERMEDIATE)
After successful completion of all phases of EMT I (Basic) level, a student may then proceed to the next level of training, which is EMT II (Intermediate).
EMT II entry requirements include an EMT I license, a completed Bessemer Tech application, a health statement and a transcript. The following course fees must be paid during registration:

- $95.00 Tuition
- 1.00 Parking Decal
- 1.00 I. D. Card

A minimum of 153 hours of in-hospital training will be required. Rotation areas include an emergency room, cardiac intensive care, fire rescue, recovery, and anesthesia-surgical.

After completion of all aspects of training, the student must pass a test administered by the State Department of Health before being licensed as an EMT II (Intermediate).

NOTE: A 75% average must be maintained during and at completion of both EMT courses. Any student dropping below 75% during a two week period will be dropped from training.

(MST) — Machine Shop
Certificate Program
Evening Classes

**MST 101 — MACHINE SHOP THEORY AND SHOP I**
The use and care of measuring instruments, layout tools and hand tools used in bench work. The student becomes familiar with lubrication procedures and the use of abrasives.

**MST 102 — MACHINE SHOP THEORY AND SHOP II**
The student learns the variations and uses of the basic machines in the shop. Includes pedestal grinder, drill press and power saw. Emphasis is placed on the safe use of machines and tools.

**MST 103 — MACHINE SHOP THEORY AND SHOP III**
An introduction to the lathe and the tools and attachments used in operating this machine. Includes the design, layout and set-up of projects. Simple to semi-complex jobs are completed on the lathe.

**MST 104 — MACHINE SHOP THEORY AND SHOP IV**
A continuation of lathe work with more complex jobs completed. Includes calculations and set-ups required to machine and measure external and internal threads, tapers and angles.

**MST 105 — MACHINE SHOP THEORY AND SHOP V**
The shaper and planer are introduced and used to finish projects. Also includes an introduction to milling machines.

**MST 106 — ADVANCED MACHINE SHOP I**
The continued study and practice of the various milling machines. Uses of the index head and rotary table are also covered.

**MST 107 — ADVANCED MACHINE SHOP II**
Emphasis is on the surface grinder. Terms and proper operation procedures for grinding are covered. The cylindrical grinder is also covered.

**MST 108 — ADVANCED MACHINE SHOP III**
Specific advanced jobs are completed. These include the cutting of gears, sprockets and worm gears.
Required Related Courses

RMA 111 — VOCATIONAL MATHEMATICS
RCS 111 — COMMUNICATIVE SKILLS I
RBP 101 — BASIC BLUEPRINT READING AND SKETCHING

Optional Related Courses

RBP 102 — INTERMEDIATE BLUEPRINT READING
RBP 103 — ADVANCED BLUEPRINT READING
RMA 121 — APPLIED ALGEBRA I
WEL 101 — BASIC ARC WELDING AND OXYACETYLENE BURNING

(MAR) — Major Appliance Repair

Certificate Program

Evening Classes

MAR 111 — REFRIGERATION AND APPLIED ELECTRICITY
The course includes fundamentals of refrigeration, refrigeration systems, trouble diagnosis, and repairs. The student is introduced to soldering and brazing techniques, installation of all components, pressure controls and defrosters and ice maker. The course covers basic electricity, motors and motor controls, and how to read and understand wiring diagrams.

MAR 112 — LAUNDRY EQUIPMENT AND BUSINESS PRACTICES
This course includes fundamentals of automatic washers and automatic dryers and a study of washing and drying different fabrics using different cleaning and softening materials and mechanical cycles. The student is introduced to operations of assemblies, components and how they work, electrical control systems, heating (gas and electric), and service procedures, troubleshooting safety precaution. The student is also introduced to customer relations, property protection, parts and labor warranty, quality reports, ordering parts, completing work order, how to get and keep a job, and problem solving.

MAR 113 — COOLING AND HEATING (R.A.C.) AND KITCHEN ACCESSORIES
This course of study includes R.A.C. refrigeration systems, electrical components, compressors, evaporators, system repairing, component replacing. The course includes resistance heat models and heat pumps, plus basic fundamentals, installation, maintenance and troubleshooting of dishwashers, disposers, compactors, and water heaters. The student is also introduced to solar water heating.

MAR 114 — COOKING EQUIPMENT AND APPLIED RESIDENTIAL ELECTRICAL WIRING
This course covers the fundamentals of gas ranges and controls, electric ranges, and microwave ovens. Included in the study are installation procedures, piping gas lines, adjusting and servicing controls, understanding wiring diagrams, solid state controls, microprocessors, and maintenance and troubleshooting. The study also includes principals of electrical wire as it relates to energy source for appliances, installing electrical outlets for appliances, and troubleshooting electrical wiring systems for appliances.

Required Related Courses

RMA 111 — VOCATIONAL MATHEMATICS
RCS 111 — COMMUNICATIVE SKILLS I
NIGHT PROGRAMS

Optional Related Courses
ACT 102 — BASIC APPLIED ELECTRICITY
BLM 301 — PLUMBING I

(OHT) — Ornamental Horticulture Certificate Program

Evening Classes
OHT 122 — TURF MANAGEMENT
The study of all major southern lawn grasses and their maintenance. Turf machinery, fertilizers and uses of lawn grasses are covered. This and other major courses in Bessemer Tech's evening certificate program in horticulture are designed to help horticulturists successfully complete State Department of Agriculture and Industry licensure needed to conduct business in Alabama.

OHT 131 — ORNAMENTAL AND TURF PEST CONTROL
The study of the different insect, disease and weed pests of ornamental plants. Emphasis is placed on identification and control.

OHT 141 — TECHNICAL LANDSCAPING
The study of landscape plant materials and their use in both residential and commercial landscaping.

OHT 212 — LANDSCAPE MAINTENANCE
A study of landscape maintenance involving tree surgery, disease and pest control, planting shrubbery and trees, and pruning ornamentals.

Required Related Courses
RMA 131 — BUSINESS MATHEMATICS I
RCS 111 — COMMUNICATIVE SKILLS I

Optional Related Courses
SMC 101 — SMALL ENGINE REPAIR I
RMA 121 — APPLIED ALGEBRA I
RCS 121 — TECHNICAL WRITING
DRT 101 — DRAFTING - BASICS

(RMA) — Related Mathematics

Evening Classes
RMA 111 — VOCATIONAL MATHEMATICS
A course in basic mathematics designed to teach the student the fundamental processes and concepts which are necessary in developing skills. The fundamentals of arithmetic are covered.

RMA 121 — APPLIED ALGEBRA I
A study of basic concepts and operations of algebra, algebraic symbols, signed numbers, equations of first degree, special products and factoring, fractions, and applications.
RMA 122 — APPLIED ALGEBRA II
A review of systems of equations in two and three unknowns, the use of determinants in solving simultaneous equations, exponents, roots and radicals, logarithms and applications, quadratic equations, variation and graphic methods.

RMA 123 — TRIGONOMETRY
A study of trigonometric functions and relations; a review of angles as related to the coordinate plane; angles of triangles; solutions to triangles; vectors and complex numbers.

RMA 124 — ANALYTIC GEOMETRY
A study of the relationship between algebra and geometry.

RMA 131 — BUSINESS MATHEMATICS I
A course designed to give the student an understanding and application of mathematical concepts to business activities, and to improve competency in the fundamental mathematical and arithmetic skills. Emphasis is on learning these concepts through practical application in business situations.

RMA 132 — BUSINESS MATHEMATICS II
A course designed to provide the student a further understanding of mathematical computations used in business and industry.

(MTC) — Metalcasting
Certificate Program

Evening Classes

MTC 111 — MATERIAL TECHNOLOGY
A study of material properties, crystals, grains and bending in wood, metal, stone, ceramics and polymers. Demonstrates strength tests, corrosion, galvanic cells and magnetic properties.

MTC 112 — DESCRIPTIVE METALLURGY
Includes chemical, physical and mechanical properties of metals, plus equilibrium diagrams, heat treatment and alloys, with application to production and forming. Covers polishing, etching and analysis of cast iron and steels.

MTC 201 — BASICS OF HOT METAL TECHNOLOGY
Covers production methods using casting and welding. Includes inspection, testing, stress-strain, thermal expansion and conductivity, data sheets, procedures and reports. Covers sands, molds, cores, furnaces, cleaning and metal selection. Lab includes dye, magnetic particle and strength tests, also sand, clay and iron, aluminum and zinc castings.

MTC 202 — FOUNDRY INSTRUMENTATION FUNDAMENTALS
Covers theory of reproducible mechanical reactions. Levers, dials, meters, pressure, heat, flow, stress and magnetism. Lab includes use of vom, bimetallic strip, thermocouple, springs.

MTC 203 — METAL FORMING
Covers limitations in rolling, extruding, forging, welding and casting; also, machining, cutting, punching, rivets, heat treat. Lab includes strength of metals, welds, rivets; layout and sketching.

MTC 222 — INSPECTION AND QUALITY CONTROL
Covers metal strength, corrosion, heat treat and alloys; testing, stress-strain,
thermal expansion and conductivity. Students prepare data sheets, procedures and reports. Lab includes dye, magnetic particle and strength tests.

**Required Related Courses**

**RHY 101 — HYDRAULICS**
Covers the properties of fluids, basic physics review of force and motion. Calculations of volume, area and displacement. Covers components for power transfer, arrangements for controlling flow and power, methods of joining pipe, tubing and special conduits, and special application concepts of hydraulics and pneumatics.

**RBP 101 — BLUEPRINT READING**
**RMA 111 — VOCATIONAL MATHEMATICS**
**RCS 111 — COMMUNICATIVE SKILLS I**

**Optional Related Courses**

**RBP 102 — INTERMEDIATE BLUEPRINT READING**
**RBP 103 — ADVANCED BLUEPRINT READING**
**RMA 121 — APPLIED ALGEBRA I**

**[MIM] — Mine Maintenance**
Certificate Program

**Evening Classes**

**MIM 236 — INTRODUCTION TO MINING**
Covers the rights and responsibilities of miners, self-rescue, transportation and communication systems, hazard recognition and accident prevention. First aid segment includes training in cardiopulmonary resuscitation.

**MIM 112 — BASIC MECHANICS**
An introductory course for millwrights and mechanics. Includes selection, safe use and care of hand and power tools; fasteners; precision measuring instruments; lubrication principles and methods; types and uses of fluids.

**MIM 123 — MECHANICAL POWER TRANSMISSION**
Principles and applications of belt drives; pulleys, flat belts and drive arrangements; gears; chain drive installation, maintenance and replacement.

**EIT 111 — ELECTRONIC THEORY I (DC)**
**EIT 120 — ELECTRONIC THEORY II (AC)**
**EIT 130 — SEMI-CONDUCTOR DEVICES**
**EIT 142 — ELECTRICAL CONTROLS**
**EIT 211 — ELECTRICAL MACHINERY I (DC)**
**EIT 248 — ADVANCED MOTOR CONTROLS**
**WEL 101 — BASIC ARC WELDING**

**Required Related Courses**

**RHY 101 — HYDRAULICS**
Covers the properties of fluids, basic physics review of force and motion. Calculations of volume, area and displacement. Cover components for power transfer, arrangements for controlling flow and power, methods of joining pipe,
tubing and special conduits, and special application concepts of hydraulics and pneumatics.

RBP 101 — BASIC BLUEPRINT READING
RMA 121 — APPLIED ALGEBRA I
RCS 111 — COMMUNICATIVE SKILLS I

Optional Related Courses
EIT 140 — SEMI-CONDUCTOR CIRCUITS
EIT 221 — ELECTRICAL MACHINERY II (AC)

(OPR) — Offset Printing
Certificate Program
Evening Classes

OPR 100 — INTRODUCTION TO OFFSET PRINTING
Exposure to all phases of offset printing to include press operation and process camera. Emphasis is on familiarizing student with the whole process through which camera-ready artwork proceeds to become finished, printed material.

OPR 101 — PRESS OPERATION I
Hands-on press familiarization. Includes basic press mechanics and operation. Students learn to run print jobs using pre-made plates. In this and all other offset printing courses, safety procedures are stressed both in classroom presentations and in laboratory applications.

OPR 102 — PRESS OPERATION II
Instruction and practice in negative stripping techniques and platemaking, plus an introduction to paper stock definition. By the end of the quarter, a student will be able to take a negative (which is finished), strip the negative, make a plate, put the plate on a press, make necessary adjustments and run a completed job.

OPR 103 — PRESS OPERATION III
Intermediate techniques in printing methods. Includes multiple image stripping and platemaking (doubleburns). Students will learn to pull color from single negatives and to mix inks to achieve specific colors.

OPR 104 — PRESS OPERATION IV
Advanced techniques in color offset printing.

OPR 201 — PROCESS CAMERA I
Instruction in the fundamentals of offset photography. Includes film types and uses, film chemistries, darkroom procedures, and operation of the process camera.

OPR 202 — PROCESS CAMERA II
Hands-on camera operation. Film selection, sizing of copy, shooting and developing line copy. The student will learn and practice the principles of Photo-mechanical Transfer (PMT).

OPR 203 — PROCESS CAMERA III
Screen types and their uses. The student will make half-tone and duo-tone negatives, PMT's, duplicate negatives, and reverses. Includes an introduction to color.
NIGHT PROGRAMS

Required Related Courses

RMA 111 - VOCATIONAL MATHEMATICS
RCS 111 - COMMUNICATIVE SKILLS I

Optional Related Courses

COA 100 - MECHANICALS
COA 102 - LAYOUT AND DESIGN I

(SEC) — Secretarial Programs

Certificate Program

Evening Classes

SEC 104 - BEGINNING SHORTHAND - PART I

SEC 105 - BEGINNING SHORTHAND - PART II
A continuation of Beginning Shorthand I. Reading, dictation, and a limited amount of transcription of familiar material are included. Prerequisite: SEC 104.

SEC 106 - INTERMEDIATE SHORTHAND
A review of principles and further development of skills in the reading and writing of shorthand. Each lesson continues to develop the student's ability to spell, to punctuate, and to apply rules of grammar correctly. Major emphasis is placed on the speed and accuracy of mailable letter transcription. Prerequisites: SEC 104 and SEC 105.

SEC 107 - ADVANCED SHORTHAND
A course designed to increase shorthand vocabulary and to develop speed and accuracy in taking and transcribing dictation. Prerequisites: SEC 104, SEC 105 and SEC 106.

SEC 101 - BEGINNING TYPEWRITING
Practice in the basic typewriting operations. Covers techniques in skill building and application of basic rules for memorandums, centered reports, tables, simple reports and business letters.

SEC 102 - INTERMEDIATE TYPEWRITING
A continuation of the basic typewriting operations, with emphasis on speed and accuracy. Special attention is devoted to the technicalities of typewriting basic letters, business letters with special features, administrative communications, tables with special features, reports and business forms. Emphasis is also placed on erasing and correcting errors. Prerequisite: SEC 101.

SEC 201 - ADVANCED TYPEWRITING
Further development and refinement of typewriting skills through drills for speed and accuracy. Stress is placed on production and problem-solving activities in the preparation of business letters, manuscripts, statistical reports and business forms. Each productions block is designed around a specific office, and the jobs are typical of the jobs one would expect to find in that particular office. Prerequisites: SEC 101 and SEC 102.
Required Related Courses
RCS 111 — COMMUNICATIVE SKILLS I
RCS 112 — COMMUNICATIVE SKILLS II
RMA 131 — BUSINESS MATHEMATICS I
RMA 132 — BUSINESS MATHEMATICS II

Optional Related Courses
DPT 212 — BASIC KEYPUNCH OPERATOR TRAINING
DPT 214 — ADVANCED KEYPUNCH OPERATOR TRAINING
ATT 111 — ACCOUNTING I (PRINCIPLES)
RMA 111 — VOCATIONAL MATHEMATICS

(SMC) — Small Engine Repair
Certificate Program

Evening Classes

SMC 101 — SMALL ENGINE REPAIR I
A course to familiarize the student with basic hand tools and their use in relation to the component parts of small engines, lawnmowers, motorcycles, chainsaws and other two and four cycle engines. Recommended pre-season and post-season maintenance and engine storage are covered. In this, and all other small engine courses, shop safety is stressed.

SMC 102 — SMALL ENGINE REPAIR II
Diagnosis and repair of the most common engine problems. Students will repair and replace the ignition system; gear box, gear case and transmission; and the starter system.

SMC 103 — SMALL ENGINE REPAIR III
A course in major engine overhaul procedures. Student learns cylinder block removal, disassembly and inspection, and the basis for deciding when to recondition, rebuild or overhaul an engine. Cylinder block assembly and installation, and engine table testing are also covered.

SMC 104 — SMALL ENGINE REPAIR IV
An advanced course for small engine mechanics desiring to improve and speed up their techniques in troubleshooting and open shop work. Includes a study of how a mechanic can start and operate his own small engine repair shop.

SMC 105 — OUTBOARD MOTOR MECHANICS I
A course to familiarize the student with basic hand tools and their use in relation to the component parts of an outboard motor. Recommended pre-season and post-season maintenance and engine storage are covered. Shop safety is stressed.

SMC 106 — OUTBOARD MOTOR MECHANICS II
Diagnosis and repair of the most common engine problems. Student will repair and replace the fuel system, the ignition system, gear case, and starter system.

SMC 107 — OUTBOARD MOTOR MECHANICS III
A course in major engine overhaul procedures. Student learns power head
removal, disassembly and inspection, and the basis for deciding when to recon­
dition, rebuild or overhaul an outboard motor. Power head assembly and in­
stallation and tank performance testing are also covered.

SMC 108 — OUTBOARD MOTOR MECHANICS IV
An advanced course for outboard motor mechanics desiring to improve and
speed up their techniques in troubleshooting and open shop work. Includes a
study of how a mechanic can start and operate his own outboard motor repair
shop.

Required Related Courses
RCS 111 — COMMUNICATIVE SKILLS I
RMA 111 — VOCATIONAL MATHEMATICS

Optional Related Courses
ATT 111 — ACCOUNTING I (PRINCIPLES)

(UPH) — Upholstery
Certificate Program

Evening Classes

UPH 111 — INTRODUCTION TO UPHOLSTERY
A brief introduction to the upholstering industry, plus familiarization with ba­
sic hand tools and equipment used in the industry.

UPH 121 — FOUNDATION AND BODY WORK
A course to develop skills needed to build and rebuild furniture foundations.

UPH 131 — PADDING AND STUFFING
The student is taught to properly pad the contour of the frame for comfort.
Emphasis is on dinette chairs and occasional chairs.

UPH 141 — JOB PLANNING
The student learns to select the necessary materials and to plan work to con­
serve energy and time.

UPH 211 — COVERINGS
The student learns the materials and masters the skills in planning, attaching
and installing covers to sofas and bar sets.

UPH 221 — DECORATIVE TRIM
The student learns the techniques of applying decorative trim to furniture.

UPH 222 — PANELING
The student learns the techniques of paneling. Emphasis is placed on recog­
nizing and correcting flaws in workmanship.

UPH 231 — SURFACE PREPARATION
A course to teach the student to prepare surfaces to accept finishes. Empha­
sis is on sanding techniques and color harmony.

UPH 241 — AUTOMOTIVE UPHOLSTERY
A course to familiarize students in removing, repairing, and replacing auto
interiors.
Required Related Courses

RMA 111 — VOCATIONAL MATHEMATICS
RCS 111 — COMMUNICATIVE SKILLS I

Optional Related Courses

ATT 111 — ACCOUNTING I (PRINCIPLES)

(WEL) — Welding

Certificate Program

Evening Classes

WEL 101 — BASIC ARC WELDING AND OXYACETYLENE BURNING
- Designed to introduce the student to the welding field, and to give him or her a working background in basic electric arc welding, flame cutting, welding terminology, and safe practices of each.

WEL 102 — FUNDAMENTALS OF ARC WELDING
- Instructions in manipulative skills of electric arc welding with various joint designs.

WEL 103 — ELECTRODE IDENTIFICATION AND INTERMEDIATE WELDING THEORY
- Student learns electrode selection and lab application with various joint designs.

WEL 104 — ADVANCED WELDING THEORY AND APPLICATION
- Manipulation skills with various joint designs and electrode sizes.

WEL 105 — ACETYLENE WELDING AND BRAZING
- Theory and various joint design applications.

WEL 106 — METALLIC INERT GAS WELDING
- Theory and application.

WEL 107 — WELD PREPARATION AND INSPECTION
- Theory and application of various techniques of weld preparation and bevel joint design. Includes inspection process for weld faults.

WEL 108 — REVIEW AND PREPARATION FOR CERTIFICATION

Required Related Courses

RCS 111 — COMMUNICATIVE SKILLS I
RMA 111 — VOCATIONAL MATHEMATICS
RBP 111 — BASIC BLUEPRINT READING FOR WELDERS

Optional Related Courses

RBP 102 — INTERMEDIATE BLUEPRINT READING
RBP 103 — ADVANCED BLUEPRINT READING
RMA 121 — APPLIED ALGEBRA I
RCS 112 — COMMUNICATIVE SKILLS II
**LEGEND**

A. Building A — Business Offices, Business and Office Education Programs, Health Programs, Technical Programs, Related Programs

B. Building B — Metal Trades, Drafting, Printing, Commercial Art, Basic Education Programs

C. Building C — Automotive and Diesel Mechanics

D. Building D — Small Engine Mechanics

E. Jess Lanier Building — Automotive Parts and Engine Rebuilding

F. Millsap Industrial — Administrative Offices, Testing, Industrial Training

G. North Campus — Building Trades and Horticulture

H. Best Western Motel

I. Bessemer Carraway Medical Center