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BUSINESS

Accounting

ACCT 101: Intro to Accounting Concepts CIP 52.0301 (5 Credits)

DESCRIPTION

Provides students with an introduction to the field of accounting. Topics include the accounting cycle, accounting for and presentation of assets, liabilities, and owner's equity.

COURSE OUTCOMES

1. Compare and contrast the three major types of business entities.
2. State the accounting equation and describe how it is affected by business transactions.
3. Classify typical accounts, distinguish permanent from temporary accounts, and determine the normal balance of accounts.
4. Demonstrate and describe all of the steps in the accounting cycle.
5. Identify the components of the income statement, statement of owner's equity, and the balance sheet.
6. Explain the relationships between control accounts, subsidiary accounts, and the general ledger.
7. Reconcile a bank statement and record the associated entries.
8. Describe internal control procedures for cash.
9. Work effectively in a collaborative environment to arrive at solutions to problems.

Business Technology

BTEC 104: Introduction to Business Technology CIP 11.0103 (5 Credits)

DESCRIPTION

Introduces current business software and technology. Basic computer concepts and navigating within the Windows environment are discussed. Electronic communication, information retrieval, word processing, spreadsheet analysis, graphic presentation, and database management are practiced.

COURSE OUTCOMES

1. Identify basic components of a personal computer system
2. Describe Windows objects.
3. Navigate within the windows environment.
4. Manage files and folders on both internal and external storage media.
5. Identify the fundamental concepts and components of electronic communication and information retrieval, word processing, spreadsheet analysis, graphic presentation, and database management.
6. Understand how business technology influences people and procedures in today's business office.
7. Be able to enter, edit, format, and print word processing documents such as business letters, memos, and reports.
8. Integrate database and spreadsheet functions with word processing functions.
9. Create and manipulate records within a database and generate reports and tables used in business and applications.



10. Create, edit, and show a presentation.
11. Think inductively or deductively to select the proper computer application and formats.

BTEC 111: Word Processing I CIP 11.0602 (5 Credits)

DESCRIPTION

Utilizes Microsoft Word features to format, edit, maintain, merge, and reference business documents. Includes creating tables and using SmartArt graphics. A minimum keyboarding speed of 35 wpm recommended.

COURSE OUTCOMES

1. Create and edit documents
2. Format characters and paragraphs
3. Enhance and customize paragraphs and documents
4. Format and navigate multi-page and multi-section documents
5. Maintain and reference documents
6. Merging documents
7. Creating Envelopes and Labels with merging features
8. Creating tables and SmartArt Graphics
9. Think inductively and deductively in order to integrate knowledge of spreadsheets, databases, business communications and word processing to create documents.
10. Copy paragraph material at a rate of not less than 50 words per minute with five or fewer errors.

BTEC 112: Word Processing II CIP 11.0602 (5 Credits)

DESCRIPTION

Presents advanced word processing features using Microsoft Word. Examines creating letters, reports, research papers, brochures, newsletters, and other documents. Introduces customizing, proofing, automation, specialized navigation and referencing, working with shared documents, and document protection and security. A minimum keyboarding speed of 45 wpm recommended.

COURSE OUTCOMES

1. Use advanced document customization
2. Use advanced editing and proofing techniques
3. Utilize document automation features for navigation and formatting
4. Enhance documents with references and special features
5. Create specialized tables and indexes
6. Use advanced merging techniques
7. Work with shared documents
8. Utilize document protection and security features
9. Think inductively and deductively in order to integrate knowledge of spreadsheets, databases, business communications and word processing to create documents.
10. Copy paragraph material at a rate of not less than 60 words per minute with five or fewer errors.



BTEC 131: Introduction to Spreadsheets CIP 11.0601 (5 Credits)

DESCRIPTION

Introduces the use of spreadsheet programs in business applications. Provides practical experience in using a spreadsheet to solve common business problems.

COURSE OUTCOMES

1. Use math and trig, date, logical and look-up functions to solve problems, explore What-If Analysis.
2. Create graphs using data in a spreadsheet; use Sparklines, Slicers, and Quick Analysis.
3. Analyze data with appropriate graph and chart types.
4. Explore and use spreadsheet list/database features; Tables, PivotTables, and Pivot Charts.
5. Understand the differences between a database application and a spreadsheet application.
6. Manage Multiple Worksheets and Workbooks; use of 3D and External Referencing.
7. Implement Data Validation, worksheet/workbook protection.
8. Automate tasks with macro recording; create macro buttons.
9. Use advanced Formulas, conditional formulas, and nesting of formulas.

BTEC 145: Introduction to MS Word CIP 52.0401 (Variable Credits)

DESCRIPTION

Introduces students to Microsoft Word features that may be used in both personal and business environments. Topics include basic and intermediate-level document formatting. Students will have an opportunity to complete the MOS Word Core Certification to earn a credential for MS Word Proficiency. This course is offered as an elective for students who wish to increase their technical expertise with computer applications. Lab hours are required for this course.

COURSE OUTCOMES

1. Create and manage documents
2. Format text, paragraphs, and sections
3. Create tables and lists
4. Create and manage references
5. Insert and format graphic elements
6. Complete Microsoft Office Applications Exam for Word Core

BTEC 146: PowerPoint Fundamentals CIP 52.0401 (2 Credits)

DESCRIPTION

Introduces presentation graphics, using Microsoft PowerPoint to create electronic slide shows. Students create and edit slide shows, apply templates, format slides, enter text, print presentations, create charts, and employ other graphical functions and features. Includes a basic coverage of design for presentation best practices. Students will have the opportunity to complete the Microsoft Office Applications Exam for PowerPoint. Lab hours are required for this course.

COURSE OUTCOMES

1. Create and manage presentations
2. Insert and format text, shapes, and images
3. Insert tables, charts, SmartArt, and media



4. Apply transitions, and animations
5. Manage multiple presentations
6. Complete Microsoft Office Applications Exam for PowerPoint

BTEC 148: Introduction to Outlook CIP 52.0401 (2 Credits)

DESCRIPTION

Offers an introduction to using Microsoft Outlook™ communication and scheduling as a business tool. This course is designed to prepare students with a full understanding of features available in Microsoft Outlook™. Topics include email, contacts, schedule management, and instant messaging. Lab hours are required for this course. Context: This class is intended for non-majors or students majoring in a computer related field.

COURSE OUTCOMES

1. Start and exit Microsoft Outlook™
2. Set up Microsoft Outlook™ profile
3. Manage messaging and email
4. Manage calendars and scheduling
5. Manage tasks and lists
6. Manage contacts, distribution lists, and personal information
7. Manage and understand how to work with Microsoft Outlook™ data files

BUS 159: Principles of Retailing CIP 52.1803 (5 Credits)

DESCRIPTION

Surveys retailing principles and concepts and studies store management, merchandise management, pricing, customer services, advertising, and display.

COURSE OUTCOMES

1. Survey the retailing industry today, including types of retailers and merchandise, and careers in the field.
2. Explore trends in retailing, including the impacts resulting from changes in demographics, the economic environment, and competition.
3. Apply the concepts of customer buying behavior to the merchandising/selling process, including consumer and business examples.
4. Apply marketing principles and concepts, including market research, pricing, branding, promotion, and publicity, to the retail setting.
5. Apply the principles of store management, including store layouts and visual merchandising.
6. Practice good customer service skills.
7. Speak, write and read clearly and effectively.
8. Apply their knowledge of retailing to solve store management problems.
9. Apply mathematics to pricing procedures.
10. Examine legal and ethical issues in retailing.

BUS 165: Salesmanship CIP 52.1801 (5 Credits)

DESCRIPTION



Surveys multiple aspects of selling, including the importance of selling and salespeople in business and the rewards of a sales career. Topics include: buying behaviors, the ethical and legal issues in sales, the buying process, the approach, the presentation, demonstration of merchandise, handling of objectives, closing the sale, follow-up and effective sales management.

COURSE OUTCOMES

1. Identify the various principles of salesmanship as they pertain to today's business environment.
2. Identify major concepts related to buyer behavior and the buying process.
3. Practice salesmanship techniques such as: the approach, the presentation, the demonstration of merchandise, responding to objections, closing the sale, suggestion selling, and follow-up.
4. Identify ethical and legal issues in selling.
5. Practice the verbal and written communication skills required for a sales career.
6. Identify techniques used in effective management of time and territory as it pertains to sales.

EDUCATION

Early Childhood Education

ECED& 105: Introduction to Early Childhood Education CIP 13.1210 (5 Credits)

DESCRIPTION

Explores the foundations of early childhood education. Examine theories defining the field, issues, trends, best practices, and program models. Observe children, professionals and programs in action.

COURSE OUTCOMES

1. Explain current theories and ongoing research in early care and education.
2. Describe the role of play in early childhood programs.
3. Compare early learning program models.
4. Explain the importance of developing culturally responsive partnerships with families.
5. Identify appropriate guidance techniques used in early care and education settings.
6. Describe the observation, assessment, and teaching cycle used to plan curriculum for all young children.
7. Apply the professional code of ethics for early care and education to resolve dilemmas.
8. Describe major historical figures, advocates, and events shaping today's early childhood education.

ECED& 120: Practicum-Nurturing Relationships CIP 13.1210 (2 Credits)

DESCRIPTION

Presents the fundamentals of how to establish nurturing, supportive relationships with all children and professional peers in an early learning setting. Focus on children's health & safety, promoting growth & development, and creating a culturally responsive environment.

COURSE OUTCOMES

1. Describe the characteristics of nurturing relationships built between teachers and children.
2. Practice ideals of professionalism in work with children, families and peers.
3. Recognize cultural responsiveness when observing professionals and programs.



4. Identify practices that promote health, safety, growth and development of children.

ECED& 132: Infant/Toddler Care CIP 13.1210 (2 Credits)

DESCRIPTION

Examine the unique developmental needs of infants and toddlers. Study the role of the caregiver, relationships with families, developmentally appropriate practices, nurturing environments for infants and toddlers, and culturally retentive care.

COURSE OUTCOMES

1. Discuss developmental milestones from birth to 36 months articulating the influences of individual development, temperament and cultural norms in the context of important, ongoing relationships.
2. Design a plan to support reciprocal, culturally sensitive partnerships with families.
3. Select positive guidance techniques that are appropriate and effective with infants and toddlers.
4. Critique infant and toddler early learning environments, articulating environmental influences on the learning processes of infants and toddlers during authentic play activities.
5. Describe a plan for developmentally appropriate, culturally relevant curriculum that supports language, physical, cognitive, creative, social, and emotional development.

Para Education

EDUC& 136: School Age Care CIP 13.1210(3 Credits)

Discusses the provision of developmentally appropriate and culturally relevant activities/care for children ages 5-12 in a variety of settings. Topics include: implementation of curriculum, preparation of environments, building relationships, guiding cognitive and social emotional development, and community outreach.

COURSE OUTCOMES

1. Describe the physical, cognitive, social and emotional stages of children ages 5-12.
2. Develop a plan to create reciprocal and culturally sensitive relationships with children and families.
3. Analyze the effectiveness of an environment and recommend changes that are culturally retentive, developmentally appropriate, and conducive to positive social interactions.
4. Identify guidance strategies that promote cognitive and social growth in the context of a school age care environment.
5. Describe state and local school age care regulations and procedures related to group size, health, nutrition and safety.
6. Describe strategies supporting curriculum that is developmentally appropriate and culturally responsive.
7. Identify community resources supporting school age care/youth development program personnel.

EDUC 191: Field Experience I CIP 13.1501 (5 Credits)

DESCRIPTION



Provides supervised field experience in a pre-K-12 setting, working alongside a teacher/paraeducator, observing, and demonstrating best practices. Incorporates seminar sessions and reflection to link field experiences with WA State Paraeducator Basic Competencies.

COURSE OUTCOMES

1. Assist in providing instruction, which meets the needs of diverse learners.
2. Apply school district policies, state laws, and professional code of ethics in the classroom.
3. Foster and support culturally responsive, inclusive learning environments for every student.
4. Communicate effectively with students, families, and staff.

EDUC& 205: Intro to Education w/Field Experience: DIV CIP 13.0101 (5 Credits)

DESCRIPTION

Introduces the field of education. Integrates readings, lectures, discussions, written assignments, student presentations, guest speakers, and participation in actual elementary classrooms to provide students with a broad survey of the K-12 educational system. Addresses the multicultural and diverse experiences of students in the educational setting.

COURSE OUTCOMES

1. Demonstrate knowledge of teaching as a career
2. Recognize the ways that teaching has changed over the past two centuries as well as the ways it may change in the years to come
3. Recognize the characteristics of effective teaching
4. Identify contemporary issues in education
5. Identify professional career opportunities in teaching
6. Recognize how schools and teachers deal with students of differing abilities and learning styles
7. Demonstrate knowledge of instructional resources in the classroom
8. Understand the diversity of students in America's schools and learn how schools and teachers deal with these differences
9. Assess their own strengths as future teachers and make appropriate career plans
10. Demonstrate professional behavior and appearance in roles as observers and/or assistants in the field placements classrooms
11. Critically evaluate and assess their beliefs about race, ethnicity, class, gender, ability and religion by participating in the classroom activities and assignments
12. Comprehend the historical effects that racial discrimination, bigotry, and other forms of intolerance have on the field of education
13. Examine the diversity of students in America's educational system.
14. Develop educational strategies to support the education needs of diverse students.
15. Examine economic and social justice in the education system.

HEALTH SCIENCES

Allied Health

AH 114: HealthCare Communication Skills CIP 51.0000 (2 Credits)



DESCRIPTION

Provides introductory content on the communication process in health care settings. Introduces principles of communication, therapeutic communication skills, barriers to effective communication, and principles of verbal and written reporting in health care. Explores communication with clients who have complex needs, conflict resolution, team work, health care informatics, and cultural competency in health care. Techniques for acquiring employment will be discussed, and internet websites will be evaluated for credibility.

COURSE OUTCOMES

1. Describe components of verbal and nonverbal communication.
2. Identify therapeutic and non-therapeutic responses in health care communication.
3. Discuss blocks to therapeutic communication.
4. Identify characteristics of effective verbal and written reporting in health care settings.
5. Explain principles for documentation in health care settings.
6. Discuss communication strategies for complex health care situations.
7. Explain strategies for effective teamwork within health care organizations.
8. Discuss strategies for conflict management in health care employment settings.
9. Explore the use of computer technology in health care.
10. Analyze the impact of cultural and philosophical beliefs on health care practices and communication.
11. Explore methods for acquiring employment in health care settings.
12. Identify characteristics of credible websites.

Health

HLTH 100: Occupational Safety and Health CIP 51.0701 (3 Credits)

DESCRIPTION

Introduces fundamental concepts and practices related to safety and hygiene in the workplace, including bloodborne and airborne pathogens, and HIV/AIDS awareness and risk reducing behaviors, including for those who are chemically dependent. American Heart Association First Aid/Basic Life Support (BLS) for Healthcare Provider training is included. Students are issued AHA First Aid/BLS Healthcare Provider cards upon completion. Context: Manufacturing, Trades, & Transportation, Elective, or not confined to a single pathway

COURSE OUTCOMES

1. Demonstrate proper Basic Life Support techniques as defined by the American Heart Association for adults, children and infants.
2. Demonstrate proper emergency first aid techniques in simulated emergency situations.
3. Discuss (concepts associated with defining) acceptable levels of risk relative to providing emergency first aid.
4. Identify risk reduction behaviors and actions relative to bloodborne and airborne pathogens.
5. Discuss (concepts of) HIV/AIDS awareness, prevention, and risk reducing behaviors, including for those who are chemically dependent.
6. Identify safety and health hazards in the workplace.
7. Describe the basic features of OSHA and WISHA.



8. Choose the correct type of personal protective devices needed for a given work situation.
9. Conduct a safety assessment survey of a given work environment.

HLTH 105: First Aid, CPR, and Bloodborne Pathogens CIP 51.0000 (1 Credit)

DESCRIPTION

Instructs students in First Aid and adult, child and infant CPR through the American heart Association for healthcare providers including AED training. Students will receive first aid and CPR certification with completion of this course. This course will also cover bloodborne pathogen training, which students will also receive certification in with the completion of the course.

COURSE OUTCOMES

1. Demonstrate proper CPR-D techniques as defined by the American Heart Association for adults, children and infants.
2. Demonstrate proper emergency first aid techniques in simulated emergency situations.
3. Identify concepts associated with defining acceptable levels of risk relative to providing emergency first aid.
4. Identify risk reduction behaviors and actions relative to bloodborne and airborne pathogens.

INFORMATION TECHNOLOGY

CS 110: Introduction to Microcomputer Applications CIP (2022) (3 Credits)

DESCRIPTION

Introduces microcomputers and software applications. Presents Windows, word processing, and electronic spreadsheets basics. Prerequisite: Ability to use a keyboard.

COURSE OUTCOMES

1. Examine the components of a personal computer system and discuss the criteria for evaluating a microcomputer system.
2. Discuss the purposes of and differences between application software and systems software.
3. Identify the major categories of application software.
4. Use basic functions of a word processing application to create letters and other documents.
5. Use basic functions of an electronic spreadsheet application to create simple worksheets.

MEDICAL ASSISTING

MEDA 120: Survey of Anatomy & Physiology CIP 51.0001 (5 Credits)

DESCRIPTION

Introduces students to such fundamental biological principles as the cell and metabolism, then progresses through tissues to human organ systems including respiratory, circulatory, digestive, reproductive, immune, nervous, musculoskeletal, urinary and sensory organs.

COURSE OUTCOMES

1. Identify the different organ systems of the body.
2. Name the different organ systems of the body.
3. Explain the anatomy and physiology of each organ system
4. Explain the pathophysiology associated with each organ system.



5. Describe the interrelations among the organ systems.
6. Describe the relationship of each organ system to homeostasis.

LAW, PUBLIC SAFETY, CORRECTIONS & SECURITY

Criminal Justice

CJ& 101: Introduction to Criminal Justice CIP 43.0103 (5 Credits)

DESCRIPTION

Introduces and provides an overview of the various agencies involved in the administration of criminal justice, including local, state, and federal agencies as well as a history of police and corrections. Students will study how our criminal justice system evolved and how it functions, examined from the perspective of the Constitution through the criminalization process of investigation, arrest, trial, and post-trial procedures. Context: This is an introductory course for Criminal Justice (was Administration of Justice) majors. It can also be taken by AA-DTA transfer students. It fulfills the requirements of the AA-DTA social science distribution list.

COURSE OUTCOMES

1. Learn basic knowledge of the criminal justice system.
2. Understand the role of the actors within the criminal justice system.
3. Complete a research paper on a selected topic regarding the criminal justice system.
4. Appreciate the philosophy of police and corrections work.
5. Understand the role of the Constitution in setting guidelines through the criminalization process.

CJ& 104: Introduction to Policing CIP 43.0107 (5 Credits)

DESCRIPTION

Surveys and examines the role of policing in American society. Theories, philosophy and practices are covered from historical and contemporary perspectives. Identifies challenges in law enforcement including the political, social, organizational, and legal environments where the police perform their roles.

COURSE OUTCOMES

1. Identify and effectively use a broad range of policing and law enforcement terminology.
2. Describe the origins and historical evolution of policing, and how that evolution impacts current policy and practice
3. Compare and contrast basic patrol procedures, investigative processes, crime control theories/practices, and operations.
4. Identify the law enforcement department organization, special units, and administration structure from local to federal levels.
5. Describe the various policing agencies and their jurisdictions in the local, state, and federal governments.
6. Discuss the role and responsibilities of discretion, ethics, accountability, code of conduct, corruption, professionalism, police culture, subculture, and integrity and how these impacts the field of law enforcement.



7. Identify the psychological, physical, and physiological impact of the law enforcement profession.
8. Analyze how diversity issues, bias, and use of force by law enforcement affects civilians and community relations.
9. Explain the relationship between politics, crime, the media, and policing in current society.
10. Discuss the legal limitations placed upon the exercise of police powers in the United States of America.

MANUFACTURING, TRADES, & TRANSPORTATION

Auto Technology

AMTC 100 Essentials of Mechanics CIP 47.0604 (5 Credits)

DESCRIPTION

Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventive/predictive maintenance. Lab hours are required for this course.

COURSE OUTCOMES

1. Relate industrial safety practices to various mechanical jobs.
2. Apply knowledge of basic skills relative to further study in the automotive or diesel programs.
3. Demonstrate a mastery of basic machine, tool, and material processes in the mechanical industries.
4. Apply educational skills of communication, problem solving, and computation as they relate to industry.
5. Be acquainted with industrial work procedures as applied to identified tasks.
6. Use appropriate hand tools, portable power tools, measuring and testing equipment, and power machinery.
7. Access and utilize technical reference manuals, specification charts, trade journals, and computerized repair data.
8. Possess technical skills and knowledge needed for advanced training in the automotive or diesel program.
9. Develop teamwork skills in solving problems using inductive and deductive thought.

Diesel Technology

DHET 100 Essentials of Mechanics CIP 47.0605 (5 Credits)

DESCRIPTION

Develops beginning mechanical skills and knowledge essential to successful completion of the automotive and/or diesel technology program. Includes shop safety, fasteners, measurements, cutting tools, lifting, tool usage, shop orientation, manuals (including computer retrieval systems), bearings and seals, and special emphasis on preventive/predictive maintenance. Lab hours are required for this course.



COURSE OUTCOMES

1. Relate industrial safety practices to various mechanical jobs.
2. Apply knowledge of basic skills relative to further study in the automotive or diesel programs.
3. Demonstrate a mastery of basic machine, tool, and material processes in the mechanical industries.
4. Apply educational skills of communication, problem solving, and computation as they relate to industry.
5. Be acquainted with industrial work procedures as applied to identified tasks.
6. Use appropriate hand tools, portable power tools, measuring and testing equipment, and power machinery.
7. Access and utilize technical reference manuals, specification charts, trade journals, and computerized repair data.
8. Possess technical skills and knowledge needed for advanced training in the automotive or diesel program.
9. Develop teamwork skills in solving problems using inductive and deductive thought.

Manufacturing

MFG 105 Industrial Safety CIP 15.0703 (3 Credits)

DESCRIPTION

Provides instruction on safety topics and practices specifically related to industrial work environments. Topics include an overview of OSHA/WISHA requirements, personal protective equipment, energy lock-out/tag-out procedures, material handling, electrical safety, machine guarding, hazardous materials, fire prevention, hazard identification and control, and safety inspection.

Supports advanced manufacturing programs, including Advanced Manufacturing Technology, Manufacturing Occupations, Fundamentals of Manufacturing, Process Manufacturing, and Pulp and Paper Technology. Provides more in-depth coverage on industrial safety than HLTH 100. The course is also suitable for customized training for industry. Course satisfies the AAS degree health requirement.

COURSE OUTCOMES

1. Identify the major purpose and focus of the OSHA and WISHA.
2. Identify the major functions of OSHA and Washington Labor and Industries.
3. Identify specific work areas in common industrial environments subject to OSHA/L & I regulations and inspection.
4. Describe various types of personal protective equipment used in industrial environments.
5. Identify common types of hazards found in industrial environments.
6. Identify appropriate control measures for various types of hazards.
7. Describe safe material handling practices.
8. Recognize specific hazards associated with electrical energy.
9. Describe appropriate responses to emergencies involving electrical equipment.
10. Demonstrate appropriate lock-out/tag-out procedures applicable to various types of energy systems.
11. Recognize specific hazards related to mechanical systems and machine tools.
12. Recognize various types of fire hazards and appropriate responses to fire emergencies.



13. Utilize MSDS sheets to identify appropriate controls for chemicals and other hazardous materials.
14. Identify common safety inspection procedures and practices.

MFG 130 Materials Science CIP 14.1801 (5 Credits)

DESCRIPTION

Material Science is a study of the nature, structure, characteristics, and properties of natural and synthetic materials used in contemporary industry. Emphasis will be placed on understanding how the structure and properties of industrial influence the selection of primary materials and their conversion into useful products. Context: This is a survey course intended for students that will work in mechanical and manufacturing areas.

COURSE OUTCOMES

1. Identify the basic structure of matter, and explain how atomic structure affects the properties of materials.
2. List and describe the criteria used for matching materials to product specifications.
3. Classify materials by composition and properties.
4. Compare and contrast the behavior, properties, and characteristics of natural and engineered materials used in contemporary industry and society.
5. Identify common destructive and nondestructive testing methods used in industry to assure appropriate use of material for operational conditions.

MFG 205 Work Teams in Industry CIP 15.0613 (3 Credits)

DESCRIPTION

Explores the interpersonal skills, group roles, team structures, and problem-solving techniques, and work ethics necessary for success in modern industrial organizations. Practical exercises are used to allow students to develop critical skills.

Supports advanced manufacturing programs, including Advanced Manufacturing Technology, Manufacturing Occupations, Fundamentals of Manufacturing, Process Manufacturing, and Pulp and Paper Technology. Enhances skills taught in BUS 144 Human Relations. The course may also be used for customized training specifically on self-managed work teams.

COURSE OUTCOMES

1. Practice interpersonal communication techniques including effective speech, active listening, paraphrasing, and questioning for understanding.
2. Identify various group behaviors and roles.
3. Differentiate between positive, productive group behaviors and roles and negative, unproductive behaviors and roles.
4. Identify characteristics of effective meetings.
5. Identify the difference between structured and unstructured problems.
6. Utilize various group problem-solving techniques to devise solutions to unstructured problems.
7. List team concepts and behaviors for today's work environment.
8. Describe work ethics and common employer expectations in workplaces utilizing self-managed work teams.



Welding

WELD 141: SMAW - Stick Welding with E7018 CIP 48.0508 (Variable Credits)

DESCRIPTION

Presents the fundamentals of stick welding of mild steel with 7018 electrodes, in all welding positions for numerous weld joints. Explains the fundamentals of the carbon arc, oxy-fuel, and plasma arc cutting processes. Explores key welding and fitting techniques through project-based print reading. Covers selected cutting processes and equipment used in the metal trades. This is the first course recommended for students seeking a welding certificate or degree. **This is a variable credit course.**

Credits articulated will be dependent on the number of in class and lab hours required.

COURSE OUTCOMES

1. Apply industry standard safety guidelines.
2. Safely operate equipment and tools used in welding, cutting, and fabricating.
3. Perform entry-level welding competency in SMAW with E7018.
4. Demonstrate cutting competency in CAC-A, OFC-A, and PAC.
5. Perform welding activities following written and verbal instructions.
6. Complete tasks within a given time frame.
7. Understand the effect of attitude and work ethic on job performance.
8. Analyze problems to derive solutions that use appropriate welding techniques.
9. Apply mathematical information to perform welding tasks.

WELD 142: Advanced SMAW - WABO CIP 48.0508 (Variable Credits)

DESCRIPTION

Expands on the fundamentals of stick welding of mild steel with 7018 electrodes. Students work towards a 2-position WABO plate certification weld test on 1" plate. Emphasizes competency in the stick welding process by following blueprints to complete real-world projects. Second course recommended for students seeking a welding degree (not necessary for welding certificate). Prerequisites: WELD 141 or equivalent. **This is a variable credit course. Credits articulated will be dependent on the number of in class and lab hours required.**

COURSE OUTCOMES

1. Apply industry standard safety guidelines.
2. Safely operate equipment and tools used in welding, cutting, and fabricating.
3. Perform entry-level welding proficiency in SMAW with E7018.
4. Prove welding ability by successfully passing a WABO certification test.
5. Demonstrate cutting proficiency in OFC-A and CAC-A.
6. Perform welding activities following written and verbal instructions.
7. Complete tasks within a given time frame.
8. Understand the effect of attitude and work ethic on job performance.
9. Analyze problems to derive solutions that use appropriate welding techniques.
10. Apply mathematical information to perform welding tasks.

WELD 143: SMAW - Stick Welding with E6010 CIP 48.0508 (Variable Credits)



DESCRIPTION

Presents the fundamentals of stick welding of mild steel with 6010 electrodes in all welding positions for numerous weld joints. Explores key welding and fitting techniques through project-based print reading. Covers selected cutting processes and equipment used in the metal trades. Third course recommended for students seeking a welding degree (not necessary for welding certificate). Prerequisites: WELD 142 or equivalent. **This is a variable credit course. Credits articulated will be dependent on the number of in class and lab hours required.**

COURSE OUTCOMES

1. Apply industry standard safety guidelines.
2. Safely operate equipment and tools used in welding, cutting, and fabricating.
3. Perform entry-level welding competency in SMAW with E6010.
4. Demonstrate cutting competency in OFC-A, CAC-A, and PAC.
5. Perform welding activities following written and verbal instructions.
6. Complete tasks within a given time frame.
7. Understand the effect of attitude and work ethic on job performance.
8. Analyze problems to derive solutions that use appropriate welding techniques.
9. Apply mathematical information to perform welding tasks.

WELD 241: FCAW-G-Dual Shield Wire Feed Welding with E71T-1 CIP 48.0508 (Variable Credits)

DESCRIPTION

Presents the fundamentals of wire feed welding of mild steel with E71T-1 dual shield 0.045" electrode wire in all welding positions for numerous weld joints. Explores key welding and fitting techniques through project-based print reading. Covers selected cutting processes and equipment used in the metal trades. Fourth course recommended for students seeking a welding degree OR the second course for welding certificate. **This is a variable credit course. Credits articulated will be dependent on the number of in-class and lab hours required.**

COURSE OUTCOMES

1. Apply industry standard safety guidelines.
2. Safely operate equipment and tools used in welding, cutting, and fabricating.
3. Perform entry-level welding competency in FCAW-G with E71T-1.
4. Demonstrate cutting competency in OFC-A and CAC-A.
5. Perform welding activities following written and verbal instructions.
6. Complete tasks within a given time frame.
7. Understand the effect of attitude and work ethic on job performance.
8. Analyze problems to derive solutions that use appropriate welding techniques.
9. Apply mathematical information to perform welding tasks.
10. Communicate professionally in a group setting.

WELD 242: Advanced FCAW-G-WABO CIP 48.0508 (Variable Credits)

DESCRIPTION

Expands on knowledge and skills of wire feed welding of mild steel with E71T-1 dual shield 0.045" electrode wire in all welding positions for numerous weld joints. Prepares for 2-position WABO plate



certification weld test on 1" plate. Expands on key welding and fitting techniques through project-based print reading. Fifth course recommended for students seeking a welding degree (not necessary for welding certificate). Prerequisites: WELD 241 or equivalent. **This is a variable credit course. Credits articulated will be dependent on the number of class and lab hours required.**

COURSE OUTCOMES

1. Apply industry standard safety guidelines.
2. Safely operate equipment and tools used in welding, cutting, and fabricating.
3. Perform entry-level welding proficiency in FCAW-G with E71T-1.
4. Prove welding ability by successfully passing a WABO certification test.
5. Demonstrate cutting proficiency in OFC-A and CAC-A.
6. Perform welding activities following written and verbal instructions.
7. Complete tasks within a given time frame.
8. Understand the effect of attitude and work ethic on job performance.
9. Analyze problems to derive solutions that use appropriate welding techniques.
10. Apply mathematical information to perform welding tasks.
11. Communicate professionally in a group setting.

WELD 243: GMAW - Solid Wire Feed Welding with ER70S and ER5356 CIP 48.0508 (Variable Credits)

DESCRIPTION

Presents wire feed welding of mild steel with ER70S-6 solid 0.035" electrode wire and ER5356 aluminum in all welding positions for numerous weld joints. Expands on key welding and fitting techniques through project-based print reading. Presents selected cutting processes and equipment used in the metal trades. Sixth course recommended for students seeking a welding degree OR third course for welding certificate. Prerequisites: WELD 242 or equivalent. **This is a variable credit course. Credits articulated will be dependent on the number of class and lab hours required.**

COURSE OUTCOMES

1. Apply industry standard safety guidelines.
2. Safely operate equipment and tools used in welding, cutting, and fabricating.
3. Perform entry-level welding proficiency in GMAW with ER70S-6.
4. Perform entry-level welding proficiency in GMAW aluminum with ER5356.
5. Demonstrate cutting proficiency in OFC-A, CAC-A, and PAC.
6. Perform welding activities following written and verbal instructions.
7. Complete tasks within a given time frame.
8. Understand the effect of attitude and work ethic on job performance.
9. Analyze problems to derive solutions that use appropriate welding techniques.
10. Apply mathematical information to perform welding tasks.
11. Communicate professionally in a group setting.

WELD 255: GTAW-TIG Welding with ER70S-6 and ER5356 CIP 48.0508 (Variable Credits)

DESCRIPTION



Covers the fundamentals of tig welding of mild steel with ER70S-6 and aluminum welding with ER5356, in all welding positions for numerous weld joints. Explores key welding and fitting techniques through project-based print reading. Presents selected cutting processes and equipment used in the metal trades. Seventh and final course for students seeking a welding degree (course not necessary for welding certificate). **This is a variable credit course. Credits articulated will be dependent on the number of in class and lab hours required.**

COURSE OUTCOMES

1. Apply industry standard safety guidelines.
2. Safely operate equipment and tools used in welding, cutting, and fabricating.
3. Perform entry-level welding competency in GTAW with ER70S-6.
4. Perform beginner-level competency in GTAW with ER5356
5. Demonstrate cutting competency in OFC-A, CAC-A, and PAC.
6. Perform welding activities following written and verbal instructions.
7. Complete tasks within a given time frame.
8. Understand the effect of attitude and work ethic on job performance.
9. Analyze problems to derive solutions that use appropriate welding techniques.
10. Apply mathematical information to perform welding tasks.
11. Communicate professionally in a group setting.

SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH (STEM)

MATH

MATH 106: Industrial Mathematics CIP 27.0301 (5 Credits)

DESCRIPTION

Emphasizes basic skills in applied mathematics designed to support students entering the vocational/technical workforce of tomorrow. The focus is real world problem solving and numerical literacy that students carry to their specific careers. Although the use of math in the workplace is primary, emphasis is given to the critical and creative thinking process as students look to strengthen their use of arithmetic concepts, measurements, practical geometry, basic algebra and right-angle trigonometry.

COURSE OUTCOMES

1. Communicate mathematical ideas using appropriate symbols and terminology.
2. Critically read application problems to identify pertinent information necessary to solve application problems.
3. Compare and reduce fractions and mixed numbers, and identify equivalent fractions.
4. Perform the basic arithmetic operations on whole numbers, decimals, and fractions.
5. Round decimals, use and calculate averages, evaluate exponents and square roots, use signed numbers in solving word problems.
6. Convert between percentages, fractions, and decimals, and solve applied problems involving percentages.
7. Apply arithmetic operations to measurement numbers using fractions and decimals to convert units.



8. Demonstrate understanding of accuracy and precision and the use of significant digits.
9. Use metric units for length, area, volume, capacity, mass and temperature.
10. Identify, simplify, and evaluate algebraic expressions. Apply algebraic operations in solving equations, formulas and applications problems.
11. Set up and use proportions (direct and indirect) to solve applied problems.
12. Identify basic plane and solid geometric figures; make use of angle measurement, calculate perimeter and area of various polygons including quadrilaterals, triangles and circles. Become familiar with solid figures and be able to compute surface area and volume of various types of prisms, pyramids, cylinders, cones and spheres using a formula sheet.
13. Be exposed to and demonstrate basic graphical representation and interpretation of data. Read and construct bar, line, and circle graphs, as well as plot and interpret graphs of continuous data from equations or formulas of technical information.
14. Identify and label various triangle types, the Pythagorean Theorem, and trigonometric ratios. Solve for unknown side lengths and unknown angles in right triangles.
15. Use estimation and number sense to assess own calculations and to make predictions of solutions.

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