



# **SKILLED AND TECHNICAL SCIENCE EDUCATION Course Guide**

These courses and attached documentation are for the FY10 or the 2009-2010 school year.

**USOE  
9/8/2008**

## **COMMUNICATION**

### **10.0201 TELEVISION BROADCASTING 1, (10-12)**

**License:** CTE/Secondary

**Endorsement:** TV Broadcasting endorsement

**Credit:** Minimum 0.5

**Pathway:** Broadcasting

**Test #:**

**11 Digit Code:** 40-01-00-00-005

**Prerequisite:** None

This course is designed to provide students with the basic knowledge and skills related to the television broadcasting industry. Instruction includes hands-on assignments in the following areas: camera operation, audio systems, lighting systems, pre-production, studio operations, control room operations, visual effects and graphics, and copyright laws.

### **10.0202 TELEVISION BROADCASTING 2, (11-12)**

**License:** CTE/Secondary

**Endorsement:** TV Broadcasting endorsement

**Credit:** Minimum 0.5

**Pathway:** Broadcasting

**Test #:**

**11 Digit Code:** 40-01-00-00-010

**Prerequisite:** Television Broadcasting 1

This course is designed to provide students with the advanced knowledge and skills related to the television broadcasting industry. Instruction includes hands-on assignments in the following areas: camera operation, audio systems, lighting systems, pre-production, studio operations, control room operations, visual effects and graphics, and copyright laws.

### **10.0203 TELEVISION PRODUCTION 1, (10-12)**

**License:** CTE/Secondary

**Endorsement:** TV Broadcasting endorsement

**Credit:** Minimum 0.5

**Pathway:** Broadcasting

**Test #:**

**11 Digit Code:** 40-01-00-00-030

**Prerequisite:** None

This course is designed to provide students with the basic knowledge and skills related to the television production industry. Instruction includes hands-on assignments in the following areas: camera operation, recording audio, lighting systems, pre-production, production, post production, visual effects and graphics, and copyright laws.

### **10.0204 TELEVISION PRODUCTION 2, (11-12)**

**License:** CTE/Secondary

**Endorsement:** TV Broadcasting endorsement

**Credit:** Minimum 0.5

**Pathway:** Broadcasting

**Test #:**

**11 Digit Code:** 40-01-00-00-035

**Prerequisite: Television Production 1**

This course is designed to provide students with the advanced knowledge and skills related to the television production industry. Instruction includes hands-on assignments in the following areas: camera operation, recording audio, lighting systems, pre-production, production, post production, visual effects and graphics, and copyright laws.

**10.0205 RADIO BROADCASTING TECHNICIAN 1, (10-12)**

**License: CTE/Secondary**

**Endorsement: TV Broadcasting endorsement**

**Credit: Minimum 0.5**

**Pathway: Broadcasting**

**Test #:**

**11 Digit Code: 40-01-00-00-040**

**Prerequisite: None**

This course is designed to provide students with the basic knowledge and skills related to the radio broadcasting industry. Instruction includes hands-on assignments in the following areas: Impact of historical figures in radio, pre-production, live production, vocal skills, equipment, and radio rules and regulations.

**10.0206 RADIO BROADCASTING TECHNICIAN 2, (11-12)**

**License: CTE/Secondary**

**Endorsement: TV Broadcasting endorsement**

**Credit: Minimum 0.5**

**Pathway: Broadcasting**

**Test #:**

**11 Digit Code: 40-01-00-00-045**

**Prerequisite: Radio Broadcasting 1**

This course is designed to provide students with the advanced knowledge and skills related to the radio broadcasting industry. Instruction includes hands-on assignments in the following areas: impact of historical figures in radio, pre-production, live production, vocal skills, equipment, and radio rules and regulations.

**10.0301 INTRODUCTION TO GRAPHIC COMMUNICATIONS, (10-12)**

**License: CTE/Secondary**

**Endorsement: Graphics/Printing Technology**

**Credit: Minimum 0.5**

**Pathway: Graphics/Printing**

**Test #: 560**

**11 Digit Code: 40-10-00-00-040**

**Prerequisite: None**

This course is designed to provide students with the basic knowledge and skills related to the graphic design and printing industries. Instruction includes hands-on assignments in the following areas: history, design & layout, digital image prep, image assembly/platemaking, press operations, finishing & binding, screen printing, job application & interpersonal skills. The curriculum is based on PrintED competencies.

**10.0302 INTERMEDIATE GRAPHIC COMMUNICATIONS, (10-12)**

**License: CTE/Secondary**

**Endorsement: Graphics/Printing Technology**

**Credit: Minimum 0.5**

**Pathway: Graphics/Printing**

**Test #: 562**

**11 Digit Code: 40-10-00-00-042**

**Prerequisite: Introduction to Graphic Communications**

This course is designed to be a continuation of Introduction to Graphic Communications. The course prepares individuals to apply technical knowledge in the areas of design & layout, digital image prep, image capture, digital file output, press operations, finishing & binding, and screen printing. The course includes instruction in printing, lithographic equipment and operation, computer hardware and software, digital imaging, print preparation, and electronic prepress. The curriculum is based on PrintED competencies.

**10.0303      ADVANCED GRAPHIC COMMUNICATIONS, (11-12)**

**License: CTE/Secondary**

**Endorsement: Graphics/Printing Technology**

**Credit: Minimum 0.5**

**Pathway: Graphics/Printing**

**Test #: 564**

**11 Digit Code: 40-10-00-00-044**

**Prerequisite: Introduction to Graphic Communications**

This course is designed to provide students with theory and hands-on experiences relative to the printing industry. The skills of the printing industry will be built upon by giving more real world experiences in the areas of digital file preparation, image capture, digital file output, press operations, binding and finishing, measurement, and basic math. The curriculum is aligned with the "Introduction To Graphic Communications" PrintED competencies.

**10.0304      DIGITAL FILE PREPARATION, (11-12)**

**License: CTE/Secondary**

**Endorsement: Graphics/Printing Technology**

**Credit: Minimum 0.5**

**Pathway: Graphics/Printing**

**Test #: 567, 569**

**11 Digit Code: 40-10-00-00-046**

**Prerequisite: Introduction to Graphic Communications**

This course is designed to provide students with theory and hands-on experiences relative to the electronic prepress area of the printing industry. The skills of the printing industry will be built upon "live work" experiences in the areas of type, page layout, image capture, and illustration. The curriculum is aligned with the "Digital File Preparation" PrintED competencies.

**10.0305      INTRODUCTION TO SCREEN PRINTING, (10-12)**

**License: CTE/Secondary**

**Endorsement: Graphics/Printing Technology**

**Credit: Minimum 0.5**

**Pathway: Graphics/Printing**

**Test #:**

**11 Digit Code: 40-10-00-00-048**

**Prerequisite: None**

This course is designed to provide students with the basic knowledge and skills relative to the graphic design & screen-printing industries. This includes instruction and hands-on experiences in the following areas: history, design & layout, digital prep of designs, one and multiple color processes, indirect and direct stenciling methods, on various substrates. This

allows for “live work” experience and provides an overview of the screen-printing and print making industries on the commercial level.

## **PERSONAL AND MISCELLANEOUS SERVICES**

### **12.0402 BARBERING, (11-12)**

**License: CTE**

**Endorsement: Cosmetology/Barbering**

**Credit: 1.0**

**Pathway: Cosmetology**

**Test #:**

**Industry Related Certification: DOPL Cosmetology and Cosmetology Instructors Licenses**

**11 Digit Code: 40-03-00-00-003**

**Prerequisite: None**

A program that prepares individuals to cut and dress hair shave and trim facial/neck hair and beards, and customer relations and salon management. Instruction includes history of barbering, health and safety, customer service; shop business practices; legal issues; human immune system; diseases and disorders of the hair and scalp; implements, tools and equipment; hair and scalp anatomy and physiology; basic science of barbering; chemistry of barbering; analysis of the hair and scalp; properties of the hair, skin, and scalp; shampooing; hair cutting; hair styles and styling art; in facial shaving; beard and mustache shaping and trimming. The task list for this program is based on the state rules and regulations as a part of the state law. Completed instruction qualifies the student for licensing examinations in Utah.

### **12.0403 COSMETOLOGY, (11-12)**

**License: CTE**

**Endorsement: Cosmetology/Barbering**

**Credit: 1.0**

**Pathway: Cosmetology**

**Test #:**

**Industry Related Certification: DOPL Cosmetology and Cosmetology Instructors Licenses**

**11 Digit Code: 40-03-00-00-001**

**Prerequisite: None**

A program that prepares individuals to care for and beautify hair, care for complexion, perform manicures, and market cosmetics at commercial or other beauty establishments. Training also includes customer relations and salon management. The task list for this program is based on the state rules and regulations as a part of the state law. Completed instruction qualifies the student for licensing examinations in Utah.

### **12.0409 BASIC ESTHETICIAN & SKIN CARE, (11-12)**

**License: CTE**

**Endorsement: Esthetician**

**Credit: 1.0**

**Pathway: Cosmetology**

**Test #:**

**Industry Related Certification: DOPL Esthetician and Esthetician Instructors Licenses**

**11 Digit Code: 40-03-00-00-005**

**Prerequisite: None**

This is a program that prepares individuals to cleanse, depilate, massage, and beautify the human body and to function as licensed estheticians and skin care specialists. Instruction includes history of esthetics; health and safety; customer relations and salon management;

legal issues; human immune system; diseases and disorders of the skin; implements, tools, and equipment for basic esthetics; skin anatomy, physiology, and health; science of basic esthetics; principles of nutrition; decontamination and infection control; limited chemical exfoliation; chemistry for basic esthetics; face and neck massage; temporary hair removal including waxing and tweezing; application of makeup; basic facials; skin treatments, manual and mechanical; natural nail manicures and pedicures. The task list for this program is based on the state rules and regulations as a part of the state law. Completed instruction qualifies the student for licensing examinations in Utah.

**12.0410 NAIL TECHNICIAN, (11-12)**

**License: CTE**

**Endorsement: Nail Technician**

**Credit: 1.0**

**Pathway: Cosmetology**

**Test #:**

**Industry Related Certification: DOPL Nail Technician and Nail Technician Instructors**

**Licenses**

**11 Digit Code: 40-03-00-00-002**

**Prerequisite: None**

This is a program that prepares individuals to shape fingernails and toenails, remove unwanted skin and blemishes, apply polish and cosmetics to nails, and function as licensed manicurists or nail technicians/specialists. It includes instruction in manicuring theory; skin anatomy; nail growth, irregularities, and diseases; sterilization and sanitation; equipment and table maintenance; cuticle, blemish, and rough skin removal; nail filing, shaping, and polishing; cream application and extremity massage; nail sculpture and design art; product storage and use; customer service; laws and regulations; and business practices. Courses also include customer relations and salon management. The task list for this program is based on the state rules and regulations as a part of the state law. Completed instruction qualifies the student for licensing examinations in Utah.

**12.0503 CULINARY ARTS/CHEF, (11-12) change from 10-12**

**License: CTE**

**Endorsement: Culinary Arts/Chef**

**Credit: 1.0**

**Pathway:**

**Test #:**

**11 Digit Code: 40-03-00-00-010**

**Prerequisite: None**

A program with a sequence of courses that prepares individuals to provide professional chef and related cooking services in restaurants and other commercial food establishments. Includes instruction in planning recipes and menus; preparing and cooking food; supervising and training kitchen assistants; and managing food supplies, kitchen resources, and the aesthetics of food preparation. Mastery of a wide variety of culinary techniques is required. The state task list serves as a basis for the program.

**12.0506 MEATCUTTING, (10-12)**

**License: CTE**

**Endorsement: Meatcutting**

**Credit: 1.0**

**Pathway:**

**Test #:**

**11 Digit Code: 40-03-00-00-004**

**Prerequisite: None**

A program with a sequence of courses that prepares individuals to apply technical knowledge and skill to cut, trim, and prepare carcasses and consumer-sized portions of meat for sale in wholesale, retail, or food service establishments. Instruction includes using meat cutting tools; identifying of meat cutting techniques for different cuts of meat; dressing poultry; processing fish; creating counter display; and understanding refrigeration processes of meats, poultry, and fish. Work ethics and productivity are an integral part of the classroom and lab activities of these courses.

## **ENGINEERING TECHNOLOGIES**

### **15.0507 ENVIRONMENTAL TECHNICIAN, (10-12)**

**License: CTE**

**Endorsement: Environmental Technician**

**Credit: Minimum 0.5**

**Pathway:**

**Test #:**

**11 Digit Code: 40-05-00-00-020**

**Prerequisite: None**

This course prepares individuals to apply basic engineering principles and technical skills in support of engineers and other professionals engaged in developing and using indoor and outdoor environmental pollution control systems. Includes instruction in environmental safety principles, testing and sampling procedures, laboratory techniques, instrumentation calibration, safety and protection procedures, equipment maintenance, and report preparation.

### **15.1301 DRAFTING AND DESIGN TECHNOLOGY, (10-12)**

**License: CTE/Secondary**

**Endorsement: Drafting/CAD**

**Credit: Minimum 0.5**

**Pathway: Drafting/CAD**

**Test #: 540**

**11 Digit Code: 40-10-00-00-030**

**Prerequisite: None**

This is the first instructional course in a sequence of courses that prepares individuals to use technical knowledge and skills to plan and prepare scale pictorial interpretations of engineering and design concepts. This includes instruction in the use of precision drawing instruments, sketching, drawing layout, geometric construction, orthographic views, and dimensioning.

### **15.1302 CAD DRAFTING TECHNOLOGY**

**License: CTE/Secondary**

**Endorsement: Drafting/CAD**

**Credit: Minimum 0.5**

**Pathway: Drafting/CAD**

**Test #: 542**

**11 Digit Code: 40-10-00-00-025**

**Prerequisite: Drafting and Design Technology**

The second instructional course in a sequence of courses that prepares individuals to apply technical skills and computer software and hardware to the creation of graphic

representations and simulations in support of engineering projects. Includes instruction in engineering graphics, two-dimensional and three-dimensional engineering design. Concepts in design or production drawing, orthographic drawings, sketching techniques, with dimensions, and ANSI Y14.5 standards should be reinforced.

**15.1303 ARCHITECTURAL DRAFTING, (11-12)**

**License: CTE/Secondary**

**Endorsement: Drafting/CAD**

**Credit: Minimum 0.5; Preferred 1.0**

**Pathway: Drafting/CAD**

**Test #: 544**

**11 Digit Code: 40-10-00-00-001**

**Prerequisite: Drafting and Design Technology and CAD Drafting Technology**

The third instructional course in a sequence of courses that prepares individuals with an emphasis in architectural drafting to apply technical knowledge and skills to develop working drawings for architectural and related construction projects. Includes instruction in basic layout and designs, architectural blueprint interpretation, calculations of building materials, and prepare elevation drawings. The current building code should be applied in the various units.

This architecture curriculum has been designed to allow fine arts credit with the approval of your school district. Instructors should be cautioned to limit the size of the dwelling to 1,600 square feet on the main floor.

**15.1306 MECHANICAL DRAFTING, (11-12)**

**License: CTE/Secondary**

**Endorsement: Drafting/CAD**

**Credit: Minimum 0.5; Preferred 1.0**

**Pathway: Drafting/CAD**

**Test #: 546**

**11 Digit Code: 40-10-00-00-075**

**Prerequisite: Drafting and Design Technology and CAD Drafting Technology**

The third instructional course in a sequence of courses that prepares individuals with an emphasis in mechanical drafting to apply technical knowledge and skills to develop working drawings in support of mechanical and industrial engineers, and related professionals. Includes instruction in manufacturing materials and processes, sectioning, mechanical drafting, basic welding, geometric dimensioning and tolerancing, blueprint reading and technical communication.

**PROTECTIVE SERVICES**

**43.0107 LAW ENFORCEMENT, (10-12)**

**License: CTE**

**Endorsement: Law Enforcement**

**Credit: Minimum 0.5**

**Pathway: Law Enforcement**

**Test #: 570**

**11 Digit Code: 40-06-00-00-001**

**Prerequisite: None**

This course prepares individuals to perform the duties of police and public security officers, including patrol and investigative activities, traffic control, crowd control, public relations, witness interviewing, evidence collection and management, court procedures and the law in

general. Basic crime prevention methods, weapon and equipment operation, equipment maintenance, and other routine law enforcement responsibilities are also included.

**43.0203 FIRE SCIENCE, (10-12)**

**License: CTE**

**Endorsement: Fire Science**

**Credit: Minimum 0.5**

**Pathway: Fire Fighting**

**Test #:**

**11 Digit Code: 40-06-00-00-010**

**Prerequisite: None**

This is a program with a sequence of courses that prepares individuals to perform the duties of a firefighter. Instruction includes training in safety, firefighting, equipment operation, maintenance, and the principles of fire science.

**CONSTRUCTION TRADES**

**46.0000 CONSTRUCTION TRADES FOUNDATION, (10-12)**

**License: CTE**

**Endorsement: Carpentry**

**Credit: Minimum 0.5**

**Pathway: Carpentry/Electrician/Plumbing**

**Test #: 510**

**11 Digit Code: 40-08-00-00-035**

**Prerequisite: None**

A course that generally prepares individuals in the following areas: basic safety, introduction to blueprint reading, introduction to power tools, introduction to hand tools, and introduction to construction math. It also includes an industry overview, what to expect on the job and specific career opportunities. It is designed to allow for replica house building on a 1/4"=1'-0" scale. These courses are based on the current National Center for Construction Education and Research (NCCER) task list.

**46.0101 MASONRY/TILE SETTING, (10-12)**

**License: CTE**

**Endorsement: Masonry/Tile Setting**

**Credit: 1.0**

**Pathway: Carpentry**

**Test #:**

**11 Digit Code: 40-08-00-00-080**

**Prerequisite: None**

A program with a sequence of courses that prepares individuals to apply technical knowledge and skills in the laying and/or setting of brick, concrete block, hard tile, marble, and related materials using current industry tools and equipment. These courses are based on the current National Center for Construction Education and Research (NCCER) task list.

**46.0201 CARPENTRY 1, (10-12)**

**License: CTE/Secondary**

**Endorsement: Carpentry**

**Credit: 1.0**

**Pathway: Carpentry****Test #:****11 Digit Code: 40-08-00-00-010****Prerequisite: None**

This is the first course in a series that prepares individuals to lay out, fabricate, erect, install, and repair wooden structures and fixtures using hand and power tools. Includes instruction in common systems of framing, construction materials, estimating, blueprint reading, concrete placing, siding, and mechanical systems. These courses are based on the current National Center for Construction Education and Research (NCCER) task list.

**46.0202 CARPENTRY 2, (11-12)****License: CTE/Secondary****Endorsement: Carpentry****Credit: 1.0****Pathway: Carpentry****Test #:****11 Digit Code: 40-08-00-00-015****Prerequisite: Carpentry 1**

This is the second course in a sequence that prepares individuals to lay out, fabricate, erect, install, and repair wooden structures and fixtures using hand and power tools. Includes instruction in common systems of framing, construction materials, estimating, blueprint reading, concrete placing, siding, and mechanical systems. These courses are based on the current National Center for Construction Education and Research (NCCER) task list.

**46.0302 ELECTRICIAN 1, (10-12)****License: CTE****Endorsement: Electrician****Credit: 1.0****Pathway: Electrician****Test #:****11 Digit Code: 40-08-00-00-050****Prerequisite: None**

This is the first course in a series that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair electrically energized systems, such as residential, commercial, industrial electric-power systems wiring, D.C. and A.C. motors, controls, and electrical distribution panels. Includes instruction in the use of advanced technology test equipment.

**46.0303 ELECTRICAL LINEWORKER TECHNICIAN, (11-12)****License: CTE****Endorsement: Electrical Lineworker Technician****Credit: 1.0****Pathway: Electrician****Test #:****11 Digit Code: 40-08-00-00-060****Prerequisite:**

This is a program with a sequence of courses that prepares individuals to apply technical knowledge and skills to install, operate, maintain, and repair local, long distance, and rural electric power cables and communication lines, and to erect and construct underground lines and cables. The Utah Valley Community College curriculum is the basis for this program.

**46.0304 ELECTRICIAN 2, (11-12)**

**License: CTE**

**Endorsement: Electrician**

**Credit: 1.0**

**Pathway: Electrician**

**Test #:**

**11 Digit Code: 40-08-00-00-055**

**Prerequisite: Electrician 1**

This is the second course in a sequence courses that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair electrically energized systems, such as residential, commercial, industrial electric-power systems wiring, D.C. and A.C. motors, controls, and electrical distribution panels. Instruction includes training in the use of advanced technology test equipment.

**46.0401 BUILDING MAINTENANCE, (10-12)**

**License: CTE**

**Endorsement: Building Maintenance**

**Credit: 1.0**

**Pathway:**

**Test #:**

**11 Digit Code: 40-08-00-00-001**

**Prerequisite: None**

This is a program that prepares individuals to apply technical knowledge and skills to keep a building functioning, and to service a variety of structures including commercial and industrial buildings and mobile homes. Includes instruction in the basic maintenance and repair skills required to service building systems, such as air conditioning, heating, plumbing, electrical, major appliances, and other mechanical systems

**46.0408 PAINTING AND DECORATING, (10-14)**

**License: CTE**

**Endorsement: Painting and Decorating**

**Credit: 1.0**

**Pathway:**

**Test #:**

**11 Digit Code: 40-08-00-00-090**

**Prerequisite: None**

This is a program with a sequence of courses that prepares individuals to apply technical knowledge and skill to finish exterior and interior surfaces by applying protective or decorative coating materials, such as paint, lacquer, and wallpaper. Instruction includes training in preparing surfaces, selecting and applying paints and other coatings, and hanging wall paper. Equipment operation and maintenance is also included. These courses are based on the current Associated General Contractors (AGC) task list.

**46.0499 CONCRETE PLACING AND FINISHING, (10-14)**

**License: CTE**

**Endorsement: Concrete Placing and Finishing**

**Credit: 1.0**

**Pathway:**

**Test #:**

**11 Digit Code: 40-08-00-00-020**

**Prerequisite: None**

This is a program with a sequence of courses that prepares individuals to construct forms; cut, erect, and fasten steel reinforcing bars and wire mesh; compact concrete by hand or with power equipment; and finish exposed surfaces during hardening and after forms have been removed. Instruction includes training in the use of chemical additives and use of hand and power concrete handling equipment. These courses are based on the current Associated General Contractors (AGC) task list.

**46.0501 PLUMBING 1, (10-12)**

**License: CTE**

**Endorsement: Plumbing**

**Credit: 1.0**

**Pathway: Plumbing**

**Test #:**

**11 Digit Code: 40-08-00-00-100**

**Prerequisite: None**

This is the first course in a series that prepares individuals to apply technical knowledge and skill to lay out, assemble, install, and maintain piping, fixtures, and piping systems for stream, hot water, heating, cooling, draining, lubricating, sprinkling, and industrial processing systems. Includes instruction in material selection and use of tools to cut, bend, join, and weld pipes. These courses are based on the current National Center for Construction Education and Research (NCCER) task list.

**46.0502 PLUMBING 2, (11-12)**

**License: CTE**

**Endorsement: Plumbing**

**Credit: 1.0**

**Pathway: Plumbing**

**Test #:**

**11 Digit Code: 40-08-00-00-105**

**Prerequisite: Plumbing 1**

This is the second course in a sequence that prepares individuals to apply technical knowledge and skill to lay out, assemble, install, and maintain piping, fixtures, and piping systems for stream, hot water, heating, cooling, draining, lubricating, sprinkling, and industrial processing systems. Includes instruction in material selection and use of tools to cut, bend, join, and weld pipes. These courses are based on the current National Center for Construction Education and Research (NCCER) task list.

**MECHANICS AND REPAIRS**

**47.0105 BASIC ELECTRONICS, (10-12)**

**License: CTE/Secondary**

**Endorsement: Electronics Technician**

**Credit: Minimum 0.5**

**Pathway: Electronics**

**Test #: 550**

**11 Digit Code: 40-09-00-00-040**

**Prerequisite: None**

A course that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair electrical/electronic equipment used in business, industry, and manufacturing. Instruction includes training in safety, installing, maintaining, and testing various types of electronic equipment. This course is based on a international electronics task list.

**47.0107      ADVANCED ELECTRONICS, (11-12)**

**License: CTE/Secondary**

**Endorsement: Electronics Technician**

**Credit: Minimum 0.5; Preferred 1.0**

**Pathway: Electronics**

**Test #:**

**11 Digit Code: 40-09-00-00-045**

**Prerequisite: Basic Electronics**

A course that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair electrical/electronic equipment used in business, industry, and manufacturing. Instruction includes training in safety, passive electronic components, passive AC and DC circuits, active discrete circuits, linear integrated circuits, digital integrated circuits, and program and interface microprocessors based systems. This course is based on a international electronics task list.

**47.0108      DIGITAL ELECTRONICS, (11-12)**

**License: CTE/Secondary**

**Endorsement: Electronics Technician**

**Credit: Minimum 0.5; Preferred 1.0**

**Pathway: Electronics**

**Test #:**

**11 Digit Code: 40-09-00-00-047**

**Prerequisite: Basic Electronics**

A course that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair electrical/electronic equipment used in business, industry, and manufacturing. Instruction includes training in safety, numbering systems, logic circuits, digital devices, combinational logic circuits, and sequential logic circuits. This course is based on a international electronics task list.

**47.0201      HEATING/AIR CONDITIONING/REFRIGERATION, (11-12)**

**License: CTE**

**Endorsement: Heating/Air Conditioning/Refrigeration**

**Credit: 1.0**

**Pathway:**

**Test #:**

**11 Digit Code: 40-09-00-00-050**

**Prerequisite: None**

A program with a sequence of courses that prepares individuals to apply technical knowledge and skills to repair, install, and maintain the operating condition of heating, air conditioning, and refrigeration systems.

**47.0303      INDUSTRIAL MAINTENANCE TECHNICIAN, (10-12)**

**License:** CTE  
**Endorsement:** Industrial Maintenance Technician  
**Credit:** 1.0  
**Pathway:**  
**Test #:**  
**11 Digit Code:** 40-09-00-00-070  
**Prerequisite:** None

This is a program with a sequence of courses that prepares individuals to apply technical knowledge and skills to repair and maintain industrial machinery and equipment. This includes mechanical, electrical, hydraulic, and pneumatic systems.

**47.0603 COLLISION NON-STRUCTURAL AND STRUCTURAL REPAIR, (10-12)**

**License:** CTE/Secondary  
**Endorsement:** Automotive Collision Repair Technician  
**Credit:** Minimum 0.5  
**Pathway:** Automotive Collision Repair  
**Test #:**  
**Industry Related Certification:** ASE  
**11 Digit Code:** 40-09-00-13-010  
**Prerequisite:** None

This is a course that prepares individuals to repair automotive, uni-bodies, fenders, and frames of automobiles. Instruction includes training in non-structural and structural repairs. This course is based on the Automotive Service Excellence (ASE) automotive collision task list and the I-CAR training program. Work ethics and productivity are an integral part of the classroom and laboratory activities of this program.

**47.0604 INTRODUCTION TO AUTOMOTIVE, (10-12)**

**License:** CTE/Secondary  
**Endorsement:** Automotive Services Technician  
**Credit:** Minimum 0.5  
**Pathway:** Automotive Service Technician  
**Test #:**  
**11 Digit Code:** 40-09-00-13-015  
**Prerequisite:** None

This is a program with a sequence of courses that prepares individuals to engage in the servicing and maintenance of all types of automobiles. Instruction includes training in safety, the diagnosis of malfunctions and repair of engines, fuel, electricity/electronics, cooling, brake systems, drive trains, and suspension systems. Instruction is also given in the adjustment and repair of individual components and systems. These courses are based on the Automotive Service Excellence (ASE) task list. Work ethics and productivity are an integral part of the classroom and lab activities of these courses.

**47.0605 DIESEL TECHNICIAN, (10-12)**

**License:** CTE  
**Endorsement:** Heavy Duty Mechanic/Diesel  
**Credit:** 1.0  
**Credit:** Minimum 0.5  
**Pathway:**  
**Test #:**  
**11 Digit Code:** 40-09-00-00-060  
**Prerequisite:** Medium/Heavy Vehicle Systems

This course is the second in a sequence that prepares individuals to apply technical knowledge and skills to the specialized maintenance and repair of trucks, buses, and other commercial and industrial vehicles. Instruction covers training in the following areas: safety, diesel engine

mechanics, suspension and steering, drive trains, HVAC systems, and auxiliary equipment installation and repair. These courses could be based on the Automotive Service Excellence (ASE) task list. Work ethics and productivity are an integral part of the classroom and lab activities of these courses.

**47.0606 SMALL VEHICLE TECHNICIAN, (10-12)**

**License: CTE**

**Endorsement: Small Vehicle Technician or Automotive Services Technician**

**Credit: Minimum 0.5**

**Pathway:**

**Test #:**

**11 Digit Code: 40-09-00-00-090**

**Prerequisite: None**

This is a course that prepares individuals to apply technical knowledge and skill to maintain and repair small internal-combustion engines used on portable power equipment, such as lawnmowers, chain saws, rotary tillers, motorcycles, ATV vehicles, and snowmobiles. Work ethics, productivity, and safety are an integral part of the classroom and laboratory activities of these classes.

**47.0609 AIRCRAFT MECHANICS TECHNICIAN/A&P, (10-12)**

**License: CTE**

**Endorsement: Aircraft Mechanics Technician**

**Credit: 1.0**

**Credit: Minimum 0.5**

**Pathway:**

**Test #:**

**11 Digit Code: 40-09-00-00-001**

**Prerequisite: Introduction to Automotive**

This is a program with a sequence of courses that prepares individuals to inspect, repair, service, and rebuild all airplane parts, including engines, propellers, instruments, airframes, fuel and oil tanks, control cables, and hydraulic units. These courses are designed to meet Federal Aviation Administration (FAA) requirements for licensing as an airframe and power plant mechanic.

**47.0610 BICYCLE REPAIR TECHNICIAN, (10-12)**

**License: CTE**

**Endorsement: Bicycle Repair Technician**

**Credit: Minimum 0.5**

**Pathway:**

**Test #:**

**11 Digit Code: 40-11-00-00-010**

**Prerequisite: None**

This course is to prepare individuals to apply technical knowledge and skills to inspect, repair, service, and maintain bicycles and other human-powered vehicles. Instruction includes training in safety, lubrication, adjustments of moving parts, and wheel building.

**47.0613 MEDIUM/HEAVY VEHICLE SYSTEMS, (10-12)**

**License: CTE**

**Endorsement: Heavy Duty Mechanic/Diesel**

**Credit: 1.0**

**Credit: Minimum 0.5**

**Pathway:**

**Test #:**

**11 Digit Code: 40-09-00-00-065**

**Prerequisite: None**

This course is the first in a sequence that prepares individuals to apply technical knowledge and skills to the specialized maintenance and repair of trucks, buses, and other commercial and industrial vehicles. Instruction covers training in four areas which includes safety and shop skills, preventive maintenance inspection, brake systems, and electrical and electronic systems. These courses could be based on the Automotive Service Excellence (ASE) task list. Work ethics and productivity are an integral part of the classroom and lab activities of these courses.

**47.0623 COLLISION REFINISHING AND PAINTING (11-12)****License: CTE/Secondary****Endorsement: Automotive Collision Repair Technician****Credit: Minimum 0.5****Pathway: Automotive Collision Repair****Test #:****Industry Related Certification: ASE****11 Digit Code: 40-09-00-00-015****Prerequisite: Collision Non-Structural and Structural Repair**

This is a course that prepares individuals to repair automotive, uni-bodies, fenders, and frames of automobiles. Instruction includes training in refinishing and painting. This course is based on the Automotive Service Excellence (ASE) automotive collision task list and the I-CAR training program. Work ethics and productivity are an integral part of the classroom and laboratory activities of this program.

**47.0624 ASE GENERAL SERVICE TECHNICIAN, (10-12)****License: CTE/Secondary****Endorsement: Automotive Services Technician****Credit: 1.0****Pathway: Automotive Service Technician****Industry Related Certification: ASE****Test #:****11 Digit Code: 40-09-00-00-021****Prerequisite: Introduction to Automotive**

This is a program with a sequence of courses that prepares individuals to engage in the servicing and maintenance of all types of automobiles. Instruction includes training in safety, the diagnosis of malfunctions and repair of engines, fuel, electricity/electronics, cooling, brake systems, drive trains, and suspension systems. Instruction is also given in the adjustment and repair of individual components and systems. These courses are based on the Automotive Service Excellence (ASE) task list. Work ethics and productivity are an integral part of the classroom and lab activities of these courses.

**47.0634 ASE BRAKES, (11-12)****License: CTE/Secondary****Endorsement: Automotive Services Technician****Credit: 1.0****Credit: Minimum 0.5****Pathway: Automotive Service Technician****Test #:****Industry Related Certification: ASE****11 Digit Code: 40-09-00-00-022****Prerequisite: Introduction to Automotive**

This course is part of a sequence that prepares individuals to engage in the servicing and maintenance of all types of automobiles. Instruction includes training in safety, the diagnosis of

malfunctions and repair of braking systems. This course is based on the Automotive Service Excellence (ASE) task list. Work ethics and productivity are an integral part of the classroom and lab activities of these courses.

**47.0644 ASE STEERING AND SUSPENSION, (11-12)**

**License: CTE/Secondary**

**Endorsement: Automotive Services Technician**

**Credit: 1.0**

**Credit: Minimum 0.5**

**Pathway: Automotive Service Technician**

**Test #:**

**Industry Related Certification: ASE**

**11 Digit Code: 40-09-00-00-023**

**Prerequisite: Introduction to Automotive**

This course is part of a sequence that prepares individuals to engage in the servicing and maintenance of all types of automobiles. Instruction includes training in safety, the diagnosis of malfunctions and repair of steering and suspension systems. This course is based on the Automotive Service Excellence (ASE) task list. Work ethics and productivity are an integral part of the classroom and lab activities of these courses.

**47.0654 ASE ELECTRICAL/ELECTRONICS, (11-12)**

**License: CTE/Secondary**

**Endorsement: Automotive Services Technician**

**Credit: 1.0**

**Credit: Minimum 0.5**

**Pathway: Automotive Service Technician**

**Test #:**

**Industry Related Certification: ASE**

**11 Digit Code: 40-09-00-00-024**

**Prerequisite: Introduction to Automotive**

This course is part of a sequence that prepares individuals to engage in the servicing and maintenance of all types of automobiles. Instruction includes training in safety, the diagnosis of malfunctions and repair of electrical systems. This course is based on the Automotive Service Excellence (ASE) task list. Work ethics and productivity are an integral part of the classroom and lab activities of these courses.

**47.0664 ASE ENGINE PERFORMANCE, (11-12)**

**License: CTE/Secondary**

**Endorsement: Automotive Services Technician**

**Credit: 1.0**

**Credit: Minimum 0.5**

**Pathway: Automotive Service Technician**

**Test #:**

**Industry Related Certification: ASE**

**11 Digit Code: 40-09-00-00-025**

**Prerequisite: Introduction to Automotive**

This course is part of a sequence that prepares individuals to engage in the servicing and maintenance of all types of automobiles. Instruction includes training in safety and the diagnosis of malfunctions for the engines performance. This course is based on the Automotive Service Excellence (ASE) task list. Work ethics and productivity are an integral part of the classroom and lab activities of these courses.

## **PRECISION PRODUCTION TRADES**

### **48.0503 MACHINIST TECHNICIAN/CNC, (10-12)**

**License: CTE/Secondary**

**Endorsement: Machinist Technician**

**Credit: Minimum 0.5**

**Pathway: Machine Tool**

**Test #: 580, 582, 584**

**11 Digit Code: 40-10-00-00-070**

**Prerequisite: None**

A program with a sequence of courses that prepares individuals to apply technical knowledge and skills to plan, manufacture, assemble, and test products, using machine shop and CNC processes. These courses are based on the state machine shop task list.

### **48.0506 SHEET METAL, (10-12)**

**License: CTE**

**Endorsement: Sheet Metal**

**Credit: Minimum 0.5**

**Pathway:**

**Test #:**

**11 Digit Code: 40-10-00-00-090**

**Prerequisite: None**

A program with a sequence of courses that prepares individuals to apply technical knowledge and skill to form, shape, bend, and fold extruded metals, including the creation of new products using high technology tools and equipment.

### **48.0508 WELDING TECHNICIAN – ENTRY LEVEL, (10-12)**

**License: CTE/Secondary**

**Endorsement: Welding Technician**

**Credit: Minimum 0.5**

**Pathway: Welding**

**Test #: 595**

**11 Digit Code: 40-10-00-00-110**

**Prerequisite: None**

This is a course that prepares individuals to apply technical knowledge and skill to use current welding processes, including robotics welding. These courses are based on the American Welding Society (AWS) task list.

### **48.0510 WELDING TECHNICIAN – ADVANCED LEVEL, (11-12)**

**License: CTE/Secondary**

**Endorsement: Welding Technician**

**Credit: Minimum 0.5**

**Pathway: Welding**

**Test #: 597**

**11 Digit Code: 40-10-00-00-112**

**Prerequisite: Welding Technician – Entry Level**

A program with a sequence of courses that prepares individuals to apply technical knowledge and skill to use current welding processes, including robotics welding. These courses are

based on the American Welding Society (AWS) task list. More advanced welding processes and applications.

**48.0602 JEWELRY FABRICATION AND DESIGN, (10-12)**

**License: CTE**

**Endorsement: Jewelry Fabrication**

**Credit: Minimum 0.5**

**Pathway:**

**Test #:**

**11 Digit Code: 40-10-00-00-060**

**Prerequisite: None**

This is a program with a sequence of courses that prepares individuals to engage in specific aspects of occupational jewelry making. Instruction includes training metal chasing, tapping, design stamping, etching, enameling, soldering techniques, polishing and coloring, jewelry fabrication and repair, and stone preparation and setting. Work ethics and safety are an integral part of these courses.

**48.0701 WOODWORKING, (10-12)**

**License: CTE/Secondary**

**Endorsement: Cabinetmaking/Millwork**

**Credit: Minimum 0.5**

**Pathway: Cabinetmaking/Millwork**

**Test #: 520**

**11 Digit Code: 40-10-00-00-120**

**Prerequisite: None**

The first instructional course in a sequence that prepares individuals to apply technical knowledge and skills to lay out and shape stock; assemble projects; saw and sand projects; and stresses the safe use a variety of hand and power tools and machinery. Recommended projects would be anything that would allow students to incorporate all joints and tools e.g. a nightstand.

**48.0702 FURNITURE DESIGN AND MANUFACTURING, (10-12)**

**License: CTE/Secondary**

**Endorsement: Cabinetmaking/Millwork**

**Credit: Minimum 0.5**

**Pathway: Cabinetmaking/Millwork**

**Test #: 522**

**11 Digit Code: 40-10-00-00-130**

**Prerequisite: Woodworking**

The second instructional course in a sequence that prepares individuals to apply technical knowledge and skills to prepare and execute furniture design projects; assemble and finish furniture articles; repair furniture; and stresses the safe use a variety of hand and power tools and machinery. Recommended projects would be anything that would allow students to incorporate all joints and tools e.g. a chest of drawers.

**48.0703 CABINETMAKING, (11-12)**

**License: CTE/Secondary**

**Endorsement: Cabinetmaking/Millwork**

**Credit: Minimum 0.5**

**Pathway: Cabinetmaking/Millwork**

**Test #: 524**

**11 Digit Code: 40-10-00-00-020**

**Prerequisite: Woodworking and Furniture Design and Manufacturing**

This is the third instructional course in a sequence that prepares individuals to apply technical knowledge and skills to set up and operate industrial woodworking machinery and to use such machinery to design and fabricate custom cabinets and architectural millwork. It stresses the safe use of trade hand and power tools and machinery used in the production of millwork items. Cabinets, such as kitchen and vanities are constructed, finished, and installed as part of this program.

**TRANSPORTATION AND MATERIAL MOVING**

**49.0102 COMMERCIAL AIRCRAFT PILOT, (10-12)**

**License: CTE/Secondary**

**Endorsement: Commercial Aircraft Pilot**

**Credit: Minimum 0.5**

**Pathway:**

**Test #:**

**Industry Related Certification: Ground FAA**

**11 Digit Code: 40-11-00-00-040**

**Prerequisite: None**

This is a program with a sequence of courses that prepares individuals to apply technical knowledge and skills to the operation, flying, and navigation of commercial aircraft. This program operates on the basis of the Federal Aviation Administration (FAA) rules and regulations.

**49.9999 MATERIAL HANDLING, (10-12)**

**License: CTE**

**Endorsement: Material Handling**

**Credit: Minimum 0.5**

**Pathway:**

**Test #:**

**11 Digit Code: 40-11-00-00-100**

**Prerequisite: None**

This is a program with a sequence of vocational courses that prepares individuals to receive, store, ship, and transport materials and products. Skill training includes operation of computerized storage systems, material handling equipment, packaging, and inventory control.

**VISUAL ARTS**

**50.0401 DESIGN AND VISUAL COMMUNICATIONS, (10-12)**

**License: CTE/Secondary**

**Endorsement: Commercial Art**

**Credit: Minimum 0.5**

**Pathway: Commercial Art**

**Test #: 530**

**11 Digit Code: 40-13-00-00-020**

**Prerequisite: None**

This is a program in the applied visual arts that focuses on the general principles and techniques for effectively communicating ideas and information, and packaging products, in

digital and other formats to business and consumer audiences, and that may prepare individuals in any of the applied art media.

**50.0402 COMMERCIAL AND ADVERTISING ART, (10-12)**

**License: CTE/Secondary**

**Endorsement: Commercial Art**

**Credit: Minimum 0.5**

**Pathway: Commercial Art**

**Test #:**

**11 Digit Code: 40-13-00-00-001**

**Prerequisite: Design and Visual Communications**

This is a course in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences via illustrations and other forms of digital or printed media. Instruction includes training in concept design, layout, paste-up, and techniques such as engraving, etching, silkscreen, lithography, offset, drawing and cartooning, painting, collage, and computer graphics. These courses are based on the state task list.

**50.0404 INDUSTRIAL DESIGN, (11-12)**

**License: CTE/Secondary**

**Endorsement: Commercial Art**

**Credit: Minimum 0.5**

**Pathway: Commercial Art**

**Test #:**

**11 Digit Code: 40-13-00-00-030**

**Prerequisite: Design and Visual Communications and Commercial and Advertising Art**

This is a course in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences via the creation of effective forms, shapes, and packaging for manufactured products. Instruction includes training in designing in a wide variety of appropriate materials, mach ups, design development and refinement, principles of cost saving, and product structure and performance criteria relevant to aesthetic design parameters.

**50.0406 BASIC FILM PHOTOGRAPHY, (10-12)**

**License: CTE/Secondary**

**Endorsement: Commercial Photography**

**Credit: Minimum 0.5**

**Pathway: Commercial Photography**

**Test #:**

**11 Digit Code: 40-13-00-00-010**

**Prerequisite: None**

This course is part of a sequence of courses that prepares individuals to use artistic techniques combined with a commercial perspective to effectively communicate ideas and information to business and consumer audiences via the use of black and white photography. Instruction includes training in specialized camera and equipment operation, film processing, dark room procedures, maintenance, applications to commercial and industrial needs, and photography business operations.

**50.0407 BASIC DIGITAL PHOTOGRAPHY, (10-12)**

**License: CTE/Secondary**

**Endorsement: Commercial Photography**

**Credit: Minimum 0.5**

**Pathway: Commercial Photography**

**Test #:**

**11 Digit Code: 40-13-00-00-012**

**Prerequisite: None**

This course is part of a sequence of courses that prepares individuals to use artistic techniques combined with a commercial perspective to effectively communicate ideas and information to business and consumer audiences via the use of digital photography. Instruction includes training in specialized camera and equipment operation, software usage, maintenance, applications to commercial and industrial needs, and photography business operations.

**50.0408      ADVANCED COMMERCIAL PHOTOGRAPHY, (11-12)**

**License: CTE/Secondary**

**Endorsement: Commercial Photography**

**Credit: Minimum 0.5**

**Pathway: Commercial Photography**

**Test #:**

**11 Digit Code: 40-13-00-00-015**

**Prerequisite: Basic Film Photography or Basic Digital Photography**

This course is part of a sequence of courses that prepares individuals to use artistic techniques combined with a commercial perspective to effectively communicate ideas and information to business and consumer audiences via the use of advanced digital and/or film photography. Instruction includes training in career opportunities, workflow, specialized camera, equipment and accessories, memory devices, software operation, copyright, ethics, and legal issues as it applies to commercial and industrial needs, and photography business operations.