

COURSES OF INSTRUCTION

EXPLANATION OF COURSE NUMBERS

Each course is designated by a four-digit number. The first digit indicates the level of the course, whether freshman or sophomore. The second digit indicates the semester hour credit of the course. The last two digits are used for departmental sequencing. Therefore, English 1301 indicates a freshman course and three hour value.

Each course is also indicated by three numbers in parentheses. For example (3-3-2) represents three semester credits, three hours lecture each week and two hours laboratory each week.

ART

ARTS 1301Art Appreciation (3-3-0)
Analysis of art elements and principles as applied to various forms of visual expression; study of historical examples of architecture, painting, sculpture, and minor arts directed toward an intelligent appreciation of masterpieces.

ARTS 1303Art History (3-3-0)
A survey of painting, sculpture, architecture and the minor arts from pre-historical times to the 14th century. Research problems and extensive viewing of slides provide additional enrichment.

ARTS 1304Art History II (3-3-0)
A continuation of ARTS 1303 covering various forms of art from the 14th to the 20th century.

BIOLOGY

BIOL 1406General Biology I (4-3-3)
A study of protoplasm, its chemical and physical nature and energy buildup and release. A survey of the plant kingdom is made with a study of representative groups of each phylum. Lab fee: \$20.00

BIOL 1407General Biology II (4-3-3)
A study of elementary zoology. The various phyla of animals are discussed with special emphasis placed upon approximately three typical animals from each phylum. An introduction into the study of human anatomy. Lab fee: \$20.00

COMPUTER SCIENCE

ITSC 1309Integrated Software Applications I (3-3-0)
Integration of applications from popular business productivity software suites. Instruction in embedding data, linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software. The student will use word processing, spreadsheet, database, and/or presentation media software; and demonstrate ability to apply integration techniques and produce combined documents.

DEVELOPMENTAL STUDIES

Developmental Studies courses carry no semester hour credit and, therefore, cannot be used for graduation purposes or transfer.

DEVL 0300Developmental Writing (3-3-0)
This course is designed to improve fundamental writing skills. Students will examine basic sentence structure, write, contract, and expand sentences, compose paragraphs to accomplish various purposes, and apply the conventions of standard written English to all discourse.

DEVL 0310Developmental Writing II (3-3-0)
This course begins with a study of the paragraph. Students examine the problems of audience, purpose, organization, expansions, style, and grammar as they relate to effective communication. Then they study the structure and purposes of the essay. Practice in writing paragraphs and essays at this level should prepare the students for successful completion of future writing assignments.

DEVL 0304Developmental Mathematics I (3-3-0)
Designed for students needing a review of fundamental operations in arithmetic. Provides in-depth work with whole numbers, fractions, decimals, percentages, measurements, and some beginning algebra.

DEVL 0306Developmental Reading I (3-3-0)
This individualized laboratory course provides a review of word attack skills, exercises to improve reading rate and comprehension, and elementary-level vocabulary building.

DEVL 0307Developmental Reading II (3-3-0)
Prerequisite: DEVL 0306 or placement at reading levels eight through ten.
This individualized laboratory course provides exercises to improve reading rate and comprehension, to develop listening and study skills, and to build secondary-level vocabulary.

DEVL 0309Developmental Mathematics II (3-3-0)
This course is a continuation of Developmental Mathematics I. The main topics covered are taken from Elementary Algebra and may include integer arithmetic, solving linear equations and problems, operations with polynomials, factoring polynomials, and graphs of linear equations.

DEVL 0310Intermediate Algebra (3-3-0)
A review of elementary algebra followed by topics necessary to prepare students to continue with more advanced mathematics courses: factoring, rational algebraic expressions, equations and inequalities, exponents and radicals, graphs, quadratic equations, systems of equations.

DRAMA

DRAM 1310Introduction to the Theater (3-3-0)
The various aspects of theater are surveyed. Topics include plays, playwrights, directing, acting, theaters, artists, and technicians.

ECONOMICS

ECON 2301Principles of Macroeconomics (3-3-0)
This course will include a class study of the basic economic concepts, how individuals, businesses, and societies choose through the social, political and market processes. Macroeconomic concepts of total spending, total output and income are stressed. Money and banking, and the Keynesian and Monetary approaches to national income analysis complete the study.

ECON 2302Principles of Microeconomics (3-3-0)
A close study is made of such problems as inflation, unemployment, and economic stabilization-by monetary and fiscal policy, macroeconomic concepts and principles of demand, supply, the price mechanism, and profits are presented. A study of how the market process works in the real world, as well as current economic problems of pollution, population, poverty, urbanization, and a challenge to capitalism, are discussed.

ENGLISH

ENGL 1301English Composition and Rhetoric (3-3-0)
This is a basic course designed to teach correct, effective written communication in the English language. The emphasis is on language study and the mechanics of good writing. Readings in modern non-fiction English and instruction in research techniques are included.

ENGL 1302English Composition and Literature (3-3-0)
Prerequisite: ENGL 1301.

A continuation of ENGL 1301 with emphasis on the study and critical evaluation of modern literature primarily from American writers in the areas of fiction, poetry, and drama. Oral and written communication, a research paper, and elementary original critical evaluation techniques are used.

GOVERNMENT

GOVT 2301 (PS 2311)American and Texas Constitutions (3-3-0)
Suggested Prerequisite: Sophomore standing is preferred.

Study of the United States and Texas Constitutions, civil liberties, federalism, interest groups, public opinion, political parties, voting and elections (satisfies requirements for Texas State Teacher Certification).

GOVT 2302 (PS 2312)American and Texas Government (3-3-0)
Suggested Prerequisite: Sophomore standing is preferred.

Emphasizes the executive, legislative and judicial branches; bureaucracy; economics and taxation; foreign policy and local government.

HISTORY

HIST 1301 (HIS 1311)United States History to 1877 (3-3-0)

A study is made of the American Colonies, their struggles for independence, the westward movement, the growth of sectionalism, our development as a world power, and the Civil War. The social, economic, and political trends are shown.

HIST 1302 (HIS 1312).....United States History from 1877 (3-3-0)

This is a continuation of U.S. history surveying the Post-Civil War South, the growth of democracy and industry, a search for economic security, world conflicts, and the quest for world peace.

HUMANITIES

HUMA 1301 (HUM 1311)Introduction to Humanities (3-3-0)

HUMA 1301 introduces major artists, musicians, writers, and philosophers and their masterpieces, which often reflect and shape the ideas and arts of their cultures. Through an interdisciplinary (or multi-disciplinary) approach to studying the arts, themes, and philosophies that emerged in selected periods from the Renaissance to the Modern Era, students will develop analytical skills by observing, critiquing, and evaluating arts and ideas that the students might become discerning, culturally literate critics of modern media.

MATHEMATICS

MATH 1314College Algebra (3-3-0)

Prerequisite: Two years of high school algebra within the last five years or DEVL 0310. The recommended "College Algebra ready" THEA score is 270 or higher.

Rapid review of fundamentals, exponents, radicals, solving linear and quadratic equations and inequalities, complex numbers, graphing lines and conics, higher degree equations, binomial theorem, systems of equations, continuing into matrices and determinants, etc. as time permits.

MATH 1316 (MAT 1313).....Plane Trigonometry (3-3-0)

Prerequisite: MATH 1314 or its equivalent.

This is a complete course in Trigonometry including functions, solutions of right triangles, graphs, identities, trigonometric equations and the use of calculators.

MATH 1332 (MAT 1316)College Mathematics I (3-3-0)

This course is designed to meet the needs of liberal arts, education and vocational-technical students and their place and uses in our society. Topics covered normally include: sets of numbers and their structure, consumer mathematics, probability, statistics, and the metric system.

MATH 1333 (MAT 1317).....College Mathematics II (3-3-0)

This course is designed to meet the needs of liberal arts and education students not specializing in mathematics. It surveys the history of various topics in mathematics and their place and uses in our society. Topics covered normally include: sets, logic, systems of numeration, algebra, geometry, and an introduction to computers. (The computer unit will not normally be included in locations where access to computers is not available to students.)

PHILOSOPHY

PHIL 1301 (PHI 1311)Introduction to Philosophy (3-3-0)

A general introduction to critical and reflective thinking as applied to the basic problems of existence and the meaning of human life and institutions; study of methods and types of evidence utilized by authority, intuition, revelation, reason and scientific methods, and a study of the nature of philosophy, including its relations to religion, science, and art.

PHIL 1316 (REL 1311)Survey of Old Testament (3-3-0)

A history of Judaism during the Old Testament period as seen from the perspective of all the Old Testament writers.

PHIL 1317 (REL 1312)Survey of New Testament (3-3-0)

A history of Christianity during the New Testament period as seen from the perspective of all the New Testament writers.

PHIL 2303 (PHI 1313).....Introduction to Logic (3-3-0)

Study of the nature and methods of correct reasoning, deductive proof; inductive proof, fallacies, arguments.

PHIL 2306 (PHI 1312)Introduction to Ethics (3-3-0)

Study of basic principles of the normal life, with critical examination of traditional current theories of the nature of goodness, happiness, duty, and freedom.

PSYCHOLOGY

PSYC 2301 (PSY 1311).....General Psychology (3-3-0)

This course is an introduction to the study of psychology. General Psychology has as its objectives to help students develop insight into their own psychological processes and to suggest how psychological principles and procedures are applicable to the solution of personal and social problems as well as to the many problems in business and industry.

PSYC 2314 (PSY 1312).....Human Growth and Development (3-3-0)

A detailed study of human growth and development from conception to death. Several processes of both physical and psychological development and operation will be covered.

PSYC 2315 (PSY 2311)Personality Adjustment (3-3-0)
This course deals with adjustment problems of normal and abnormal people. Emphasis will be on principles of mental hygiene in relation to family, school, or community.

SOCIOLOGY

SOCI 1301 (SOC 1311)Introduction to Sociology (3-3-0)
This course deals with human nature and human behavior in group life, culture and personal traits, the organization of society and the social process involved.

SOCI 1306 (SOC 1312)Contemporary Social Problems (3-3-0)
This course deals with identification and analysis of contemporary social problems, and the development of criteria for evaluating problems of social betterment.

SOCI 2301 (SOC 2315)Marriage and the Family (3-3-0)
A sociological analysis of marriage and family relationships based on concepts introduced in Introduction to Sociology. Areas explored are courtship practices, marriage and family patterns, and the family in transition.

SPANISH

SPAN 1411Elementary Spanish (4-3-3)
This course is opened to native and non-native speakers. This course includes a study of grammar, composition, conversation and reading in the present tense. Lab Fee: \$20.00

SPAN 1412Elementary Spanish (4-3-3)
This course does not require Spanish 1411 as a requirement. Spanish 1412 focuses on grammar, composition, conversation and reading in the past, future and use of commands in various occupations. Lab Fee: \$20.00

SPEECH

SPCH 1311 (SP 1311)Fundamentals of Speech (3-3-0)
This course is designed to introduce students to both theory and practice in oral communication. The course emphasis is on basic communication principles and provides students the opportunity to participate in interpersonal, group, and public speaking situations.

SPCH 1321 (SP 1312)Business and Professional Speech (3-3-0)
This course is designed for students entering a business or professional career. Students are introduced to oral communication theory and are able to participate in various oral communication contexts including interpersonal, small group and public speaking. Additional topics of study in the course include listening, nonverbal communication, decision making, and communication in the organizational setting.

OCCUPATIONAL EDUCATION

OCCUPATIONAL EDUCATION PROGRAMS

Occupational education is any form of education, training or retraining which is designed to prepare persons to enter or continue in gainful employment. In Texas, the primary responsibility for providing occupational education at the post-secondary level has been given to the community colleges. Trinity Valley Community College has accepted the responsibility for providing high quality occupational programs that are specifically tailored to meet the needs of people in the geographic area served by the college.

As noted below, Trinity Valley Community College provides several occupational certificate programs within each of the TDCJ units. Students will enroll in three eight-week cycles in the occupational certificate programs. Upon successful completion of the twenty-four week program with a GPA of 2.0 or above students are eligible to receive a Certificate of Completion.

After the completion of the certificate program, students may elect to meet the requirements of the Associate of Arts degree. The courses completed in the certificate program will be used as elective credit for the Associate Degree requirements.

<u>PROGRAM</u>	<u>LOCATION</u>	<u>TIME*</u>
Air Cond./Refrig.	Michael	11:30 a.m. 5:30 p.m.
Auto Body	Powledge	11:30 a.m. 5:30 p.m.
Electronic Technology	Beto I	8:30 a.m. 3:30 p.m.
Computer Maintenance Technology	Beto I	8:30 a.m. 3:30 p.m.
Drafting	Beto I	8:30 a.m. 3:30 p.m.
Drafting	Cofffield	11:30 a.m. 5:30 p.m.
Horticulture	Cofffield	11:30 a.m. 5:30 p.m.
Horticulture	Michael	11:30 a.m. 5:30 p.m.
Computer Informational Technology	Beto I	5:30 a.m. 11:30 a.m.
Computer Informational Technology	Cofffield	11:30 a.m. 5:30 p.m.
Computer Informational Technology	Michael	11:30 a.m. 5:30 p.m.
Masonry	Michael	11:30 a.m. 5:30 p.m.
Welding	Powledge	11:30 a.m. 5:30 p.m.
Welding**	Cofffield	6:00 a.m. 2:30 p.m.

*Times are subject to change. ** Welding at the Cofffield meets M-Th.

TDCJ CERTIFICATE – Air Conditioning/Refrigeration*

		<u>Credit Hrs.</u>
HART 1407	Refrigeration Principles	4
HART 1401	Electricity Principles	4
HART 1403	A/C Control Principles	4
HART 1441	Residential Air Conditioning	4
HART 1445	Gas & Electric Heating	4
HART 1449	Heat Pumps	4
TOTAL		24

*This program is designed for students who plan to enter the workforce and is not designed for transfer.

HART 1407Refrigeration Principles (4-9-9)
An introduction to the refrigeration cycle, basic thermodynamics, heat transfer, temperature/pressure relationship, safety, refrigeration containment, and refrigeration components.

HART 1401Electricity Principles (4-9-9)
Principles of electricity as required by HVAC technicians including proper use of test equipment, A/C and D/C circuits, and component theory and operation.

HART 1403A/C Control Principles (4-9-9)
A basic study of electrical, pressure, and temperature controls including motor starting devices, operating relays, and troubleshooting safety controls and devices. Emphasis on use of wiring diagrams to analyze high and low voltage circuits. A review of Ohm's law as applied to A/C controls and circuits.

HART 1441Residential Air Conditioning (4-9-9)
A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems.

HART 1445Gas and Electric Heating (4-9-9)
A study of the procedures and principles used in servicing heating systems including gas fired and electric furnaces.

HART 1449Heat Pumps (4-9-9)
A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow and other topics related to heat pump systems.

TDCJ CERTIFICATE – Auto Body Repair*

		<u>Credit Hrs.</u>
ABDR 1441	Struct. Analysis & Damage Rep. I	4
ABDR 1442	Struct. Analysis & Damage Rep. II	4
ABDR 2431	Struct. Analysis & Damage Rep. III	4
ABDR 2435	Struct. Analysis & Damage Rep. IV	4
ABDR 2437	Struct. Analysis & Damage Rep. V	4
ABDR 2441	Major Collision Repair & Panel Replacement	4
TOTAL		24

*This program is not designed to transfer.

ABDR 1441Struct. Analysis & Damage Rep. I (4-9-9)
Skill development in the roughing and shaping procedures on automotive sheet metal necessary

to make satisfactory minor body repairs. Emphasis on the alignment of component parts such as doors, hood, front-end assemblies, and deck lids.

ABDR 1442Struct. Analysis & Damage Rep. II (4-9-9)
Skill development in general repair and replacement procedures for damaged structural parts and collision damage.

ABDR 2431Struct. Analysis & Damage Rep. III (4-9-9)
Laboratory experience in the application of theories of auto body repair, to the repair and replacement of major body units.

ABDR 2435Struct. Analysis & Damage Rep. IV (4-9-9)
Skill development in the auto body application of theories to the repair and replacement of complete body panels.

ABDR 2437Struct. Analysis & Damage Rep. V (4-9-9)
Skill development in the operation of equipment and the procedures involved in making satisfactory repairs of supporting structures on both conventional and unitized constructed vehicles. Special emphasis on conducting a thorough damage analysis as well as demonstrating proper holding, blocking, and pulling.

ABDR 2441Major Collision Repair & Panel Replacement (4-9-9)
Instruction in preparation of vehicles for repair including removal and reinstallation of fenders, bumpers, trims, head and door liners, locks, handles, fascia, headers, doors, tailgates, deck lids, hatches, and hoods. Interpreting information from damage reports, planning repair sequences, selecting appropriate tools, and organizing removed parts for reinstallation are also included. Special emphasis on developing safe work habits.

TDCJ CERTIFICATE – Electronics Technology*

		<u>Credit Hrs.</u>
CETT 1303	DC Circuits	3
CETT 1305	AC Circuits	3
CETT 1209	DC-AC Circuits	2
CETT 1325	Digital Fundamental	3
CETT 1349	Digital Systems	3
CETT 1214	Digital Applications	2
CETT 1357	Linear Integrated Circuits	3
CETT 1341	Solid State Circuits	3
CETT 1291	Special Topics	2
TOTAL		24

*This program is designed for students who plan to enter the workforce and is not designed for transfer.

CETT 1303DC Circuits (3-5-9)
A study of the fundamentals of direct current including Ohm’s law, Krichoff’s law and circuit analysis techniques. Emphasis on circuit analysis of resistive networks and DR measurements.

CETT 1305AC Circuits (3-5-9)
A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers and resonance.

CETT 1209.....DC–AC Circuits (2-4-4)
 Fundamentals of DC circuits and AC circuits operation including Ohm’s law, Kirchoff’s laws, networks, transformers, resonance, phasors, capacitive and inductive and circuit analysis techniques.

CETT 1325.....Digital Fundamentals (3-5-9)
 An entry level course in digital electronics covering number systems, binary mathematics, digital codes, logic gates, Boolean algebra, Karnaugh maps, and combinational logic. Emphasis on circuit logic analysis and troubleshooting digital circuits.

CETT 1349Digital Systems (3-5-9)
 A course in electronics covering digital systems. Emphasis on application and troubleshooting digital systems using counters, registers, code converters, multiplexers, analog-to-digital-to-analog circuits, and large-scale integrated circuits.

CETT 1214Digital Applications (2-4-4)
 An investigation of combinational and sequential logic elements and circuits with emphasis on design and troubleshooting of combinational and sequential circuits.

CETT 1357Linear Integrated Circuits (3-5-9)
 A study of the characteristics, operations, stabilization, testing, and feedback techniques of linear integrated circuits. Application in computation, measurements, instrumentation, and active filtering.

CETT 1341Solid State Circuits (3-5-9)
 A study of diodes and bipolar semiconductor devices, including analysis of static and dynamic characteristics, bias techniques, and thermal considerations of solid state devices.

CETT 1291Special Topics in Computer Engineering Technology/Technician (2-4-4)
 Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

TDCJ CERTIFICATE – Computer Maintenance Technology*

		<u>Credit Hrs.</u>
CPMT 1203	Introduction to Computer Technology	2
CPMT 1311	Introduction to Computer Maintenance	3
CPMT 1343	Microcomputer Architecture	3
CPMT 1345	Computer Systems Maintenance	3
CPMT 1347	Computer System Peripherals	3
CPMT 1249	Computer Networking Technology	2
CPMT 2333	Computer Integration	3
CPMT 2237	Computer Interfacing	2
CPMT 2345	Computer System Troubleshooting	3
TOTAL		24

*This program is designed for students who plan to enter the workforce and is not designed for transfer.

CPMT 1203Introduction to Computer Technology (2-4-4)
 A fundamental computer course that provides in-depth explanation of the procedures to utilize hardware and software. Emphasis on terminology, acronyms, and hands-on activities.

CPMT 1249Computer Networking Technology (2-4-4)
 A beginning course in computer networks with focus on networking fundamentals, terminology, hardware, software, and network architecture. A study of local/wide area networking concepts and networking installations and operations.

CPMT 1311Introduction to Computer Maintenance (3-5-9)
 A study of the information for the assembly of a microcomputer system. Emphasis on the evolution of microprocessors and microprocessor bus structure.

CPMT 1343Microcomputer Architecture (3-5-9)
 An intermediate level course in computer characteristics and subsystem operations, timing, control circuits, and internal input/output controls.

CPMT 1345Computer Systems Maintenance (3-5-9)
 Examination of the functions of the components within a computer system. Development of skills in the use of test equipment and maintenance aids.

CPMT 1347Computer System Peripherals (3-5-9)
 Principles and practices involved in computer system troubleshooting techniques, programs, and the use of specialized test equipment.

CPMT 2333Computer Integration (3-5-9)
 An advanced course in integration of hardware, software, and applications. Customization of computer systems for specific applications in engineering, multi-media, or data acquisition.

CPMT 2345Computer System Troubleshooting (3-5-9)
 Principles and practices involved in computer system troubleshooting techniques and repair procedures including advanced diagnostic test programs and the use of specialized test equipment.

CPMT 2237Computer Interfacing (2-4-4)
 An interfacing course exploring the concepts and terminology involved in interfacing the internal architecture of the microcomputer with commonly used external devices. The student will determine the requirements of the device to be interfaced and select the proper scheme; and will implement the hardware and software processes to interface common external devices.

TDCJ CERTIFICATE – Drafting Technology*

		<u>Credit Hrs.</u>
DFTG 1405	Technical Drafting	4
DFTG 1409	Basic Computer Aided Drafting	4
DFTG 1417	Architectural Drafting-Residential	4
DFTG 1433	Mechanical Drafting	4
DFTG 1452	Intermediate Computer Aided Drafting	4
DFTG 2440	Solid Modeling/Design	4
TOTAL		24

*This program is designed for students who plan to enter the workforce and is not designed for transfer.

DFTG 1405Technical Drafting (4-9-9)
 Introduction to the principles of drafting to include terminology and fundamentals, including size and shape descriptions, projection methods, geometric construction, sections, auxiliary views, and reproduction processes.

DFTG 1409Basic Computer Aided Drafting (4-9-9)
 An introduction to basic computer-aided drafting. Emphasis is placed on drawing setup; creating and modifying geometry, storing and retrieving predefined shapes; placing, rotating, and scaling objects, adding text and dimensions, using layers, coordinating systems; as well as input and output devices.

DFTG 1417Architectural Drafting-Residential (4-9-9)
 Architectural drafting procedures, practices, and symbols, including preparation of detailed working drawings for residential structure with emphasis on light frame construction methods.

DFTG 1433Mechanical Drafting (4-9-9)
 The properties of building materials (assemblies), specifications, codes, vendor references and uses of mechanical, plumbing, conveying, and electrical systems as related to architecture for residential and commercial construction.

DFTG 2419Intermediate Computer-Aided Drafting (4-9-9)
 A continuation of practices and techniques used in basic computer-aided drafting emphasizing batched files, scripted files, customized program menus, and extracted attributes. Introduction to three-dimensional drafting.

DFTG 2440Solid Modeling/Design (4-9-9)
 A computer-aided modeling course. Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work.

TDCJ CERTIFICATE – Horticulture*

		<u>Credit Hrs.</u>
HALT 1401	Principles of Horticulture	4
HALT 2423	Horticultural Pest Control	4
HALT 1422	Landscaping Design	4
HALT 2402	Greenhouse Crop Production	4
HALT 2404	Garden Center Management	4
HALT 2414	Plant Propagation	4
TOTAL		24

*This program is designed for students who plan to enter the workforce and is not designed for transfer.

HALT 1401Principles of Horticulture (4-9-9)
 An overview of the horticulture industry, plant science, terminology, classification, propagation, environmental responses, and careers and opportunities in the field of horticulture.

HALT 1422.....Landscape Design (4-9-9)
 A study of the principles and elements of landscape design. Topics include client interview, site analysis, plan view, scale, plant selection, basic drawing and drafting skills, and plan preparation.

HALT 2402Greenhouse Crop Production (4-9-9)
 In-depth coverage of the production of crops within the controlled environment of a greenhouse. Topics include growing techniques, environmental control, crop rotation, scheduling, preparation for sale, and marketing.

HALT 2404.....Garden Center Management (4-9-9)
An introduction to modern principles and practices used in the management and operation of a garden center. Topics include procedures used in the garden center industry. Emphasis on managerial and communication skills.

HALT 2423.....Horticultural Pest Control (4-9-9)
Examination of federal, state, and local laws and regulations governing the control of horticultural pests. Topics include procedures, methods, safety requirements, integrated pest management (IPM), and chemical, natural, and biological controls.

HALT 2414Plant Propagation (4-9-9)
A study of the sexual and asexual propagation of plants used in horticulture. Topics include propagations by seeds, cuttings, grafting, budding, layering, division, separation, and tissue culture; and environmental factors of propagation.

TDCJ CERTIFICATE – Computer Informational Technology*

		<u>Credit Hrs.</u>
POFI 1301	Computer Applications I	3
POFI 2331	Desktop Publishing	3
POFI 1240	Computer Applications II	2
ITSE 1302	Introduction to Computer Programming	3
ITSE 1307	Introduction to C++ Programming	3
ITSE 2258	Advanced Computer Programming	2
ITSE 1331	Visual BASIC Programming	3
ITSE 2313	Web Authoring	3
ITSE 2216	JAVA Programming	2
TOTAL		24

*This program is designed for students who plan to enter the workforce and is not designed for transfer.

POFI 1240Computer Applications II (2-4-4)
Continued study of current computer terminology and technology. Advanced skill development in computer hardware, software applications, and procedures.

ITSE 2216JAVA Programming (2-4-4)
Introduction to JAVA programming with object-orientation. Emphasis on the fundamental syntax and semantics of JAVA for applications and web applets.

ITSE 1302Introduction to Computer Programming (3-5-9)
Introduction to computer programming with emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

ITSE 1307Introduction to C++ Programming (3-5-9)
Introduction to computer programming using C++. Emphasis on the fundamentals of structured design with development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

ITSE 2258Advanced Computer Programming (3-5-9)
Further applications of programming techniques. Topics include file access methods, data structures and modular programming, program testing and documentation. Develop correct, well doc-

umented programs containing complex data structures; and incorporate complex input/output file handling techniques.

ITSE 1331Visual BASIC Programming (3-5-9)
Introduction to computer programming using Visual BASIC. Emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

ITSE 2313Web Authoring (3-5-9)
Instruction in designing and developing web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools.

POFI 1301.....Computer Applications I (3-8-8)
Continued study of computer applications from business productivity software suites. Instruction in embedding data and linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software.

POFI 2331Desktop Publishing (3-6-6)
In-depth coverage of desktop publishing terminology, text editing, and use of design principles to create publishing material using word processing desktop publishing features. Emphasis on layout techniques, graphics, and multiple page displays.

TDCJ CERTIFICATE – Masonry*

		<u>Credit Hrs.</u>
MBST 1407	Masonry I	4
MBST 1409	Masonry II	4
MBST 2407	Masonry III	4
MBST 2409	Masonry IV	4
MBST 2447	Masonry V	4
MBST 2449	Masonry VI	4
TOTAL		24

*This program is not designed for transfer.

MBST 1407Masonry I (4-9-9)
Introduction to masonry including safety, tools and equipment, masonry materials, theory, terminology, federal and state guidelines, building plans, mortar mixing and spreading, and the fundamentals of laying bricks and block. The student will explain the basic theories of masonry and define masonry terms; demonstrate masonry safety practices; discuss state and federal guidelines for masonry work; identify, use, and maintain tools and equipment; calculate requirements; mix and spread mortar; use building plans; and lay bricks and/or blocks.

MBST 1409Masonry II (4-9-9)
A continuation of Masonry I with emphasis on hands-on applications of masonry concepts and theories. The student will relate masonry concepts and theories; identify, use, and maintain tools and equipment; calculate, mix, and spread mortar, lay brick, block, and/or rock; and perform plastering operations.

MBST 2407Masonry III (4-9-9)
Development of the ability to lay brick or blocks to the line, straight leads, build corners, and construct piers including blueprints, symbols, abbreviations, and sealing systems. The student will

explain the theories of laying straight leads and walls; calculate material requirements and mix mortar; build leads and corners and construct piers; lay bricks and/or blocks to line; use masonry tools and equipment; and read blueprints, interpret symbols, and use scaling systems.

MBST 2409.....Masonry IV (4-9-9)
 A continuation of intermediate Masonry I including practical applications of masonry theories and skills using plain and reinforced mortars. The student will explain the use of reinforced mortars; calculate material requirements and mix mortar; lay brick, block, and/or stone to blueprint or verbal specifications; and use masonry tools and equipment.

MBST 2447Masonry V (4-9-9)
 Instruction in the theory and application of special masonry construction, including material and labor estimates, costs estimating, bond patterns, fireplaces, arches and lintels, tying into walls, and laying of masonry materials. The student will perform cost estimation for labor and materials; design and lay out bond patterns; calculate requirements and mix mortar; lay brick and block to specifications; lay out and construct fireplaces, arches, and lintels; use masonry tools and equipment; and tie into walls.

MBST 2449.....Masonry VI (4-9-9)
 A continuation of Advanced Masonry I including practical application of special masonry construction, theories, and skills using plain and reinforced mortars. The student will perform cost estimation for labor and materials; design and lay out bond patterns; calculate requirements and mix mortar; lay brick and block to specifications; lay out and construct fireplaces, arches, and lintels; use masonry tools and equipment; and tie into walls.

TDCJ CERTIFICATE – Welding*

		<u>Credit Hrs.</u>
WLDG 1421	Intro. to Welding Fundamentals	4
WLDG 1425	Intro. to Oxy-Fuel Welding & Cutting	4
WLDG 1430	Intro. to Gas Metal Arc (GMAW) Welding	4
WLDG 1434	Intro. to Gas Tungsten Arc Welding	4
WLDG 1435	Intro. to Pipe Welding	4
WLDG 1457	Intermediate Shielded Metal Arc Welding	4
TOTAL		24

*This program is not designed for transfer.

WLDG 1421.....Introduction to Welding Fundamentals (4-9-9)
 An introduction to the fundamentals of equipment used in oxyacetylene and arc welding, including welding and cutting safety, basic oxyacetylene welding and cutting, basic arc welding processes and basic metallurgy.

WLDG 1425.....Introduction to Oxy-Fuel Welding & Cutting (4-9-9)
 An introduction to oxy-fuel welding and cutting, including history and future in welding, safety, setup and maintenance of oxy-fuel welding, and cutting equipment and supplies.

WLDG 1430.....Introduction to Gas Metal Arc (GMAW) Welding (4-9-9)
 A study of the principles of gas metal arc welding, setup and use of GMAW equipment, and safe use of tools/equipment. Instruction in various joint designs.

WLDG 1434.....Introduction to Gas Tungsten Arc Welding (4-9-9)
 An introduction to the principles of gas tungsten arc welding (GTAW), setup/use of GTAW equipment, and safe use of tools and equipment. Welding instruction in various positions on joint designs.

WLDG 1435Introduction to Pipe Welding (4-9-9)
 An introduction to welding of pipe using the shielded metal arc welding process, including electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 1G and 2G using various electrodes.

WLDG 1457Intermediate Shielded Metal Arc Welding (4-9-9)
 A study of the production of various fillets and groove welds. Preparation of specimens for testing in all test positions.

CONTINUING EDUCATION VOCATIONAL PROGRAMS

Continuing education vocational programs are offered by the Department of Community Services at TVCC. Continuing Education Units (C.E.U.) are offered in lieu of college credit hours and graduates will receive a certificate upon completion of all requirements. These programs present a wealth of information and training and are offered at no charge to students.

<u>PROGRAM</u>	<u>LOCATION</u>	<u>TIME*</u>
Automotive Technology	Coffield	11:30 a.m. 5:30 a.m.
Business Computer Information Systems	Coffield	4:30 a.m. 10:30 a.m.
Construction Carpentry	Coffield	4:30 a.m. 10:30 a.m.
Interior Trim & Cabinet Making	Coffield	11:30 a.m. 5:30 p.m.

**Times are subject to change.*

CONTINUING EDUCATION CERTIFICATE — 15 Week Session Automotive Technology Specialization—Engine Performance

		<u>Contact Hrs.</u>
AUMT 1005	Intro to Automotive Technology	160
AUMT 2017	Engine Performance Analysis I	160
AUMT 1055	Diagnosis of Ignition, Fuel and Emissions Systems	128
AUMT 2034	Engine Performance Analysis	48
	TOTAL	496
		(49.6 C.E.U.'s)

AUMT 1005Introduction to Automotive Technology
 An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, fasteners, professional responsibilities, and automotive maintenance. May be taught manufacturer specific.

AUMT 2017Engine Performance Analysis I
 Theory, operation, diagnosis, and repair of basic engine dynamics, ignition systems, and fuel delivery systems. Use of basic engine performance diagnostic equipment. May be taught manu-

facturer specific. The students will explain engine dynamics; diagnose and repair ignition systems and fuel delivery systems; and demonstrate the proper use of basic engine performance diagnostic equipment.

AUMT 1055Operation and Diagnosis of Ignition, Fuel and Emissions Systems
 Operation and diagnosis procedures for the complete engine operation including vacuum compression, combustion systems, carburetor overhauls, adjustments, emission control, and ignition system repair service needed for the ignition, fuel, and emission systems.

AUMT 2034.....Engine Performance Analysis II
 Diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems; and proper use of advanced engine performance diagnostic equipment. May be taught manufacturer specific. The student will explain the operation, diagnosis, and repair of emission control systems; describe the operation, diagnosis, and repair of computerized engine performance systems and advanced ignition and fuel systems; and demonstrate proper use of advanced engine performance diagnostic equipment.

CONTINUING EDUCATION CERTIFICATE – 15 Week Session
Business Computer Information Systems

		<u>Contact Hrs.</u>
ITSC 1001	Introduction to Computers	48
ITSC 1009	Integrated Software Applications I	112
ITSC 2021	Integrated Software Applications	128
ITSC 2031	Integrated Software Applications III	112
ITSE 1011	Web Page Programming	112
TOTAL		512
		(51.2 C.E.U.'s)

ITSC 1001.....Introduction to Computers
 Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources. Explores integration and application in business and other segments in society. Fundamentals of applications and software relating to a specific curricular area. The student will identify used applications; explain the impact of computers on society; explore computer careers; identify fundamental programming structures; and demonstrate proficiency in basic operating system functions.

ITSC 1009Integrated Software Applications I
 Integration of applications from popular business productivity software suites. Instruction in embedding data, linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software. The student will use word processing, spreadsheet, database, and/or presentation media software; and demonstrate ability to apply integration techniques and produce combined documents.

ITSC 2021Integrated Software Applications
 Continued study of computer applications from business productivity software suites. Instruction in embedding data and linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software. The student will use word processing, spreadsheet, database, and/or presentation media software; apply integration techniques and produce combined documents; and explain the process of integrating data between applications.

ITSC 2031Integrated Software Applications III
 Continued study of computer applications from business productivity software suites. Instruction in embedding data and linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software. The student will use word processing, spreadsheet, database, and/or presentation media software; apply integration techniques and produce combined documents; and explain the process of integrating data between applications.

ITSE 1011Web Page Programming
 Instruction in designing and developing web pages, intranet services and the fundamentals of HTML.

CONTINUING EDUCATION CERTIFICATE – 15 Week Session
Construction Carpentry

		<u>Contact Hrs.</u>
CRPT 1029	Intro to Carpentry	128
CRPT 1023	Floor Systems	128
CRPT 1015	Conventional Wall Systems	128
CRPT 1011	Conventional Roof Systems	128
TOTAL		512
		(51.2 C.E.U.'s)

CRPT 1029Introduction to Carpentry
 An introduction to the carpentry trade including safety, tools equipment, terminology, and methods. The student will list and follow established safety practices; recognize and explain the use of tools and equipment; identify and describe fasteners and adhesives; define terms associated with building materials utilized by carpenters; describe handling and storage procedures; demonstrate the use and care of tools and equipment; and perform mathematical computations used by the carpenter.

CRPT 1023Floor Systems
 An introduction to common floor systems. Topics include component identification; construction of a floor system; safe work practices; and the selection, use, and maintenance of tools and equipment. The student will list and follow established safe-work practices; select, use, and maintain tools and equipment; identify and describe components of floor systems, and construct a floor system to specifications.

CRPT 1015Conventional Wall Systems
 Instruction in conventional wall systems with emphasis on wood frame construction. Topics include identification of components; construction of a wall system, safe work practices; and the selection, use, and maintenance of tools and equipment. The student will list and follow established safe-work practices; select, use, and maintain tools and equipment; identify and describe components of conventional wall systems; and construct a conventional wall system to specifications.

CRPT 1011Conventional Roof Systems
 Study of the principles of design and construction of a conventional roof system incorporating gable, hip, and intersections. Emphasis on safe work practices and the selection, use, and maintenance of tools and equipment. The student will list and follow established safe-work practices; select, use, and maintain tools and equipment; identify and describe components of a ceiling and roof system; construct a roof systems to specifications; outline and explain the construction sequence steps; layout, cut, and frame a gable and hip roof with valley/intersection; and summarize the principles of design and the functions of roof design.

CONTINUING EDUCATION CERTIFICATE – 15 Week Session
Interior Trim & Cabinet Making

		<u>Contact Hrs.</u>
CNBT 1011	Construction Methods and Materials	96
CRPT 1045	Conventional Interior Finish Systems	128
WDWK 1013	Cabinet Making	128
WDWK 2051	Cabinet Making II	160
TOTAL		512
		(51.2 C.E.U.'s)

CNBT 1011Construction Methods and Materials: Beginning Woodworking
 An introduction to construction materials and methods and their applications. A beginning course in woodworking which allows students to progress through a logical sequence of courses to reach a goal of being a cabinet maker and/or a furniture maker.

CRPT 1045.....Conventional Interior Finishing Systems
 Instruction in the installation of interior finishing systems and components including the placement and installation of doors, trim, floor, walls, and equipment.

WDWK 1013.....Cabinet Making
 An introduction to cabinet construction, including base and upper units and shelving using typical miter joinery, and face frame joinery. Students learn correct and safe methods of millwork, and install plastic laminate and hardware.

WDWK 2051Cabinet Making II
 Advanced skills in machine woodworking and hand craftsmanship. Emphasizes advanced design and door and drawer construction, laminate laying, and customer and co-worker relations.