

CURRICULUM COMMITTEE
February 14, 2014
Minutes

Present: Diane Brice, Susan Burks, Tamara Clunis, Kim Davis, Kristin Edford, Lyndy Forrester, Matthew Goodman, Kim Hays, Alan Kee, Kristin McDonald-Willey, Jerry Moller, Carol Moore, Jason Norman, Richard Pullen, Mark Rowh, Mark Usnick and Kathy Wetzel

Absent: Bob Austin and Delila Paredes

Others Present: Craig Clifton, Judy Isbell, Brian Jacob, Delane McUne

ACADEMIC SUCCESS
Integrated Reading and Writing

Judy Isbell submitted a request to add the following course to the course inventory:

- ENGL 0303: Integrated Reading and Writing
Prerequisite: ENGL 0301 and RDNG 0321 – minimum grade of C or acceptable TSI or Accuplacer Reading and writing scores
Integration of critical reading and academic writing skills. The course fulfills TSI requirements for reading and/or writing.
(3 sem hrs; 3 lec, 1 lab)
Learning Outcomes:
 - Locate explicit textual information, draw complex inferences, describe, analyze, and evaluate the information within and across multiple texts of varying lengths
 - Comprehend and use vocabulary effectively in oral communication, reading, and writing.
 - Identify and analyze the audience, purpose, and message across a variety of texts.
 - Describe and apply insights gained from reading and writing a variety of texts.
 - Compose a variety of texts that demonstrate reading comprehension, clear focus, logical development of ideas, and use of appropriate language that advances the writer's purpose.
 - Determine and use effective approaches and rhetorical strategies for given reading and writing situations.
 - Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
 - Evaluate relevance and quality of ideas and information in recognizing, formulating, and developing a claim.
 - Develop and use effective reading and revision strategies to strengthen the writer's ability to compose college-level writing assignments.
 - Recognize and apply the conventions of standard English in reading and writing.

Goodman moved, seconded by Norman to approve the addition of ENGL 0303 to the course inventory. The motion carried.

BAS Courses

Judy Isbell submitted a request to add the following courses to the course inventory:

- **BASM 0301: Basic Academic Skills**
Basic skills course that develops and reinforces reading, math and writing skills with special emphasis on math to meet TSI requirements.
(3 sem hrs; 2 lec, 2 lab)
Learning Outcomes:
 - Apply the fundamental operations of addition, subtraction, multiplication and division of whole numbers, fractions and decimals.
 - Understand rounding and estimating to improve students' approximation skills in everyday applications.
 - Understand the rules for exponents and order of operations. Students will be able to evaluate mathematical expressions with multiple operations.
 - Develop an understanding in algebraic concepts, such as integers, absolute values, and evaluating and simplifying of algebraic expressions.
 - Understand ratio and proportions, percent with sales tax, simple and compound interest, and other applications.
 - Understand the fundamental concepts of measurements, geometry and statistics.
- **BASM 0303: Basic Academic Skills**
Prerequisite: BASM 0302 or MATH 0302-minimum grade of C or acceptable TSI or Accuplacer math score.
Basic skills course that develops and reinforces reading, math and writing skills with special emphasis on math to meet TSI requirements.
(3 sem hrs; 2 lec, 2 lab)
Learning Outcomes:
 - Develop skills needed to solve linear equations and linear inequalities in two variable equations.
 - Understand graphing of linear equations in two variables using ordered pairs and intercepts and the slope-intercept method.
 - Understand and analyze features of functions.
 - Review and apply the different methods of factoring polynomials.
 - Apply algebraic properties and concepts to evaluate and solve absolute value, polynomial, radical and rational equations.
 - Apply the arithmetic operations of addition, subtraction, multiplication and division to simplify and evaluate radicals.
 - Solve and analyze quadratic equations by using factoring, the square root property, completing the square and the quadratic formula.

- **BASR 0301: Basic Academic Skills**
Basic skills course that develops and reinforces reading, math and writing skills with special emphasis on reading to meet TSI requirements.
(3 sem hrs; 2 lec, 2 lab)
Learning Outcomes:
 - Improve vocabulary through context and word parts.
 - Recognize topic and main idea within passages.
 - Understand the meaning of written material.
- **BASR 0303: Basic Academic Skills**
Prerequisite: BASR 0302 or RDNG 0321-minimum grade of C or acceptable TSI or Accuplacer reading score.
Basic skills course that develops and reinforces reading, math and writing skills with special emphasis on reading to meet TSI requirements.
(3 sem hrs; 2 lec, 2 lab)
Learning Outcomes:
 - Improve vocabulary through context, word parts and sentence structure.
 - Evaluate organization and development of passages based on specific reading skills (topic, stated/implied main ideas and supporting details).
 - Analyze the significance of transitional words/phrases within the context of the passage.
 - Capture the structure and the development of the passage's content through an organized visual.
 - Use critical reasoning skills to enhance comprehension.
- **BASW 0301: Basic Academic Skills**
Basic Skills Course that develops and reinforces reading, math and writing skills with special emphasis on writing to meet TSI requirements.
(3 sem hrs; 2 lec, 2 lab)
Learning Objectives:
 - Understand the writing process of organization and development.
 - Focus on writing well-developed, unified paragraphs using a variety of writing types.
 - Analyze paragraphs for topic sentences, major points and elaboration.
 - Evaluate paragraph's relevance to purpose and audience.
 - Proofread paragraph to reflect the conventions of standard English.

Update the prerequisites for the following courses:

- **BASM 0302: Basic Academic Skills**
Prerequisite: BASM 0301 or MATH 0301-minimum grade of C or acceptable TSI or Accuplacer math score.
- **BASR 0302: Basic Academic Skills**
Prerequisite: BASR 0301 or RDNG 0301-minimum grade of C or acceptable TSI or Accuplacer reading score.
- **BASW 0302: Basic Academic Skills**

Prerequisite: BASW 0301 or ENGL 0301-minimum grade of C or acceptable TSI or Accuplacer reading score.

Wetzel moved, seconded by Edford to approve the additions and updates of the BAS courses..
The motion carried.

NCB Courses

Judy Isbell submitted a request to add the following courses to the course inventory:

- **NCBRW 0302: Non-Course Based Integrated Reading and Writing**
A non-course based option for the integration of critical reading and academic writing skills to meet TSI requirements for reading and /or writing.
(3 sem hrs; 2 lec, 2 lab)
Learning Outcomes:
 - Locate explicit textual information, draw complex inferences, describe, analyze and evaluate the information within and across multiple texts of varying lengths
 - Comprehend and use vocabulary effectively in oral communication, reading and writing.
 - Identify and analyze the audience, purpose and message across a variety of texts.
 - Describe and apply insights gained from reading and writing a variety of texts.
 - Compose a variety of texts that demonstrate reading comprehension, clear focus, logical development of ideas, and use of appropriate language that advances the writer's purpose.
 - Determine and use effective approaches and rhetorical strategies for given reading and writing situations.
 - Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
 - Evaluate relevance and quality of ideas and information in recognizing, formulating and developing a claim.
 - Develop and use effective reading and revision strategies to strengthen the writer's ability to compose college-level writing assignments.
 - Recognize and apply the conventions of standard English in reading and writing.
- **NCBRW 0101: Non-Course Based Integrated Reading and Writing**
A non-course based option for the integration of critical reading and academic writing skills to meet TSI requirements for reading and/or writing.
(1 sem hr; 1 lec)
Learning Outcomes:
 - Locate explicit textual information, draw complex inferences, describe, analyze and evaluate the information within and across multiple texts of varying lengths
 - Comprehend and use vocabulary effectively in oral communication, reading and writing.
 - Identify and analyze the audience, purpose and message across a variety of texts.

- Describe and apply insights gained from reading and writing a variety of texts.
- Compose a variety of texts that demonstrate reading comprehension, clear focus, logical development of ideas, and use of appropriate language that advances the writer's purpose.
- Determine and use effective approaches and rhetorical strategies for given reading and writing situations.
- Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
- Evaluate relevance and quality of ideas and information in recognizing, formulating and developing a claim.
- Develop and use effective reading and revision strategies to strengthen the writer's ability to compose college-level writing assignments.
- Recognize and apply the conventions of standard English in reading and writing.
- **NCBM 0101: Non-Course Based Mathematics**
 A non-course based option to build, develop and reinforce basic math skills to meet TSI requirements.
 (1 sem hr; 1 lec)
 Learning Outcomes:
 - Students will build basic skills in math required for courses within their degree/certificate, and/or to pass entry-level program tests and/or meet TSI requirements. Skills are built through individualized, computer – assisted instruction in conjunction with a wide array of supplemental materials to assist in skill development.
- **NCBR 0101: Non-Course Based Reading**
 A non-course based option to build, develop and reinforce basic reading skills to meet TSI requirements.
 (1 sem hr; 1 lec)
 Learning Outcomes:
 - Students will build basic skills in reading required for courses within their degree/certificate, and/or to pass entry-level program tests and/or meet TSI requirements. Skills are built through individualized, computer- assisted instruction in conjunction with a wide array of supplemental materials to assist in skill development.
- **NCBW 0101: Non-Course Based Writing**
 A non-course based option to build, develop and reinforce basic writing skills to meet TSI requirements.
 (1 sem hr; 1 lec)
 Learning Outcomes:
 - Students will build basic skills in writing required for courses within their degree/certificate and/or to pass entry-level program tests and/or to meet TSI requirements. Skills are built through individualized, computer- assisted instruction in conjunction with a wide array of supplemental materials to assist in skill development.

Delete the following courses from the course inventory:

- NCBIM 0101: Non-Course Based Mathematics
- NCBIR 0101: Non-Course Based Reading
- NCBIW 0101: Non-Course Based Writing

Remove the \$30 fee from the following courses:

- NCBM 0302: Non-Course Based Mathematics
- NCBR 0302: Non-Course Based Reading
- NCBW 0302: Non-course Based Writing

Forrester moved, seconded by Usnick to approve the changes to the non-course based courses. The motion carried.

ARTS & SCIENCES

ACGM Updates

Jerry Moller presented the updates to the ACGM courses approved by the Co Board in October 2013. The updates include:

- ACCT 2301: Principles of Financial Accounting
Prerequisite: Meet TSI college-readiness standard for Mathematics; or equivalent
Recommended co-requisite: MATH 1324 Mathematics for Business & Social Science
This course is an introduction to the fundamental concepts of financial accounting as prescribed by U.S. generally accepted accounting principles (GAAP) as applied to transactions and events that affect business organizations. Students will examine the procedures and systems to accumulate, analyze, measure and record financial transactions. Students will use recorded financial information to prepare a balance sheet, income statement, statement of cash flows and statement of shareholders' equity to communicate the business entity's results of operations and financial position to users of financial information who are external to the company. Students will study the nature of assets, liabilities and owners' equity while learning to use reported financial information for purposes of making decisions about the company. Students will be exposed to International Financial Reporting Standards (IFRS).
Learning Outcomes:
 - Use basic accounting terminology and the assumptions, principles and constraints of the accounting environment.
 - Identify the difference between accrual and cash basis accounting.
 - Analyze and record business events in accordance with U.S. generally accepted accounting principles (GAAP).
 - Prepare adjusting entries and close the general ledger.
 - Prepare financial statements in an appropriate U.S. GAAP format, including the following: income statement, balance sheet, statement of cash flows, and statement of shareholder' equity.
 - Analyze and interpret financial statements using financial analysis techniques.

- Describe the conceptual differences between International Financial Reporting Standards and U.S. generally accepted accounting principles.
- ACCT 2302: Principles of Managerial Accounting
Prerequisite: ACCT 2301
This course is an introduction to the fundamental concepts of managerial accounting appropriate for all organizations. Students will study information from the entity's accounting system relevant to decisions made by internal managers, as distinguished from information relevant to users who are external to the company.
The emphasis is on the identification and assignment of product costs, operational budgeting and planning, cost control and management decision making. Topics include product costing methodologies, cost behavior, operational and capital budgeting, and performance evaluation.
Learning Outcomes:
 - Identify the role and scope of financial and managerial accounting and the use of accounting information in the decision making process of managers.
 - Define operational and capital budgeting, and explain its role in planning, control, and decision making.
 - Prepare an operating budget, identify its major components, and explain the interrelationships among its various components.
 - Explain methods of performance evaluation.
 - Use appropriate financial information to make operational decisions.
 - Demonstrate use of accounting data in the areas of product costing, cost behavior, cost control, and operational and capital budgeting for management decisions.
- ANTH 2302: Introduction to Archeology
The study of the human past through material remains. The course includes a discussion of methods and theories relevant to archeological inquiry. Topics may include the adoption of agriculture, response to environmental change, the emergence of complex societies and ethics in the discipline.
Learning Outcomes:
 - Describe key concepts and theories in archeology.
 - Explain the key techniques and methods used in archeology.
 - Demonstrate an understanding of long-term cultural change from an archeological perspective.
- ANTH 2346: General Anthropology
The study of human beings, their antecedents, related primates, and their cultural behavior and institutions. Introduces the major subfields: physical and cultural anthropology, archeology, linguistics, their applications and ethics in the discipline.
Learning Outcomes:
 - Describe the key concepts and methods of anthropology.
 - Compare and contrast the subfields of anthropology, including but not limited to physical anthropology, cultural anthropology and archeology.
 - Demonstrate an understanding of anthropological approaches to human diversity
- ANTH 2351: Cultural Anthropology

The study of human cultures. Topics may include social organization, institutions, diversity, interactions between human groups, and ethics in the discipline.

Learning Outcomes:

- Describe key concepts and methods of cultural anthropology.
- Explain the concept of culture, cultural diversity and culture change.
- Demonstrate how anthropological concepts apply to addressing human and global challenges

- ARTS 1301: Art Appreciation

A general introduction to the visual arts designed to create an appreciation of the vocabulary, media, techniques and purposes of the creative process. Students will critically interpret and evaluate works of art within formal, cultural and historical contexts.

Learning Outcomes:

- Apply art terminology as it specifically relates to works of art.
- Demonstrate knowledge of art elements and principles of design.
- Differentiate between the processes and materials used in the production of various works of art.
- Critically interpret and evaluate works of art.
- Demonstrate an understanding of the impact of arts on culture.

- ARTS 1303: Art History I (Prehistoric to the 14th century)

A chronological analysis of the historical and cultural contexts of the visual arts from prehistoric times to the 14th century.

Learning Outcomes:

- Identify and describe works of art based on their chronology and style, using standard categories and terminology.
- Investigate major artistic developments and significant works of art from prehistoric times to the 14th century.
- Analyze the relationship of art to history by placing works of art within cultural, historical and chronological contexts.
- Critically interpret and evaluate works of art.

- ARTS 1304: Art History II (14th century to the present)

A chronological analysis of the historical and cultural contexts of the visual arts from the 14th century to the present day.

Learning Outcomes:

- Identify and describe works of art based on their chronology and style, using standard categories and terminology.
- Investigate major artistic developments and significant works of art from the 14th century to the present day.
- Analyze the relationship of art to history by placing works of art within cultural, historical and chronological contexts.
- Critically interpret and evaluate works of art

- ARTS 1311: Design I (2-dimensional)

An introduction to the fundamental terminology, concepts, theory and application of two-dimensional design.

Learning Outcomes:

- Identify and apply the elements of art and principles of two-dimensional design.
- Employ discipline specific vocabulary in the evaluation of two-dimensional design problems.
- Demonstrate creative skill in aesthetic problem solving within assigned parameters.
- Demonstrate an appropriate level of professional practice, including safety, craft and presentation.

- ARTS 1312: Design II (3-dimensional)

An introduction to the fundamental terminology, concepts, theory and application of three-dimensional design.

Learning Outcomes:

- Identify and apply the elements of art and principles of three-dimensional design.
- Employ discipline specific vocabulary in the evaluation of three-dimensional design problems.
- Demonstrate creative skill in aesthetic problem solving within assigned parameters.
- Demonstrate an appropriate level of professional practice, including safety, craft and presentation.

- ARTS 1316: Drawing I

A foundation studio course exploring drawing with emphasis on descriptive, expressive and conceptual approaches. Students will learn to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will engage in critical analysis and begin to develop their understanding of drawing as a discipline.

Learning Outcomes:

- Describe visual subjects through the use of accurate and sensitive observation.
- Generate drawings which demonstrate descriptive, expressive and conceptual approaches.
- Utilize varied materials and techniques with informed aesthetic and conceptual strategies.
- Demonstrate an appropriate level of professional practice, including safety, craft and presentation.
- Analyze and critique drawings verbally and/or in writing.
- Relate drawing to design, art history and contemporary artistic production.

- ARTS 1317: Drawing II

A studio course exploring drawing with continued emphasis on descriptive, expressive and conceptual approaches. Students will further develop the ability to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will employ critical analysis to broaden their understanding of drawing as a discipline.

Learning Outcomes:

- Describe visual subjects through the use of accurate and sensitive observation.
- Generate drawings which demonstrate descriptive, expressive and conceptual approaches with an increased focus on individual expression.

- Utilize varied materials and techniques, including color media, with informed aesthetic and conceptual strategies.
- Demonstrate an appropriate level of professional practice, including safety, craft and presentation.
- Analyze and critique drawings verbally and/or in writing.
- Relate their drawings to historical and contemporary developments in the field.
- **BCIS 1305: Business Computer Applications**
Students will study computer terminology, hardware and software related to the business environment. The focus of this course is on business productivity software applications and professional behavior in computing, including word processing (as needed), spreadsheets, databases, presentation graphics and business-oriented utilization of the Internet.

Learning Outcomes:

- Describe the fundamentals of Information Technology (IT) infrastructure components: hardware, software, and data communications systems.
- Explain the guiding principles of professional behavior in computing.
- Demonstrate proper file management techniques to manipulate electronic files and folders in a local and networked environment.
- Use business productivity software to manipulate data and find solutions to business problems.
- Explain the concepts and terminology used in the operation of application systems in a business environment.
- Identify emerging technologies for use in business applications.
- Complete projects that integrate business software applications.
- **BUSI 1301: Business Principles**
This course provides a survey of economic systems, forms of business ownership, and considerations for running a business. Students will learn various aspects of business, management and leadership functions; organizational considerations; and decision-making processes. Financial topics are introduced, including accounting, money and banking, and securities markets. Also included are discussions of business challenges in the legal and regulatory environment, business ethics, social responsibility and international business. Emphasized is the dynamic role of business in everyday life.

Learning Outcomes:

- Identify major business functions of accounting, finance, information systems, management and marketing.
- Describe the relationships of social responsibility, ethics and law in business.
- Explain forms of ownership, including their advantages and disadvantages.
- Identify and explain the domestic and international considerations for today's business environment: social, economic, legal, ethical, technological, competitive and international.
- Identify and explain the role and effect of government on business.
- Describe the importance and effects of ethical practices in business and be able to analyze business situations to identify ethical dilemmas and ethical lapses.

- Describe basic financial statements and show how they reflect the activity and financial condition of a business.
- Explain the banking and financial systems, including the securities markets, business financing, and basic concepts of accounting.
- Explain integrity, ethics and social responsibility as they relate to leadership and management.
- Explain the nature and functions of management.
- Identify strengths, weaknesses, opportunities and threats of information technology for businesses.

- BUSI 2301: Business Law

The course provides the student with foundational information about the U.S. legal system and dispute resolution, and their impact on business. The major content areas will include general principles of law, the relationship of business and the U.S. Constitution, state and federal legal systems, the relationship between law and ethics, contracts, sales, torts, agency law, intellectual property and business law in the global context.

Learning Outcomes:

- Describe the origins and structure of the U.S. legal system.
 - Describe the relationship of ethics and law in business.
 - Define relevant legal terms in business.
 - Explain basic principles of law that apply to business and business transactions.
 - Describe business law in the global context.
 - Describe current law, rules and regulations related to settling business disputes.
- COSC 1437: Programming Fundamentals II
- Prerequisite: COSC 1436
- This course focuses on the object-oriented programming paradigm, emphasizing the definition and use of classes along with fundamentals of object-oriented design. The course includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering processes. Students will apply techniques for testing and debugging software. (This course is included in the Field of Study Curriculum for Computer Science.)

Learning Outcomes:

- Identify and explain a programming development lifecycle, including planning, analysis, design, development and maintenance.
- Demonstrate a basic understanding of object-oriented programming by using structs and classes in software projects.
- Use object-oriented programming techniques to develop executable programs that include elements such as inheritance and polymorphism.
- Document and format code in a consistent manner.
- Apply basic searching and sorting algorithms in software design.
- Apply single and multi-dimensional arrays in software.
- Use a symbolic debugger to find and fix runtime and logical errors in software.
- Demonstrate a basic understanding of programming methodologies, including object-oriented, structured and procedural programming.

- Describe the phases of program translation from source code to executable code.
- COSC 2425: Computer Organization

Prerequisite: COSC 1436

The organization of computer systems is introduced using assembly language. Topics include basic concepts of computer architecture and organization, memory hierarchy, data types, computer arithmetic, control structures, interrupt handling, instruction sets, performance metrics, and the mechanics of testing and debugging computer systems. Embedded systems and device interfacing are introduced.

Learning Outcomes:

 - Explain contemporary computer system organization.
 - Describe data representation in digital computers.
 - Explain the concepts of memory hierarchy, interrupt processing and input/output mechanisms.
 - Measure the performance of a computer system.
 - Design and develop assembly language applications.
 - Explain the interfaces between software and hardware components.
 - Explain the design of instruction set architectures.
 - Develop a single-cycle processor.
 - Explain the concept of virtual memory and how it is realized in hardware and software.
 - Explain the concepts of operating system virtualization.
- CRIJ 1301: Introduction to Criminal Justice

This course provides a historical and philosophical overview of the American criminal justice system, including the nature, extent and impact of crime; criminal law; and justice agencies and processes.

Learning Outcomes:

 - Describe the history and philosophy of the American criminal justice system.
 - Explain the nature and extent of crime in America.
 - Analyze the impact and consequences of crime.
 - Evaluate the development, concepts and functions of law in the criminal justice system.
 - Describe the structure of contemporary federal, state and local justice agencies and processes.
- CRIJ 1306: Court Systems & Practices

This course is a study of the court system as it applies to the structures, procedures, practices and sources of law in American courts, using federal and Texas statutes and case law.

Learning Outcomes:

 - Describe the American judicial systems (civil, criminal and juvenile), their jurisdiction, development and structure.
 - Analyze the function and dynamics of the courtroom work group.
 - Identify judicial processes from pretrial to appeal.

- Describe the significant Constitutional Amendments, doctrines and other sources of law in the American judicial system.
- **CRIJ 1310: Fundamentals of Criminal Law**
 This course is the study of criminal law including application of definitions, statutory elements, defenses and penalties using Texas statutes, the Model Penal Code and case law. The course also analyzes the philosophical and historical development of criminal law and criminal culpability.
 Learning Outcomes:
 - Identify the elements of crimes and defenses under Texas statutes, Model Penal Code and case law.
 - Classify offenses and articulate penalties for various crimes.
 - Compare culpable mental states when assigning criminal responsibility.
 - Assess the impact of history and philosophy on current criminal laws.
 - Evaluate the application of criminal law to other areas of criminal justice such as law enforcement and corrections.
- **CRIJ 2313: Correctional Systems & Practices**
 This course is a survey of institutional and non-institutional corrections. Emphasis will be placed on the organization and operation of correctional systems; treatment and rehabilitation; populations served; Constitutional issues; and current and future issues.
 Learning Outcomes:
 - Describe the organization and operation of correctional systems and alternatives to institutionalization.
 - Describe treatment and rehabilitative programs.
 - Differentiate between the short-term incarceration and long-term institutional environments.
 - Evaluate current and future correctional issues.
 - Identify the Constitutional rights applicable to the correctional setting.
- **CRIJ 2328: Police Systems & Practices**
 This course examines the establishment, role and function of police in a democratic society. It will focus on types of police agencies and their organizational structure, police-community interaction, police ethics and use of authority.
 Learning Outcomes:
 - Describe the types of police agencies and explain the role of police in America within the context of a democratic society.
 - Describe means and methods utilized to ensure police accountability.
 - Explain the historical development of policing.
 - Describe the selection process for police officers.
 - Compare and contrast organizational structures, policies, strategies and tactics employed to ensure police effectiveness, efficiency and equity.
- **DRAM 1310: Introduction to Theater**
 Survey of theater including its history, dramatic works, stage techniques, production procedures and relation to other art forms. Participation in productions may be required.
 Learning Outcomes:
 - Analyze theater through written responses to play texts and/or live performance.

- Demonstrate a basic knowledge of theater history and dramatic works.
 - Describe the collaborative nature of theater arts.
 - Demonstrate the relationship of the arts to everyday life as well as broader historical and social contexts.
- **DRAM 1330: Stagecraft I**
 Study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound and theatrical management.
 Learning Outcomes:
 - Apply a vocabulary and knowledge of the environment, tools and skills required to mount a theatrical production.
 - Demonstrate knowledge of the variety of work required to mount a theatrical production.
 - Describe the collaborative nature of production within theatre arts.
- **DRAM 2331: Stagecraft II**
 Continued study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound and theatrical management.
 Learning Outcomes:
 - Apply an expanded vocabulary and knowledge of the environment, tools and skills required to mount a theatrical production.
 - Demonstrate increased knowledge of the variety of work required to mount a theatrical production.
 - Describe in depth the collaborative nature of production within theatre arts.
- **DRAM 1351: Acting I**
 An introduction to the fundamental principles and tools of acting as used in auditions, rehearsals and performances. This may include ensemble performing, character and script analysis, and basic theater terminology. This exploration will emphasize the development of the actor's instrument: voice, body and imagination.
 Learning Outcomes:
 - Analyze scripts from the viewpoint of the actor.
 - Analyze, develop and perform a character.
 - Demonstrate effective and safe use of the voice and body.
 - Define and discuss terms and concepts using the vocabulary of theater.
 - Perform at an appropriately skilled level in ensemble building exercises, scenes and final projects, which may include participation in plays.
- **DRAM 1352: Acting II**
 Exploration and further training within the basic principles and tools of acting, including an emphasis on critical analysis of oneself and others. The tools include ensemble performing, character and script analysis, and basic theater terminology. This will continue the exploration of the development of the actor's instrument: voice, body and imagination.
 Learning Outcomes:
 - Analyze scripts more in depth from the viewpoint of the actor.

- Analyze, develop and perform more complex characters.
 - Demonstrate effective and safe use of the voice and body.
 - Define and discuss terms and concepts using an expanded vocabulary of theater.
 - Perform at an increasingly skilled level in ensemble building exercises, scenes and final projects, which may include participation in plays.
 - Analyze and critique personal and peer performances.
- DRAM 2361: History of the Theater I
Study of the history of the theater from primitive times through the Renaissance.
Learning Outcomes:
 - Analyze the history of theater through written responses to historic texts, artifacts and performance practices.
 - Identify essential terminology related to the history of theater.
 - Evaluate current productions of historical plays through an understanding of their original production conditions.
 - Evaluate the interaction between theater and society.
- DRAM 2362: History of the Theater II
Study of the history of the theater from the Renaissance through today.
Learning Outcomes:
 - Analyze the history of theater through written responses to historic texts, artifacts and performance practices.
 - Identify essential terminology related to the history of theater.
 - Evaluate current productions of historical plays through an understanding of their original production conditions.
 - Evaluate the interaction between theater and society.
- DRAM 2366: Introduction to Cinema
Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures, and cinema's impact on and reflection of society. (Cross- listed as COMM 2366)
Learning Outcomes:
 - Analyze film through written response.
 - Demonstrate a basic knowledge of film history, form and genre.
 - Describe the collaborative nature of cinema and the many jobs required to develop a motion picture.
 - Discuss/Describe the relationship of cinema to society as it relates to his/her perspective.
- DRAM 1120: Theater Practicum I
Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.
Learning Outcomes:
 - Use collaboration in the creation of theatrical productions.
 - Demonstrate the practical application of appropriately leveled theatrical skills and procedures.
 - Apply critical thinking skills required for the creation of a theatrical production.

- DRAM 1121: Theater Practicum II

Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.

Learning Outcomes:

- Use collaboration in the creation of theatrical productions.
- Demonstrate the practical application of appropriately leveled theatrical skills and procedures.
- Apply critical thinking skills required for the creation of a theatrical production.

- DRAM 2120: Theater Practicum III

Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.

Learning Outcomes:

- Use collaboration in the creation of theatrical productions.
- Demonstrate the practical application of appropriately leveled theatrical skills and procedures.
- Apply critical thinking skills required for the creation of a theatrical production.

- DRAM 2121: Theater Practicum IV

Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.

Learning Outcomes:

- Use collaboration in the creation of theatrical productions.
- Demonstrate the practical application of appropriately leveled theatrical skills and procedures.
- Apply critical thinking skills required for the creation of a theatrical production.

- GEOL 1303: Physical Geology (lecture)

Introduction to the study of the materials and processes that have modified and shaped the surface and interior of Earth over time. These processes are described by theories based on experimental data and geologic data gathered from field observations.

Recommended Co-requisite: GEOL 1103

Learning Outcomes:

- Describe how the scientific method has led to our current understanding of Earth's structure and processes.
- Interpret the origin and distribution of minerals, rocks and geologic resources.
- Describe the theory of plate tectonics and its relationship to the formation and distribution of Earth's crustal features.
- Quantify the rates of physical and chemical processes acting on Earth and how these processes fit into the context of geologic time.
- Communicate how surface processes are driven by interactions among Earth's systems (e.g., the geosphere, hydrosphere, biosphere and atmosphere).
- Identify and describe the internal structure and dynamics of Earth.
- Describe the interaction of humans with Earth (e.g., resource development or hazard assessment).

- GEOL 1103: Physical Geology (lab)

This laboratory-based course accompanies GEOL 1303, Physical Geology. Laboratory activities will cover methods used to collect and analyze earth science data.

Pre/Co-requisite: GEOL 1303

Learning Outcomes:

- Classify rocks and minerals based on chemical composition, physical properties and origin.
- Apply knowledge of topographic maps to quantify geometrical aspects of topography.
- Identify landforms on maps, diagrams and/or photographs and explain the processes that created them.
- Differentiate the types of plate boundaries and their associated features on maps and profiles and explain the processes that occur at each type of boundary.
- Identify basic structural features on maps, block diagrams and cross sections and infer how they were created.
- Demonstrate the collection, analysis and reporting of data.

- GEOL 1304: Historical Geology (lecture)

A comprehensive survey of the history of life and major events in the physical development of Earth as interpreted from rocks and fossils.

Prerequisites: GEOL 1303

Recommended Co-requisite: GEOL 1104

Learning Outcomes:

- Describe how the application of the scientific method has led to our current understanding of Earth history.
 - Explain the historical development of Geology as a science and how it was influenced by early interpretations of fossils and the theory of evolution.
 - Communicate how principles of relative and numerical age dating have been used to develop the Geologic Time Scale.
 - Describe the processes involved in the formation and differentiation of the Earth and identify major milestones in the physical evolution of the planet.
 - Identify the major milestones in the evolution of life from its initial inorganic stages, through development of the major animal and plant groups, to mass extinctions.
 - Explain how rocks and fossils are used to interpret ancient environments.
 - Identify the major tectonic events in the geologic evolution of North America.
- GEOL 1104: Historical Geology (lab)

This laboratory-based course accompanies GEOL 1304, Historical Geology. Laboratory activities will introduce methods used by scientists to interpret the history of life and major events in the physical development of Earth from rocks and fossils.

Pre/Co-requisite: GEOL 1304

Learning Outcomes:

- Classify and interpret depositional environments using sedimentary rocks and fossils.
- Taxonomically classify samples of geologically important fossil groups and use them to interpret the age of rocks on the Geologic Time Scale.

- Apply relative and numerical age-dating techniques to construct geologic histories including the correlation of stratigraphic sections.
 - Reconstruct past continental configurations.
 - Integrate multiple types of data to interpret Earth history.
- HUMA 1301: Introduction to the Humanities I

This stand-alone course is an interdisciplinary survey of cultures focusing on the philosophical and aesthetic factors in human values with an emphasis on the historical development of the individual and society and the need to create.

Learning Outcomes:

 - Demonstrate awareness of the scope and variety of works in the arts and humanities.
 - Articulate how these works express the values of the individual and society within an historical and social context.
 - Articulate an informed personal response and critically analyze works in the arts and humanities.
 - Demonstrate knowledge and understanding of the influence of literature, philosophy and the arts on cultural experiences.
 - Demonstrate an awareness of the creative process and why humans create.
- HUMA 1302: Introduction to the Humanities II

This stand-alone course is an interdisciplinary survey of cultures focusing on the philosophical and aesthetic factors in human values with an emphasis on the historical development of the individual and society and the need to create.

Learning Outcomes:

 - Demonstrate awareness of the scope and variety of works in the arts and humanities.
 - Articulate how these works express the values of the individual and society within an historical and social context.
 - Articulate an informed personal response and critically analyze works in the arts and humanities.
 - Demonstrate knowledge and understanding of the influence of literature, philosophy and the arts on cultural experiences.
 - Demonstrate an awareness of the creative process and why humans create.
- HUMA 1315: Fine Arts Appreciation

This course is an exploration of the purposes and processes in the visual and performing arts (such as music, painting, architecture, drama and dance) and the ways in which they express the values of cultures and human experience.

Learning Outcomes:

 - Employ formal elements and principles to critically analyze various works of the visual and performing arts.
 - Articulate the creative process of artistic works as expressions of human experience and cultural values.
 - Demonstrate an understanding of the aesthetic principles that guide the creation of, and response to, the arts.
 - Describe the relationship of the arts to everyday life.

- HUMA 2323: World Cultures

This course is a general study of diverse world cultures. Topics include cultural practices, social structures, religions, arts and languages.

Learning Outcomes:

- Demonstrate knowledge of common terms and concepts associated with the study of world cultures.
- Articulate an informed personal response and critically analyze works in the arts and humanities from various world cultures.
- Demonstrate awareness of multiple cultural perspectives by comparing and contrasting the cultural expressions of diverse world communities.
- Analyze various cultures to navigate diverse cultural spaces and recognize different world views.
- Demonstrate an understanding of geography and the location of different cultural groups in the world.
- MATH 1324: Mathematics for Business & Social Sciences (title change)
- MATH 1325: Calculus for Business & Social Sciences (title change)

Burks moved, seconded by Kee to approve the updates to the ACGM courses. The motion carried.

Art

Victoria Taylor-Gore submitted a request to make the following changes to the Art (ARTS.AS) degree:

- Require ARTS 1303: Art History I to fulfill the Creative Arts core requirement
- Delete the following courses from the Major Course Requirements:
 - ARTS 2316: Painting I
 - ARTS 2323: Life Drawing I
- Update the Major Course Options as follows:
 - Replace ARTS 2317: Painting II with ARTS 2316: Painting I
 - Replace ARTS 2346: Ceramics I with ARTS 2323: Life Drawing I
- Reduce the total from 66 to 62 semester hours

Hays moved, seconded by Wetzel to approve the updates to the ARTS.AS degree. The motion carried.

Biotechnology

Kathy Wetzel submitted a request to delete the following courses from the course inventory:

- BIOL 1414: Introduction to Biotechnology I
- BIOL 1415: Biotechnology II

Norman moved, seconded by Goodman to approve the deactivation of BIOL 1414 and 1415. The motion carried.

Engineering

Kathy Wetzel submitted a request to change the prerequisite for the following course:

- ENGR 1371: Introduction to Engineering
Prerequisite: MATH 1414, minimum grade of C

Kee moved, seconded by Usnick to approve the update to ENGR 1371. The motion carried.

Photography

Victoria Taylor-Gore submitted a request to specify the following course to meet the Creative Arts requirements in the PHTC.AS degree:

- ARTS 1311: Design I

Clunis moved, seconded by Davis to approve the changes to the PHTC.AS degree. The motion carried.

Sports & Exercise Science

Craig Clifton submitted a request to update the course description for the following course:

- PHED 1301: Introduction to Physical Fitness and Sport
Orientation to the field of physical fitness and sport. Includes the study and practice of activities and principles that promote physical fitness. A variety of fitness and sports activities are available; the student will select based on individual interest. Online material offers an orientation to the field of physical fitness and sport. Carter Fitness Center membership is included with the class.

And a request to increase the Carter Fitness Center fee from \$15 to \$30 for courses offered in the Carter Fitness Center.

Forrester moved, seconded by Edford to approve changes to the Sports & Exercise Science course and fees. The motion carried.

HEALTH SCIENCES **Mortuary Science**

Scott Rankin submitted a request to update the course description for the following course:

- MRTS 2447: Technical Procedures II
A continuation of Technical Procedures I. Introduction of additional topics on treatment planning and application. If this course is offered online, it is an enhanced online course that requires students to come to Amarillo at the end of the semester for an on-site lab. Students should be prepared to be in lab at their expense, M-F 8am to 5 pm one week prior to final examinations, no exceptions will be made to the required lab.

Norman moved, seconded by Goodman to approve the update to MRTS 2447. The motion carried.

Surgical Technology

Lisa Holdaway submitted a request to make the following changes to the Surgical Technology AAS (SRGT.AAS) degree:

- Delete HECO 1322: Principles of Nutrition
- Add PHED 1101: Lifetime Fitness or any 1 hour PHED course
- Reduce the total from 62 to 60 semester hours

Pullen moved, seconded by Forrester to approve the changes to the SRGT.AAS degree. The motion carried.

TECHNICAL EDUCATION

Consumable Fees

Lyndy Forrester submitted a request to delete consumable fees from the following courses in the technical programs on the East Campus:

- Automotive Technology – delete the GENOT \$60.00 fee from the following courses:
 - AUMT 1307: Automotive Electrical Systems
 - AUMT 1310: Automotive Brake Systems
 - AUMT 1316: Automotive Suspension and Steering Systems
 - AUMT 1319: Automotive Engine Repair
 - AUMT 1345: Automotive Climate Control Systems
 - AUMT 2313: Automotive Drive Train and Axles
 - AUMT 2317: Automotive Engine Performance Analysis I
 - AUMT 2325: Automotive Automatic Transmission and Transaxle
 - AUMT 2334: Automotive Engine performance Analysis II
- Aviation Maintenance Technology
 - AERM 1205: Weight and Balance - \$10 GENOT
 - AERM 1208: Federal Aviation Regulations - \$5 GENOT
 - AERM 1210: Ground Operations - \$15 GENOT
 - AERM 1240: Aircraft Propellers - \$5 GENOT
 - AERM 1241: Wood, Fabric and Finishes - \$5 GENOT
 - AERM 1243: Instruments and Navigation/Communication - \$5 GENOT
 - AERM 1247: Airframe Auxiliary Systems - \$5 GENOT
 - AERM 1253: Aircraft Welding - \$30 GENOT
 - AERM 1300: Aircraft Structural Manufacturing - \$10 GENOT
 - AERM 1303: Shop Practices – Aerospace Manufacturing - \$15 GENOT
 - AERM 1314: Basic Electricity - \$10 GENOT
 - AERM 1315: Aviation Science - \$5 GENOT
 - AERM 1344: Aircraft Reciprocating Engines - \$15 GENOT
 - AERM 1345: Airframe Electrical Systems - \$5 GENOT

- AERM 1349: Hydraulic, Pneumatic and Fuel Systems - \$10 GENOT
- AERM 1350: Landing Gear Systems - \$10 GENOT
- AERM 1354: Aircraft Composites - \$40 GENOT
- AERM 1372: Aircraft Sheet Metal - \$30 GENOT
- AERM 1373: Shop Practices - \$15 GENOT
- AERM 1391: Special Topics – Fasteners - \$30 GENOT
- AERM 1452: Aircraft Sheet Metal - \$30 GENOT
- AERM 1456: Aircraft Power Plant Electrical - \$10 GENOT
- AERM 2231: Airframe Inspection - \$5 GENOT
- AERM 2233: Assembly and Rigging - \$10 GENOT
- AERM 2341: Powerplant and Auxiliary Power Units - \$10 GENOT
- AERM 2351: Aircraft Turbine Engine Overhaul - \$20 GENOT
- AERM 2352: Aircraft Powerplant Inspection - \$20 GENOT
- AERM 2359: Advanced Composite Repair - \$40 GENOT
- AERM 2447: Aircraft Reciprocating Engine Overhaul - \$20 GENOT
- AIRP 2333: Aircraft Systems - \$10 GENOT
- AVNC 1343: Aircraft Electrical/Electronic Systems Installation - \$20 GENOT
- AVNC 2308: Aircraft Electrical/Electronic Systems Installation II - \$20 GENOT
- Diesel Mechanics Technology – delete the GENOT \$60.00 fee from the following courses:
 - DEMR 1321: Power Train I
 - DEMR 1329: Preventative Maintenance
 - DEMR 1323: (HVAC) Troubleshooting/Repair
 - DEMR 1406: Diesel Engine I
 - DEMR 1421: Power Train I
 - DEMR 1442: Power Train Applications I
 - DEMR 1449: Diesel Engine II
 - DEMR 2334: Advanced Diesel Tune-Up
 - DEMR 2432: Electronic Controls
- Industrial Maintenance Technology – delete the GENOT \$60.00 fee from the following courses:
 - ELMT 1305: Basic Fluid Power
 - ELMT 2341: Electromechanical Systems
 - ELPT 1311: Basic Electrical Theory
 - ELPT 2323: Transformers
 - HART 1307: Refrigeration Principles
 - HART 1345: Gas and Electric heating
 - HART 2336: Air Conditioning Trouble Shooting
 - HART 2342: Commercial Refrigeration
 - HART 2345: Residential Air Conditioning System Design
 - IEIR 1306: Electric Motors
 - IEIR 1310: Motor Controls
 - IEIR 1312: Distribution Systems
 - IEIR 1343: Industrial Equipment Maintenance

- Machining Technology - delete the GENOT \$60.00 fee from the following courses:
 - INMT 1305: Introduction to Industrial Maintenance
 - INMT 1345: Computer Numerical Controls
 - INMT 1375: Maintenance Shop Practices
 - INMT 2301: Machinery Installation
 - INMT 2303: Pumps, Compressors & Mechanical Drives
 - MCHN 1354: Intermediate Machining II
 - MCHN 2303: Fundamentals of Computer Numerical Controlled (CNC) Machine Controls
 - MCHN 2307: Millwright IV
 - MCHN 2312: Millwright V
 - MCHN 2341: Advanced Machining I
- Welding Technology - delete the GENOT \$60.00 fee from the following courses:
 - WLDG 1175: Metallurgy Lab (\$30 GENOT)
 - WLDG 1307: Introduction to Welding Using Multiple Processes
 - WLDG 1337: Introduction to Welding Metallurgy
 - WLDG 1371: Welding Fundamentals
 - WLDG 1372: Layout and Fabrication I
 - WLDG 1373: Thermal Cutting I
 - WLDG 1374: Thermal Cutting II
 - WLDG 1375: Shielded Metal Arc Welding I
 - WLDG 1376: Shielded Metal Arc Welding II
 - WLDG 1377: Gas Metal Arc Welding I
 - WLDG 1378: Gas Tungsten Arc Welding
 - WLDG 1391: Special Topics in Welding
 - WLDG 2373: Flux Cored Arc Welding I
 - WLDG 2374: Flux Cored Arc Welding II
 - WLDG 2377: Gas metal Arc Welding II
 - WLDG 2378: Gas Tungsten Arc Welding II
 - WLDG 2379: Shielded Metal Arc Welding III

Lyndy Forrester submitted a request to reduce consumable fees for the following courses in the technical programs on the East Campus:

- Automotive Collision Technology – reduce GENOT fee from \$60 to \$35
 - ABDR 1315: Vehicle Trim and Hardware
 - ABDR 1327: Suspension Systems
 - ABDR 1349: Automotive Plastic and Sheet Molded Compound Repair
 - ABDR 1431: Basic Refinishing
 - ABDR 1441: Structural Analysis and Damage Repair I
 - ABDR 1442: Structural Analysis and Damage Repair II
 - ABDR 1455: Non-Structural Metal Repair
 - ABDR 2402: Autobody mechanical and Electrical Service
 - ABDR 2441: Major Collision Repair and panel Replacement

- ABDR 2449: Advanced Refinish I
- Fire Protection Technology – reduce GENOT fee from \$30 to \$20
 - FIRS 1301: Firefighter Certification I
 - FIRS 1319: Firefighter Certification IV
 - FIRS 1323: Firefighter Certification V
 - FIRS 1329: Firefighter Certification VI
 - FIRS 1407: Firefighter Certification II
 - FIRS 1413: Firefighter Certification III
 - FIRS 1433: Firefighter Certification VII (reduce from \$130 to \$110)
 - FIRS 1543: Aircraft Rescue and Firefighting (reduce from \$140 to \$120)

Clunis moved, seconded by Davis to approve the changes to the consumable fees in the East Campus technical courses. The motion carried.

Automotive Collision Technology

Brian Jacob submitted a request to delete the following courses from the course inventory:

- AUMT 1307: Automotive Electrical Systems
- AUMT 1357: Automotive Brake Systems Theory
- AUMT 2437: Automotive Electronics
- DEMR 1301: Shop Safety and Procedures
- DEMR 1323: (HVAC) Troubleshooting and Repair
- DEMR 1421: Power Train I
- DEMR 1442: Power Train Applications I
- DEMR 1449: Diesel Engine II
- DEMR 2334: Advanced Diesel Tune Up and Troubleshooting
- DEMR 2348: Failure Analysis

Add the following courses to the course inventory:

- AUMT 1305: Introduction to Automotive Technology
 An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, professional responsibilities and basic automotive maintenance. May be taught manufacturer specific. (3 sem hrs; 2 lec, 2 lab)
 Learning Outcomes:
 - Utilize appropriate safety procedures
 - Describe historical development and career information of the automotive industry
 - Demonstrate safe, professional and responsible work practices
 - Demonstrate the proper use of shop equipment and tools
 - Describe the eight Automotive Service Excellence (ASE) vehicle subsystems
 - Use service information
 - Perform basic automotive maintenance

- AUMT 2328: Automotive Service
Mastery of automotive service including competencies covered in related courses. May be taught manufacturer specific.
(3 sem hrs; 2 lec, 3 lab)
Learning outcomes:
 - Service, diagnose and repair vehicle systems and maintain shop facilities and equipment.
- AUMT 2337: Automotive Electronics
Study of electronic principles applied to microcomputers and communication systems. Includes digital fundamentals and use of electronic test equipment. May be taught manufacturer specific.
(3 sem hrs; 2 lec, 3 lab)
Learning outcomes:
 - Employ proper safety procedures
 - Use scan tools, digital storage oscilloscopes and other electronic test equipment
 - Apply electronic principles to the diagnosis of microcomputers, analysis of communication circuits and interpretation of sensor data.

Add prerequisites to the following courses:

- AUMT 1310: Automotive Brake Systems
Prerequisite: AUMT 1305
- AUMT 1319: Automotive Engine Repair
Prerequisite: MCHN 1343
- DEMR 1321: Power Train I
Prerequisite: AUMT 1305
- DEMR 1347: Power Train II
Prerequisite: AUMT 1305
- DEMR 1406: Diesel Engine I
Prerequisite: AUMT 1305
- DEMR 2331: Advanced Brake Systems
Prerequisite: AUMT 1305
- DEMR 2346: Advanced Heating, Ventilation & Air Conditioning
Prerequisite: AUMT 1305
- DEMR 2412: Diesel Engine Testing & Repair II
Prerequisite: AUMT 1305
- DEMR 2432: Electronic Controls
Prerequisite: ELPT 1311

Update prerequisites for the following courses:

- AUMT 1316: Automotive Suspension and Steering Systems
Prerequisite: ~~ABDR 1327~~ AUMT 1305
- AUMT 1345: Automotive Climate Control Systems

Prerequisite: ~~DEMR 1323~~ AUMT 1305

- AUMT 2313: Automotive Drive Train and Axles
Prerequisite: ~~AUMT 2309~~ AUMT 1305
- AUMT 2317: Automotive Engine Performance Analysis I
Prerequisite: ~~AUMT 2315~~ AUMT 1305
- AUMT 2325: Automotive Automatic Transmission and Transaxle
Prerequisite: ~~AUMT 2323~~ AUMT 1305

Moller moved, seconded by Usnick to approve the changes in the AUMT courses. The motion carried.

Brian Jacob submitted a request to add the following Automotive Collision Technology Basic Certificate (ABDR.MKT.CERT) to the inventory:

Major Requirements (12 Semester Hours)

- ABDR 1431: Basic Refinishing
- ABDR 1455: Non-Structural Metal Repair
- ABDR 2449: Advanced Refinish I

Add the following Automotive Collision Technology Intermediate Certificate (ABDR.CERT) to the inventory:

Major Requirements (26 Semester Hours)

- ABDR 1315: Vehicle Trim and Hardware
- ABDR 1349: Automotive Plastic and Sheet Molded Compound Repair
- ABDR 1431: Basic Refinishing
- ABDR 1441: Structural Analysis and Damage Repair I
- ABDR 1442: Structural Analysis and Damage Repair II
- ABDR 1455: Non-Structural Metal Repair
- ABDR 2449: Advanced Refinish I

And make the following changes to the Automotive Collision Technology Certificate (ABDR.CERT.ABRT):

- Change title to Automotive Collision Technology Advanced Certificate
- Add a 12 semester hour Technical Core that includes:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Delete the following courses:
 - ABDR 1327: Suspension Systems
 - ABDR 2402: Autobody Mechanical and Electrical Service
 - ABDR 2441: Major Collision Repair and Panel Replacement
- Increase total from 37 to 38 semester hours

Goodman moved, seconded by Clunis to approve the changes to Automotive Collision Technology program. The motion carried.

Automotive Technology

Brian Jacob submitted a request to make the following changes to the Automotive Technology – Chassis and Body Certificate (AUMT.CERT.CHSS):

- Change title to Automotive Technology – Basic Automotive Certificate
- Update program description to read:
 - Prepares the student for a basic entry-level technician. The Technical Core must be completed prior to other classes.
- Replace the Transportation Core with the Technical Core to include:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Increase Major Requirements from 13 to 18 semester hours to include:
 - Deletion of AUMT 1357: Automotive Brake Systems Theory
 - Deletion of AUMT 2437: Automotive Electronics
 - Addition of AUMT 1305: Introduction to Automotive Technology
 - Addition of AUMT 1310: Automotive Brake Systems
 - Addition of AUMT 2317: Automotive Engine Performance Analysis I
 - Addition of AUMT 2337: Automotive Electronics
- Increase total from 28 to 30 semester hours

Brian Jacob submitted a request to make the following changes to the Automotive Technology – Power Train Certificate (AUMT.CERT.PTRN):

- Change title to Automotive Technology – Advanced Automotive Certificate
- Update program description to read:
 - Prepares the student for an advanced entry-level technician. The Technical Core must be completed prior to other classes.
- Replace the Transportation Core with the Technical Core to include:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Increase Major Requirements from 27 to 33 semester hours to include:
 - Deletion of AUMT 2305: Automotive Engine Theory
 - Deletion of AUMT 2309: Automotive Drive Train and Axle Theory
 - Deletion of AUMT 2315: Automotive Engine Performance Analysis Theory I

- Deletion of AUMT 2323: Automotive Automatic Transmission and Transaxle Theory
- Addition of AUMT 1305: Introduction to Automotive Technology
- Addition of AUMT 1310: Automotive Brake Systems
- Addition of AUMT 1316: Automotive Suspension and Steering Systems
- Addition of AUMT 1345: Automotive Climate Control Systems
- Addition of AUMT 2328: Automotive Service
- Addition of AUMT 2337: Automotive Electronics
- Increase total from 42 to 45 semester hours

Brian Jacob submitted a request to make the following changes to the Automotive Technology AAS (AUMT.AAS):

- Add the following statement to the program description:
 - The Technical Core must be completed prior to other classes.
- Replace the Transportation Core with the Technical Core to include:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Reduce Major Requirements from 40 to 33 semester hours to include:
 - Deletion of AUMT 1357: Automotive Brake Systems Theory
 - Deletion of AUMT 2305: Automotive Engine Theory
 - Deletion of AUMT 2309: Automotive Drive Train and Axle Theory
 - Deletion of AUMT 2437: Automotive Electronics
 - Deletion of AUMT 2315: Automotive Engine Performance Analysis Theory I
 - Deletion of AUMT 2323: Automotive Automatic Transmission and Transaxle Theory
 - Addition of AUMT 1305: Introduction to Automotive Technology
 - Addition of AUMT 1310: Automotive Brake Systems
 - Addition of AUMT 2328: Automotive Service
 - Addition of AUMT 2337: Automotive Electronics
- Reduce total from 70 to 60 semester hours

Davis moved, seconded by Edford to approve the changes to the AUMT.CERT.CHSS, AUMT.CERT.PTRN and AUMT.AAS degrees. The motion carried.

Diesel Technology

Brian Jacob submitted a request to make the following changes to the Diesel Mechanics Technology – Diesel Technician Certificate (DEMR.CERT.DT):

- Change the title to Diesel Technology – Advanced Mechanics Certificate
- Update the program description to read:

- The program gives the student a broad knowledge base of all aspects of Diesel Technology. Students enter the industry prepared to work in a shop environment in a variety of specialties. The Technical Core must be completed prior to other classes.
- Replace the Transportation Core with the Technical Core including:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Increase the Major Requirements to 30 hours with the additional course:
 - AUMT 1305: Introduction to Automotive Technology

And a request to add the following Diesel Technology – Basic Mechanics Certificate (DEMR.CERT) to the program inventory:

The program prepares the student for a basic entry-level technician. The Technical Core must be completed prior to other classes.

Technical Core Requirements (12 semester hours)

- ELPT 1311: Basic Electrical Theory
- ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
- INMT 1305: Introduction to Industrial Maintenance
- MCHN 1343: Machine Shop Mathematics

Major Requirements (17 semester hours)

- AUMT 1305: Introduction to Automotive Technology
- DEMR 1406: Diesel Engine I
- DEMR 2412: Diesel Engine Testing & Repair II
- DEMR 1329: Preventative Maintenance
- DEMR 2346: Advanced heating, Ventilation & Air Conditioning (HVAC)

Total (29 semester hours)

Norman moved, seconded by Clunis to approve the changes to the DEMR.CERT.DT certificate and the addition of the DEMR.CERT certificate. The motion carried.

Aviation Maintenance Technology

Brian Jacob submitted a request to update the course descriptions for the following courses:

- AERM 1210: Ground Operations
An introductory course in fuels, servicing methods, safety procedures, aircraft movement, securing and operations of aircraft, external power equipment, aircraft cleaning and corrosion control.
- AERM 1240: Aircraft Propellers

Fundamentals of propeller design, function and construction. Skill development in inspection, servicing and repair of fixed-pitch, constant-speed and feathering propellers and governing systems. Instruction in removal, balancing, installation of propellers, and fundamental safety procedures are also addressed.

- **AERM 1241: Wood, Fabric and Finishes**
A course in the use and care of various covering materials, finishes and wood structures including approved methods and procedures. Safety also addressed.
- **AERM 1247: Airframe Auxiliary Systems**
A comprehensive study of airframe auxiliary systems including cabin atmospheric control systems, ice and rain control systems for aircraft and engines, and fire detection and protection systems. Fundamentals of safety procedures also addressed.
- **AERM 1253: Aircraft Welding**
Skill development in repair procedures for steel, magnesium, brass and aluminum materials. Includes the selection and application of appropriate methods of welding, brazing and soldering. Fundamentals of safety procedures also addressed.
- **AERM 1303: Shop Practices**
An introduction to shop safety, the correct use of hand tools, equipment, and precision measurement, identification of aircraft hardware, and the fabrication of fluid lines and tubing. Emphasis on procedures for testing, heat treating and inspection of aircraft structures.
(3 sem hrs; 2 lec, 4 lab)
- **AERM 1314: Basic Electricity**
A study of aircraft electrical systems and their requirements including the use of ammeter, voltmeter and ohmmeter; series and parallel circuits; inductance and capacitance; magnetism; converting alternating current (AC) to direct current (DC); controlling devices; maintenance and servicing of aircraft batteries; and reading and interpreting aircraft electrical diagrams to include solid state devices and logic functions. Fundamentals of safety also addressed.
- **AERM 1344: Aircraft Reciprocating Engines**
Reciprocating engines, their development, operating principles and theory. Includes engine instruments, lubrication and exhaust systems. Also addresses fundamentals of safety.
- **AERM 1345: Airframe Electrical Systems**
A study of airframe electrical systems including installation, removal, disassembly and repair of electrical components and related wiring. Fundamentals of electrical safety also addressed.
- **AERM 1349: Hydraulic, Pneumatic and Fuel Systems**
Skill development in inspecting, servicing and maintaining aircraft fluid systems including hydraulics, pneumatics and fuel. Application of concepts through detailed maintenance procedures. Fundamentals of safety procedures also addressed.
- **AERM 1351: Aircraft Turbine Engine Theory**
General principles of theory, history and servicing of turbine engines to include lubrication, instrumentation, auxiliary power units and exhaust systems. Fundamentals of safety procedures are also addressed.

- **AERM 1354: Aircraft Composites**
Comprehensive concepts of the inspection and repair of composite, fabric, core and laminated structural materials including doors, windows, bonded structures and interior furnishings. Safety procedures to include the handling and storage of composite materials will also be addressed.
- **AERM 2231: Airframe Inspection**
In-depth coverage of methods and procedures to perform airframe conformity and air worthiness inspections (including One Hundred Hour Inspections) in accordance with Federal Aviation Regulations and manufacturer's service information. Safety procedures will also be addressed.
- **AERM 2233: Assembly and Rigging**
A comprehensive study of the assembly and rigging of fixed and rotary-wing aircraft including structural alignment, balancing and rigging of control systems, and assembly of aircraft components. Fundamentals of safety procedures are also addressed.
- **AERM 2341: Powerplant and Auxiliary Power Units**
Advanced concepts of auxiliary power unit (APU) and powerplant systems and components. Safety procedures will also be addressed.
- **AERM 2351: Aircraft Turbine Engine Overhaul**
Comprehensive study in inspection, disassembly, reassembly and replacement of gas turbine engines, sections and components including operational troubleshooting, analysis and safety.
- **AERM 2352: Aircraft Powerplant Inspection**
In depth coverage of methods and procedures to perform powerplant conformity and airworthiness inspections (including one hundred hour inspections) in accordance with Federal Aviation Regulations and manufacturer's information. Safety procedures will also be addressed.
- **AERM 2447: Aircraft Reciprocating Engine Overhaul**
A comprehensive study of reciprocating engine overhaul including measurement and inspection procedures. Instruction in removal and installation, inspections, checks, servicing, repair of engines and safety procedures will also be addressed.
- **AIRP 2333: Aircraft Systems**
Study of the general principles, operation, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection and warning systems. Emphasis on subsystems and control systems.
- **AVNC 1343: Aircraft Electrical and Electronic Systems Installation**
A comprehensive study of and practical experience in the installation of avionic systems in aircraft, mounting electronic equipment, construction and installation of electrical wiring and cables, proper use of tools, selection of materials and safety.

And delete the following courses from the course inventory:

- **AERM 1372: Aircraft Sheet Metal**
- **AERM 1373: Shop Practices**
- **AERM: 1456: Aircraft Powerplant Electrical**

Add the following course to the course inventory:

- AERM 1356: Aircraft Powerplant Electrical
General principles of theory, operation and maintenance of powerplant electrical systems including ignition, starting and fire protection systems. Fundamentals of safety procedures will also be addressed.
(3 sem hrs; 3 lec, 4 lab)
Learning Outcomes:
 - Maintain powerplant electrical systems and components
 - Maintain powerplant ignition, starting and fire protection systems
 - Demonstrate safety procedures.

Moller moved, seconded by Goodman to approve the changes to the Aviation Maintenance courses. The motion carried.

Brian Jacob submitted a request to make the following changes to the Aerospace Manufacturing Certificate (AERM.CERT.AERO)

- Update the program advisor from Richard Whitaker to Brian Jacob
- Replace the Manufacturing Core with the Technical Core that includes:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical Business and Scientific Writing
 - INMT 1305
 -
 -
 -
 - : Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics

Make the following changes to the Aerospace Manufacturing AAS (AERM.AAS.AERO) degree:

- Update the program advisor from Richard Whitaker to Brian Jacob
- Delete ENGL 2311: Technical and Business Writing
- Replace the Manufacturing Core with the Technical Core that includes:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Increase the Related Requirements to 22 semester hours and add the following course:
 - AERM 1315: Aviation Science

Make the following changes to the Aviation Maintenance Technology AAS (AERM.AAS) degree:

- Replace EPCT 1307: Introduction to Environmental Safety and Health with ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing in both the Airframe and Powerplant option

Make the following changes to the Aviation Maintenance Technology – Airframe Mechanic Certificate (AERM.CERT.AM):

- Replace AERM 1372: Aircraft Sheet Metal with AERM 1352: Aircraft Sheet Metal
- Replace AERM 1373: Shop Practices with AERM 1303: Shop Practices

Make the following changes to the Aviation Maintenance Technology – Powerplant Mechanic Certificate (AERM.CERT.PM):

- Replace AERM 1372: Aircraft Sheet Metal with AERM 1352: Aircraft Sheet Metal
- Replace AERM 1373: Shop Practices with AERM 1303: Shop Practices

Clunis moved, seconded by Wetzel to approve the changes to the Aviation Maintenance program. The motion carried.

Fire Technology

Ed Nolte and Dennis Eaves submitted a request to delete the following courses from the course inventory:

- FIRS 1171: Firefighter Orientation
- FIRS 1301: Firefighter Certification I
- FIRS 1323: Firefighter Certification V
- FIRS 1329: Firefighter Certification VI
- FIRS 1407: Firefighter Certification II
- FIRS 1433: Firefighter Certification VII
- FIRT 2474: Hazardous Materials Technician

Add the following courses to the course inventory:

- FIRS 1401: Firefighter Certification I
Basic Firefighter Certificate program requirements including school policy, code of student conduct, and an introduction to firefighter safety and development. Topics include Texas Commission on Fire Protection Rules and Regulations, firefighter safety, fire science, personal protective equipment, self-contained breathing apparatus and fire reports and records. One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III and IV to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100.
(4 sem hrs; 2 lec, 6 lab)
Learning Outcomes:
 - Demonstrate competencies, for subjects taught, set forth in the TCFP curriculum for Basic Fire Suppression.

- **FIRS 1507: Firefighter Certification II**

The study of basic principles and skill development in handling fire service hose and ladders. Topics include the distribution system of water supply, basic building construction and emergency service communication, procedures and equipment. The student will also learn the practice of ropes and knots, rescue procedures and techniques, and learn the Awareness and Operations levels of Hazardous Materials. One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, III and IV to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. (5 sem hrs; 3 lec, 6 lab)

Learning Outcomes:

- Demonstrate competencies, for subjects taught, set forth in the TCFP curriculum for Basic Fire Suppression.

- **FIRS 2450: Hazardous Materials Technician**

This is an in-depth class in the duties, responsibilities and tactics of a hazardous materials technician. The student will study and use control techniques and equipment; address selection and use personal protective equipment (including decontamination equipment); and study and use monitoring devices that a haz-mat technician would be expected to use. Meets the curriculum of the Texas Commission on Fire Protection (TCFP) for Hazardous Materials Technician.

(4 sem hrs; 3 lec, 2 lab)

Learning Outcomes:

- Demonstrate competencies set forth in the TCFP curriculum for Hazardous Materials Technician.

- **FIRS 1204: Basic Wildland Firefighting**

Student receive instruction in fire behavior, LCES (lookouts, communication, escape routes and safety zones), suppression techniques and tactics associated with wildland fires and emergency shelter deployment. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Basic Wildland Firefighter.

(2 sem hrs; 1 lec, 4 lab)

Learning Outcomes:

- Demonstrate competencies set forth in the TCFP curriculum for Basic Wildland Firefighter.

Update the following course descriptions:

- **FIRS 1319: Firefighter Certification IV – Capstone**

A study of equipment, tactics and procedures used in forcible entry, ventilation, salvage and overhaul. An in-depth study and practice of simulated emergency operations and hands-on live fire training exercises; incident command procedures; and combined operations using proper extinguishing methods. Emphasis on safety. This capstone class prepares the student to take the TCFP basic firefighting examination and become a certifiable firefighter. One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II and III to

satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100

(3 sem hrs; 2 lec, 4 lab)

- FIRS 1413: Firefighter Certification III

The study of fire inspection techniques and practices, public transportation and fire cause determination and the general principles of fire apparatus, pump operations and fire streams. Also includes fire protection systems, pre-fire planning and the control and extinguishment of wildland firefighting. One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II and IV to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100.

(4 sem hrs; 2 lec, 6 lab)

- FIRS 1543: Aircraft Rescue and Firefighting

Principles and techniques of aircraft firefighting. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Basic Aircraft Rescue Fire Suppression.

(5 sem hrs; 4 lec, 4 lab)

- FIRS 2344: Driver/Operator – Pumper

Principles and techniques of fire apparatus operation and theories. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Driver/Operator-Pumper.

(3 sem hrs; 3 lec)

- FIRT 1342: Fire Officer I

Identify various fire department organizational structures including human resource management; community and governmental relationships; and administrative function for the implementation of departmental policies and procedures. Perform preliminary fire investigation, deploy assigned resources; and integrate a safety to ensure a safe work environment for firefighters. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Officer I certification.

(3 sem hrs; 3 lec)

- FIRT 1343: Fire Officer II

Identify the organizational structure of local government; evaluate member performance, and prepare and present public education programs and news releases. Conduct fire inspections at the company level; investigate fires to determine origin and preliminary cause; identify duties involved in supervising multi-unit emergency operations, and review injury, accident and health exposure reports. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Officer II certification.

(3 sem hrs; 3 lec)

Make the following changes to the Basic Firefighter Certificate (FIRS.CERT):

- Delete the following courses:
 - BIOL 2401: Human Anatomy & Physiology I
 - HITT 1305: Medical Terminology

- FIRS 1171: Firefighter Orientation
- FIRS 1301: Firefighter Certification I
- FIRS 1323: Firefighter Certification V
- FIRS 1329: Firefighter Certification VI
- FIRS 1407: Firefighter Certification II
- FIRS 1433: Firefighter Certification VII
- Add the following courses:
 - FIRS 1401: Firefighter Certification I
 - FIRS 1507: Firefighter Certification II
- Reduce the total from 31 to 22 semester hours

And make the following changes to the Fire Protection Technology AAS (FIRS.AAS) degree:

- Reduce the General Education requirements from 19 to 15 semester hours
- Delete the following courses:
 - BIOL 2401: Human Anatomy & Physiology I
 - FIRS 1171: Firefighter Orientation
 - FIRS 1301: Firefighter Certification I
 - FIRS 1323: Firefighter Certification V
 - FIRS 1329: Firefighter Certification VI
 - FIRS 1407: Firefighter Certification II
 - FIRS 1433: Firefighter Certification VII
 - FIRS 2474: Hazardous Materials Technician
- Add the following courses:
 - FIRS 1401: Firefighter Certification I
 - FIRS 1507: Firefighter Certification II
 - FIRS 1204: Basic Wildland Firefighting
 - FIRS 2450: Hazardous Materials Technician
- Add 0-2 elective hours to bring the program total to 60 semester hours

Usnick moved, seconded by Davis to approve the changes to the Fire Protection Technology courses, AAS degree and certificate. The motion carried.

Industrial Maintenance Technology

Kim Hays submitted a request to delete the following courses in the Manufacturing Technologies department:

- CETT 1303: DC Circuits
- CETT 1305: AC Circuits
- CETT 1321: Electronic Fabrication
- CETT 1325: Digital Fundamentals
- CETT 1329: Solid State Devices
- CETT 1349: Digital Systems
- CETT 1357: Linear Integrated Circuits

- ENER 1350: Overview of Energy Industry
- HART 2345: Residential Air Conditioning Systems Design
- INTC 1348: Analytical Instrumentation
- INTC 1355: Unit Operations
- INTC 1356: Instrumentation Calibration
- INTC 1358: Flow and Measurement Calibration
- INTC 2339: Instrument and Control Review
- MCHN 2307: Millwright IV
- METL 1313: Introduction to Corrosion
- RBTC 1305: Robotic Fundamentals
- RBTC 1343: Robotics
- RBTC 1345: Robot Interfacing
- RBTC 2339: Robot Programming and Diagnostics
- RBTC 2345: Robot Application, Setup and Testing
- RBTC 2347: Computer Integrated Manufacturing
- TECM 1301: Industrial Mathematics
- WIND 2310: Wind Turbine Materials/Electro-Mechanical Equipment
- WIND 2315: Wind Business
- WIND 2355: Wind Turbine Troubleshooting and Repair

Add the following courses to the course inventory:

- MCHN 1343: Machine Shop Mathematics
Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses and all technical fields.
(3 sem hrs; 2 lec, 2 lab)
Learning Outcomes:
 - Convert between decimals and fractions
 - Use measuring tools
 - Calculate ratios and proportions in a technical application
 - Transpose linear equations to solve for unknowns
- MCHN 1332: Bench Work and Layout
An introduction to bench work and layout. Application of the use and theory of tools such as hand tools, height gages, pedestal grinders and layout tools.
(3 sem hrs; 2 lec, 2 lab)
Learning Outcomes:
 - Identify layout and hand tools
 - Describe the proper use of layout and hand tools
 - List the safety procedures in operating a pedestal grinder
 - Demonstrate proper use of layout tools using precision and semi-precision procedures
 - Adjust clearances on the tool rest and the spark arrestor on the pedestal grinder
 - Perform grinding procedures on twist drills and tool blanks
 - Perform grinding wheel replacement.

- **HART 2338: Air Conditioning Installation and Startup**
A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.
(3 sem hrs; 2 lec, 2 lab)
Learning Outcomes:
 - Install air conditioning equipment and evaluate system performance
 - Demonstrate disposal and recycling of materials, including refrigerants and mercury
 - Demonstrate bending and cutting technique for system piping
 - Install equipment and ductwork according to industry standards to maximize efficiency.
- **INTC 2310: Principles of Industrial Measurements II**
Additional principles of measurement. Includes devices used to measure process variables and basic control functions.
(3 sem hrs; 2 lec, 2 lab)
Learning Outcomes:
 - Apply additional principles of process instrumentation
 - Describe the control loop as applied to additional process variables
 - Calibrate and/or configure measurement instruments
 - Demonstrate safety procedures.

And modify the following course pre-requisites:

- **ELMT 1305: Basic Fluid Power**
Prerequisite: ~~TECM 1304~~ INMT 1305 and ELPT 1311
- **ELMT 1391: Special Topics in Electromechanical Technology/Technician**
Prerequisite: Instructor Consent
Add the following statement to the course description: This course was designed to be repeated multiple times to improve student proficiency.
- **ELMT 2341: Electromechanical Systems**
Prerequisite: ~~MCHN 2312~~ ELMT 1301 and Instructor Consent. Final Semester
- **ELMT 2380: Cooperative Education – Electromechanical Technology/Technician**
Prerequisite: Instructor Consent
- **HART 1307: Refrigeration Principles**
Prerequisite: ~~TECM 1304~~ INMT 1305 and ELPT 1311
- **HART 1345: Gas & Electric Heating**
Prerequisite: ~~TECM 1304~~ INMT 1305 and ELPT 1311
- **HART 2336: Air Conditioning Troubleshooting**
Prerequisite: HART 1307 ELMT 1301 and Instructor Consent. Final semester
- **IEIR 1306: Electric Motor**
Prerequisite: ~~CETT 1303, CETT 1305~~ INMT 1305 and ELPT 1311
- **IEIR 1310: Motor Controls**
Prerequisite: ~~CETT 1303, CETT 1305~~ INMT 1305 and ELPT 1311
- **IEIR 1312: Distribution Systems**

- Prerequisite: ~~CETT 1303, CETT 1305~~ INMT 1305 and ELPT 1311
- INMT 2301: Machinery Installation
Prerequisite: ~~INMT 1375~~ INMT 1305 and ELPT 1311
- MCHN 2312: Millwright V
Prerequisite: ~~MCHN 2307~~ INMT 2301
- ELPT 1311: Basic Electrical Theory
Prerequisite: MCHN 1343 and ETWR 1391
Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.
- EECT 2335: Telecommunications
Prerequisite: ~~ELMT 1304~~ INMT 1305 and ELPT 1311
- ELMT 2333: Industrial Electronics
Prerequisites: ~~CETT 1325~~ ELMT 1301 and IEIR 1306
- INTC 1301: Principles of Industrial Measurements I
Prerequisites: ~~CETT 1303~~ INMT 1305 and ELPT 1311
- INTC 1343: Application of Industrial Automatic Controls
Prerequisites: ~~BCIS 1305, CETT 1305, ELMT 1304~~, INTC 1301
- ELMT 1302: Solar Photovoltaic Systems
Prerequisite: INMT 1305 and ELPT 1311
- HART 1311: Solar Fundamentals
Prerequisite: ~~CETT 1303, ENER 1350~~ INMT 1305 and ELPT 1311
- HART 1393: Special Topics in Solar Technology/Technician
Prerequisite: ~~HART 1311~~ Instructor Consent
- WIND 2359: Wind Power Delivery System
Prerequisites: ~~CETT 1305, WIND 2340~~ INMT 1305 and ELPT 1311

Goodman moved, seconded by Norman to approve the changes to the Industrial Technology courses. The motion carried.

Kim Hays submitted a request to deactivate the following degrees and certificates:

- Industrial Maintenance Technology – Heating, Air Conditioning and Refrigeration Certificate (IMRT.CERT.HART)
- Electronics Systems Technology AAS (CETT.AAS.EST)
- Electronics Systems Technology – Advanced Electronics Certificate (CETT.CERT.ADV)
- Electronics Systems Technology – Basic Electronics Certificate (CETT.CERT.GEN)
- Instrument and Control Technology AAS (CETT.AAS)
- Instrument and Control Technology – Advanced Instrumentation Technician (INTC.CERT.EICT)
- Instrument and Control Technology – Basic Instrumentation Technician (INTC.CERT.BICT)
- Renewable Energy AAS (RNEW.AAS)
- Renewable Energy – Advanced Solar Technician (RNEW.CERT.ASLR)
- Renewable Energy – Basic Solar Technician (RNEW.CERT.BSLR)

- Renewable Energy – Advanced Wind Technician (RNEW.CERT.AWND)
- Renewable Energy – Basic Wind Technician (RNEW.CERT.BWND)
- Robotics Technology AAS (CETT.AAS.RBTC)
- Robotics Technology Certificate (CETT.CERT.RBTC)

Moller moved, seconded by Norman to approve the deactivation of the Manufacturing Technologies Department programs. The motion carried.

Kim Hays submitted a request to make the following changes to the Industrial Maintenance Technology AAS (IMRT.AAS) degree:

- Change the title to Industrial Technology
- Replace Bob Johnson with Delane McUne as the program advisor
- Add the following program descriptions:
 - This curriculum prepares students for positions requiring advanced technical training in several options of the Industrial Technology career field. Specialized areas include Electromechanical, HVAC, Instrumentation and Electronics or Renewable Energy. The Technical Core must be completed prior to other classes.
- Replace the Manufacturing Core with the Technical Core, which includes the following courses:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Reduce the Major Course Requirements to 15 semester hours, including the following courses:
 - ELMT 1301: Basic Programmable Logic Controllers
 - IEIR 1306: Electric Motors
 - IEIR 1310: Motor Controls
 - IEIR 1312: Distribution Systems
 - WLDG 1307: Introduction to Welding Using Multiple Processes
- Include the following 18 semester hour options:
 - Electromechanical Technician
 - ELMT 1305: Basic Fluid Power
 - ELMT 2333: Industrial Electronics
 - ELMT 2341: Electromechanical Systems
 - INMT 2301: Machinery Installation
 - MCHN 1332: Bench Work and Layout
 - MCHN 2312: Millwright V
 - Heating, Air Conditioning and Refrigeration
 - HART 1307: Refrigeration Principles
 - HART 1345: Gas and Electric Heating
 - HART 2336: Air Conditioning Troubleshooting
 - HART 2338: Air Conditioning Installation and Startup

- HART 2342: Commercial Refrigeration
 - WLDG 1372 Layout and Fabrication I
- Instrument and Electronics Technician
 - EECT 2335: Telecommunications
 - ELMT 2333: Industrial Electronics
 - ELMT 2341: Electromechanical Systems
 - INTC 1301: Principles of Industrial Measurements I
 - INTC 1343: Application of Industrial Automatic Controls
 - INTC 2310: Principles of Industrial Measurements II
- Solar Technician
 - EECT 2335: Telecommunications
 - ELMT 1302: Solar Photovoltaic Systems
 - ELMT 2333: Industrial Electronics
 - ELMT 2341: Electromechanical Systems
 - HART 1311: Solar Fundamentals
 - WIND 2359: Wind power Delivery System
- Wind Technician
 - EECT 2335: Telecommunications
 - ELMT 1305: Basic Fluid Power
 - ELMT 2333: Industrial Electronics
 - ELMT 2341: Electromechanical Systems
 - INMT 2301: Machinery Installation
 - WIND 2359: Wind Power Delivery System
- Reduce the program total to 60 semester hours

Kim Hays submitted a request to make the following changes to the Industrial Maintenance Technology Electromechanical Certificate (IMRT.CERT.ELMT):

- Change the title to Industrial Technology Advanced Certificate
- Replace Bob Johnson with Delane McUne as the program advisor
- Update the program description to:
 - This certificate prepares students for entry positions in specific technical trades. The Technical Core must be completed prior to other classes.
- Replace the Manufacturing Core with the Technical Core, which includes the following courses:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Reduce the Major Course Requirements to 15 semester hours, including the following courses:
 - ELMT 1301: Basic Programmable Logic Controllers
 - IEIR 1306: Electric Motors
 - IEIR 1310: Motor Controls

- IEIR 1312: Distribution Systems
- WLDG 1307: Introduction to Welding Using Multiple Processes
- Include the following 18 semester hour options:
 - Electromechanical Technician
 - ELMT 1305: Basic Fluid Power
 - ELMT 2333: Industrial Electronics
 - ELMT 2341: Electromechanical Systems
 - INMT 2301: Machinery Installation
 - MCHN 1332: Bench Work and Layout
 - MCHN 2312: Millwright V
 - Heating, Air Conditioning and Refrigeration
 - HART 1307: Refrigeration Principles
 - HART 1345: Gas and Electric Heating
 - HART 2336: Air Conditioning Troubleshooting
 - HART 2338: Air Conditioning Installation and Startup
 - HART 2342: Commercial Refrigeration
 - WLDG 1372 Layout and Fabrication I
 - Instrument and Electronics Technician
 - EECT 2335: Telecommunications
 - ELMT 2333: Industrial Electronics
 - ELMT 2341: Electromechanical Systems
 - INTC 1301: Principles of Industrial Measurements I
 - INTC 1343: Application of Industrial Automatic Controls
 - INTC 2310: Principles of Industrial Measurements II
 - Solar Technician
 - EECT 2335: Telecommunications
 - ELMT 1302: Solar Photovoltaic Systems
 - ELMT 2333: Industrial Electronics
 - ELMT 2341: Electromechanical Systems
 - HART 1311: Solar Fundamentals
 - WIND 2359: Wind power Delivery System
 - Wind Technician
 - EECT 2335: Telecommunications
 - ELMT 1305: Basic Fluid Power
 - ELMT 2333: Industrial Electronics
 - ELMT 2341: Electromechanical Systems
 - INMT 2301: Machinery Installation
 - WIND 2359: Wind Power Delivery System
- Reduce program total to 45 semester hours

Kim Hays submitted a request to make the following changes to the Industrial Maintenance Technology Industrial Maintenance Certificate (IMRT.CERT):

- Change the title to Industrial Technology Basic Certificate

- Replace Bob Johnson with Delane McUne as the program advisor
- Update the program description to:
 - This certificate prepares students for advanced training opportunities in multiple trade areas. The Technical Core must be completed prior to other classes.
- Replace the Manufacturing Core with the Technical Core, which includes the following courses:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Reduce the Major Course Requirements to 9 semester hours, including the following courses:
 - IEIR 1310: Motor Controls
 - IEIR 1312: Distribution Systems
 - WLDG 1307: Introduction to Welding Using Multiple Processes
- Add Major Options (3-6 semester hours)
 - Electromechanical Technician (3 semester hours)
 - MCHN 1332: Bench Work and Layout
 - Heating, Air Conditioning and Refrigeration (6 semester hours)
 - HART 1307: Refrigeration Principles
 - HART 2338: Air Conditioning Installation and Startup
 - Instrument and Electronics Technician (3 semester hours)
 - EECT 2335: Telecommunications
 - Solar Technician (3 semester hours)
 - EECT 2335: Telecommunications
 - Wind Technician (3 semester hours)
 - EECT 2335: Telecommunications
- Reduce program total to 24-27 semester hours

Kim Hays submitted a request to add the following Industrial Technology – Technical Core (IMRT.MKT.CERT) to the inventory:

- This certificate creates the foundation for all Industrial Technology certificates and degrees
- Technical Core Requirements (12 semester hours)
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Total 12 semester hours

Moller moved, seconded by Kee to approve the changes to the Industrial Maintenance Technology programs. The motion carried

Machining Technology

Kim Hays submitted a request to add the following courses to the course inventory:

- **MCHN 1338: Basic Machine Shop I**

Prerequisite: MCHN 1332

A course that introduces the student to machining fundamentals. The student begins by using basic machine tools including the lathe, milling machine, drill press, power saw and bench grinder. Machine terminology, theory, math, part layout and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping and preventative maintenance.

(3 sem hrs; 2 lec, 2 lab)

Learning Outcomes:

- Demonstrate set-up and use of the lathe, milling machine, drill press, power saw and bench grinder applying good housekeeping, proper safety and preventative maintenance.
- Use precision instruments to perform bench work including part layout, drilling, reaming, tapping, press fitting, location of hole centers and surfaces
- Set up power saws for cutoff operation
- Demonstrate tooling maintenance, and hazardous material handling.
- Perform preventative maintenance.
- Interpret blueprints.

- **MCHN 1341: Basic Machine Shop II**

Prerequisite: MCHN 1332

A continuation of Basic Machine Shop I.

(3 sem hrs; 2 lec, 2 lab)

Learning Outcomes:

- Identify machine parts and their functions.
- Select layout tools and techniques.
- Define machine shop terminology.
- Perform basic machine setups
- Calculate common shop formulas.
- Perform semi-precision layout
- Execute grinding techniques
- Demonstrate basic machine operations
- Apply proper measuring tools.

- **MCHN 1352: Intermediate Machining I**

Prerequisite: MCHN 1338 and MCHN 1341

Operation of drilling machines, milling machines, lathes and power saws. Select and use appropriate precision measuring tools.

(3 sem hrs; 2 lec, 2 lab)

Learning Outcomes:

- Set up and operate shop machinery and tools in a safe manner.
- Select and use precision measuring instruments to specified tolerances.

Update the following course descriptions and/or prerequisites:

- INMT 1305: Introduction to Industrial Maintenance
Prerequisite: ETWR 1391 and MCHN 1343
- MCHN 1354: Intermediate Machining II
Prerequisite: MCHN 1338 and MCHN 1341
- MCHN 1380: Cooperative Education – Machine Tool Technology/Machinist
Prerequisite: Instructor Consent
- MCHN 1391: Special Topics in Machining/Machine Technology
Prerequisite: Instructor Consent
- MCHN 2303: Fundamentals of Computer Numerical Controlled (CNC) Machine Controls
Programming and operation of Computer Numerical Controlled (CNC) machine shop equipment.

Kim Hays submitted a request to revise the Machining Technology Certificate as follows:

- Change the name to Machining Technology Advanced Certificate
- Add the following statement to the program description:
 - The Technical Core must be completed prior to other classes.
- Replace the Manufacturing Core with the Technical Core to include the following courses:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Remove the following courses from the Major Course Requirements:
 - CETT 1303: DC Circuits
 - CETT 1305: AC Circuits
 - INMT 1305: Introduction to Industrial Maintenance
 - INMT 1375: Maintenance Shop Practices
 - MCHN 2307: Millwright IV
- Add the following courses to the Major Course Requirements:
 - MCHN 1332: Bench Work and Layout
 - MCHN 1338: Basic Machine Shop I
 - MCHN 1341: Basic Machine Shop II
 - MCHN 1352: Intermediate Machining I
 - WLDG 1372: Layout and Fabrication I

Kim Hays submitted a request to add the following Machining Technology Basic Certificate (MCHN.CERT.BAS) to the inventory:

- Prepares the student to enter the trades of production machinist or maintenance machinist with the skills to operate and maintain tolerances on manual equipment. The Technical Core must be completed prior to other classes.

- Technical Core Requirements:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Major Course Requirements
 - MCHN 1332: Bench Work and Layout
 - MCHN 1338: Basic Machine Shop I
 - MCHN 1341: Basic Machine Shop II
 - WLDG 1372: Layout and Fabrication I
- Total 24 semester hours

4Moller moved, seconded by Burkes to approve changes and additions to the Machining Technology program. The motion carried.

Utility Power Worker

Kim Hays submitted a request to add the following courses to the course inventory:

- CVOP 1305: Commercial Drivers License Written Skills
 Overview of the State of Texas Class A Commercial Drivers License written test. In depth coverage of air brakes, combination vehicle, doubles and triples, tankers and hazardous materials. Includes preparation for mastery of the Commercial Drivers License written examination.
 (3 sem hrs; 2 lec, 2 lab)
 Learning Outcomes:
 - Explain all state and federal laws with respect to the Commercial Drivers License
 - Identify all components of the vehicle
 - Explain their application to the safe operation and compliance of a commercial vehicle.
- LNWK 2321: Live Line Safety
 Prerequisite: LNWK 1301
 Study of cover-up procedures and safety requirements for work on energized electrical circuits. Includes use, care and inspection of cover-up material, recognizing nominal voltages and energized parts, approach distances and safety.
 (3 sem hrs; 2 lec, 2 lab)
 Learning Outcomes:
 - Demonstrate safe cover-up and equipment grounding
 - Define all relevant safety rules and procedures
 - Inspect rubber gloves and cover-up material
 - Demonstrate the use of "ground to ground" rubber gloves and cover-up.

Delete the following courses from the course inventory:

- CVOP 1205: Commercial Driver's License Written Skills

- ELPT 2323: Transformers
- ELPT 2464: Practicum – Electrical and Power Transmission Installation/Installer
- LNWK 1472: Hot Sticks
- LNWK 2324: Troubleshooting Distribution Systems

Update the following course prerequisites:

- CVOP 1301: Commercial Driver's License Driving Skills
(3 sem hrs; 2 lec, 2 lab)
- ELPT 1321: Introduction to Electrical Safety and Tools
Prerequisite: INMT 1305 and ELPT 1311
- ELPT 1371: Overhead Distribution/Transmission Operations
Prerequisite: LNWK 1301
- ELPT 1391: Special Topics in Electrical and Power Transmission Installer – General
Prerequisite: Instructor Consent
- ELPT 2380: Cooperative Education – Electrical and Power Transmission
Installation/Installer
Prerequisite: ELPT 1371, LNWK 2321 and Instructor Consent. Final Semester
- LNWK 1301: Orientation & Line Skills Fundamentals
Prerequisite: ELPT 1321
- LNWK 1371: Underground Distribution/Transmission Operations
Prerequisite: LNWK 1301
- LNWK 1391: Special Topics in Lineworker
Prerequisite: Instructor Consent
- LNWK 2322: Distribution Line Construction
Prerequisite: LNWK 1301

Kim Hays submitted a request to make the following changes to the Utility Power Worker Certificate – Groundsman (LINE.CERT.BAS):

- Add Marcus Hughes as Program Advisor
- Update the program description to include the following statement:
 - The Technical Core must be completed prior to other classes.
- Replace the Manufacturing Core with the Technical Core to include the following courses:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Reduce the Major Course Requirements from 23 to 12 semester hours and include the following courses:
 - CVOP 1301: Commercial Driver's License Driving Skills
 - CVOP 1305: Commercial Driver's License Written Skills
 - ELPT 1321: Introduction to Electrical Safety and Tools

- LNWK 1301: Orientation and Line Skills Fundamentals
- Reduce the program total from 32 to 24 semester hours

Kim Hays submitted a request to make the following changes to the Utility Power Worker Certificate (LINE.CERT):

- Add Marcus Hughes as Program Advisor
- Update the program description to include the following statement:
 - The Technical Core must be completed prior to other classes.
- Replace the Manufacturing Core with the Technical Core to include the following courses:
 - ELPT 1311: Basic Electrical Theory
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
- Reduce the Major Course Requirements from 42 to 39 semester hours
- Delete the following courses:
 - CVOP 1205: Commercial Driver's License Written Skills
 - CETT 1303: DC Circuits
 - CETT 1305: AC Circuits
 - ELPT 2323: Transformers
 - LNWK 1472: Hot Sticks
 - LNWK 2324: Troubleshooting Distribution Systems
- Add the following courses:
 - CVOP 1305: Commercial Driver's License Written Skills
 - IEIR 1306: Electric Motors
 - LNWK 2321: Live Line Safety
 - WIND 2359: Wind Power Delivery Systems

Moller moved, seconded by Norman to approve the changes to the Utility Power Workers courses and certificates. The motion carried.

Welding Technology

Kim Hays submitted a request to add the following courses to the course inventory:

- WLDG 1370: Introduction to Arc Welding
 Prerequisite: INMT 1305 and WLDG 1373
 This course covers the theory and introduction to arc welding processes. Skill in the welding process and the selection of materials and equipment will be stressed.
 (3 sem hrs; 2 lec, 2 lab)
 Learning Outcomes:
 - Define the principles of arc welding
 - Interpret electrode classifications
 - Perform welding operations in various positions using different joint designs

- Select electrodes and amperage settings for various thicknesses of materials and welding positions
- WLDG 2372: Layout and Fabrication II
 Prerequisite: WLDG 1372
 An intermediate course in layout and fabrication. Includes design and production of shop layout and fabrication. Emphasis placed on symbols, blueprints, written specification and pattern development.
 (3 sem hrs; 2 lec, 2 lab)
 Learning Outcomes:
 - Interpret orthographic and isometric drawings
 - Identify fittings, weldments and tools
 - Perform layout methods on structural steel and pipe using layout tools and templates
 - Apply mathematical concepts in the construction of projects

Delete the following courses from the course inventory:

- DFTG 1325: Blueprint Reading and Sketching
- WLDG 1170: Safety in Welding, Cutting and Allied Processes
- WLDG 2373: Flux Cored Arc Welding I (FCAW)
- WLDG 2374: Flux Cored Arc Welding II (FCAW-S) (Self Shielded)
- WLDG 2377: Gas Metal Arc Welding II (GMAW) (Spray Transfer)
- WLDG 2378: Gas Tungsten Arc Welding II (GTAW)

Update the following courses:

- WLDG 1371: Welding Fundamentals
 Prerequisite: WLDG 1373
- WLDG 1373: Thermal Cutting I
 Prerequisite: ETWR 1391 and MCHN 1343
 (3 sem hrs; 2 lec, 2 lab)
- WLDG 1374: Thermal Cutting II
 (3 sem hrs; 2 lec, 2 lab)
- WLDG 1375: Shielded Metal Arc Welding I (SMAW)
 Prerequisite: WLDG 1370
 (3 sem hrs; 2 lec, 2 lab)
- WLDG 1376: Shielded Metal Arc Welding II (SMAW)
 (3 sem hrs; 2 lec, 2 lab)
- WLDG 1377: Gas Metal Arc Welding I (GMAW)
 (3 sem hrs; 2 lec, 2 lab)
- WLDG 1378: Gas Tungsten Arc Welding I (GTAW)
 (3 sem hrs; 2 lec, 2 lab)
- WLDG 1391: Special Topics in Welder/Welding Technologist
 Prerequisite: Instructor Consent
 (3 sem hrs; 2 lec, 2 lab)

- WLDG 2379: Shielded Metal Arc Welding III – Pipe (SMAW)
(3 sem hrs; 2 lec, 2 lab)
- WLDG 2380: Cooperative Education – Welding Technology/Welder
Prerequisite: Instructor Consent

Kim Hays submitted a request to make the following changes to the Welding Technology (WELD.CERT) certificate:

- Update the program description to read:
 - Prepares the student for entry level welding positions using American Welding Society (AWS) recognized standards. Upon successful completion, certificate holders will be ready to perform testing to D1.1 welding codes. Welding Core must be completed prior to other classes.
- Replace the Manufacturing Core with the Welding Core to include the following courses:
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
 - WLDG 1373: Thermal Cutting I
- Delete the following courses from the Major Course requirements:
 - MCHN 1320: Precision Tools & Measurement
 - MCHN 1338: Basic Machine Shop I
 - WLDG 1170: Safety in Welding, Cutting and Allied Processes
 - WLDG 2373: Flux Cored Arc Welding I (FCAW)
 - WLDG 2374: Flux Cored Arc Welding II (FCAW-S) (Self Shielded)
 - WLDG 2377: Gas Metal Arc Welding II (GMAW) (Spray Transfer)
 - WLDG 2378: Gas Tungsten Arc Welding II (GTAW)
- Add the following courses to the Major Course requirements:
 - MCHN 1332: Bench Work and Layout
 - WLDG 1370: Introduction to Arc Welding
 - WLDG 2372: Layout and Fabrication II
- Reduce the total from 55 to 45 semester hours

Kim Hays submitted a request to add the Welding Technology – Welding Core certificate (WELD.MKT.CERT):

- Program description:
 - This certificate creates the foundation for the higher level Welding certificate.
- Welding Core Requirements (12 Semester Hours):
 - ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing
 - INMT 1305: Introduction to Industrial Maintenance
 - MCHN 1343: Machine Shop Mathematics
 - WLDG 1373: Thermal Cutting I

Goodman moved, seconded by Clunis to approve the changes to the Welding course inventory and the certificates. The motion carried.

CURRICULUM REVISION REQUEST FORM

1. To fulfill the Coordinating Board mandate to integrate RDNG 0331 and ENGL 0302 into an Integrated Reading Writing (IRW) course.
2. **Department:** English and Reading Departments
3. **Prepared by:** Judy Isbell for Course Redesign Committee for IRW
4. **Request:** To add a new course

a. COURSE DESCRIPTION & ID
ENGL 0303- Integrated Reading/Writing

Prerequisites / Corequisite

Prerequisite: ENGL 0301 and RDNG 0321-minimum grade of C or acceptable TSI or Accuplacer reading and writing scores.

Integration of critical reading and academic writing skills. The course fulfills TSI requirements for reading and/or writing.

Hours (3 sem hrs; 3 lec, 1 lab)

b. LEARNING OBJECTIVES FOR IRW:

1. Locate explicit textual information, draw complex inferences, describe, analyze, and evaluate the information within and across multiple texts of varying lengths
2. Comprehend and use vocabulary effectively in oral communication, reading, and writing.
3. Identify and analyze the audience, purpose, and message across a variety of texts.
4. Describe and apply insights gained from reading and writing a variety of texts.
5. Compose a variety of texts that demonstrate reading comprehension, clear focus, logical development of ideas, and use of appropriate language that advances the writer's purpose.
6. Determine and use effective approaches and rhetorical strategies for given reading and writing situations.
7. Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
8. Evaluate relevance and quality of ideas and information in recognizing, formulating, and developing a claim.

9. Develop and use effective reading and revision strategies to strengthen the writer's ability to compose college-level writing assignments.
10. Recognize and apply the conventions of standard English in reading and writing.

5. **Rationale:** The Coordinating Board has mandated the integration of critical reading and academic writing skills into one course at the upper-developmental level. The Course Redesign Committee's plan is to pilot the course in Summer 2014 and Fall 2014 with full implementation by Spring 2015.

6. **Effects of Revisions:**

- a. Faculty and Staff Requirements: Existing faculty will teach this course.
- b. Equipment/facility Requirements: None
- c. Location: Will be taught through the English Department on all campuses
- d. Income projections: Integrated Reading and Writing will be available for students who need both reading and writing at the upper level. It will be one 3-hour course.

7. **Effective Date:** Summer 2014 Pilot

Curriculum Revision Request Form

Division: Academic Success

Department /Program: ACcess Learning Center

Prepared by: Dr. Tamara Clunis and Judy Isbell

Request(s): To add 5 new courses and add prerequisites to BASM 0302, BASR 0302, and BASW 0302

1. BASM 0301 – Basic Academic Skills

Basic Skills Course that develops and reinforces reading, math, and writing skills with special emphasis on math to meet TSI requirements.

Hours (3 sem hrs; 2 lec, 2 lab)

Learning Objectives for BASM 0301 Course

- a. Apply the fundamental operations of addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals.
- b. Understand rounding and estimating to improve students' approximation skills in everyday applications.
- c. Understand the rules for exponents and order of operations. Students will be able to evaluate mathematical expressions with multiple operations.
- d. Develop an understanding in algebraic concepts, such as integers, absolute values, and evaluating and simplifying of algebraic expressions.
- e. Understand ratio and proportions, percent with sales tax, simple and compound interest, and other applications.
- f. Understand the fundamental concepts of measurements, geometry, and statistics.

2. BASM 0303 – Basic Academic Skills

Prerequisites/Corequisite

Prerequisite: BASM 0302 or MATH 0302-minimum grade of C or acceptable TSI or Accuplacer math score.

Basic Skills Course that develops and reinforces reading, math, and writing skills with special emphasis on math to meet TSI requirements.

Hours (3 sem hrs; 2 lec, 2 lab)

Learning Objectives for BASM 0303 Course

- a. Develop skills needed to solve linear equations and linear inequalities in two variable equations.

- b. Understand graphing of linear equations in two variables using ordered pairs and intercepts, and the slope-intercept method.
- c. Understand and analyze features of functions.
- d. Review and apply the different methods of factoring polynomials.
- e. Apply algebraic properties and concepts to evaluate and solve absolute value, polynomial, radical, and rational equations.
- f. Apply the arithmetic operations of addition, subtraction, multiplication, and division to simplify and evaluate radicals.
- g. Solve and analyze quadratic equations by using factoring, the square root property, completing the square, and the quadratic formula.

3. BASR 0301 – Basic Academic Skills

Basic Skills Course that develops and reinforces reading, math, and writing skills with special emphasis on reading to meet TSI requirements.

Hours (3 sem hrs; 2 lec, 2 lab)

Learning Objectives for BASR 0301 Course

- a. Improve vocabulary through context and word parts.
- b. Recognize topic and main idea within passages.
- c. Understand the meaning of written material.

4. BASR 0303 – Basic Academic Skills

Prerequisites/Corequisite

Prerequisite: BASR 0302 or RDNG 0321-minimum grade of C or acceptable TSI or Accuplacer reading score.

Basic Skills Course that develops and reinforces reading, math, and writing skills with special emphasis on reading to meet TSI requirements.

Hours (3 sem hrs; 2 lec, 2 lab)

Learning Objectives for BASR 0303 Course

- a. Improve vocabulary through context, word parts, and sentence structure.
- b. Evaluate organization and development of passages based on specific reading skills (topic, stated/implied main ideas, and supporting details).
- c. Analyze the significance of transitional words/phrases within the context of the passage.
- d. Capture the structure and the development of the passage's content through an organized visual.
- e. Use critical reasoning skills to enhance comprehension.

5. BASW 0301 – Basic Academic Skills

Basic Skills Course that develops and reinforces reading, math, and writing skills with special emphasis on writing to meet TSI requirements.

Hours (3 sem hrs; 2 lec, 2 lab)

Learning Objectives for BASW 0301 Course

- a. Understand the writing process of organization and development.
- b. Focus on writing well-developed, unified paragraphs using a variety of writing types.
- c. Analyze paragraphs for topic sentences, major points, and elaboration.
- d. Evaluate paragraph's relevance to purpose and audience.
- e. Proofread paragraph to reflect the conventions of standard English.

6. BASM 0302 – Basic Academic Skills (Adding Prerequisites Only)

Prerequisites/Corequisite

Prerequisite: BASM 0301 or MATH 0301-minimum grade of C or acceptable TSI or Accuplacer math score.

Basic Skills Course that develops and reinforces reading, math, and writing skills with special emphasis on math to meet TSI requirements.

Hours (3 sem hrs; 2 lec, 2 lab)

Learning Objectives for BASM 0302 Course

- a. Apply the fundamental operations of addition, subtraction, multiplication, and division using the order of operations with signed numbers.
- b. Apply the rules for exponents and order of operations to evaluate and simplify algebraic expressions with multiple operations.
- c. Develop skills needed to solve linear equations and linear inequalities in one and two variables.
- d. Understand graphing of linear equations in two variables using ordered pairs and intercepts, and the slope-intercept method.
- e. Demonstrate an understanding of exponents and applying the four fundamental arithmetic operations with polynomials.
- f. Understand and apply the different methods of factoring polynomials.
- g. Solve systems of linear equations in two variables using methods of graphing, substitution, and addition.

7. BASR 0302 – Basic Academic Skills (Adding Prerequisites Only)

Prerequisites/Corequisite

Prerequisite: BASR 0301 or RDNG 0301-minimum grade of C or acceptable TSI or Accuplacer reading score.

Basic Skills Course that develops and reinforces reading, math, and writing skills with special emphasis on reading to meet TSI requirements.

Hours (3 sem hrs; 2 lec, 2 lab)

Learning Objectives for BASR 0302 Course

- a. Improve vocabulary through context, word parts, and sentence structure.
- b. Recognize topic, stated/implied main ideas, and supporting details within passages.
- c. Identify author's purpose, point of view, and intended meaning.

- d. Recognize relationships among ideas using transitional phrases.
- e. Develop critical reasoning skills to enhance comprehension.
- f. Practice various study skills, including note-taking, summarizing, and interpreting graphs and charts.

8. BASW 0302 – Basic Academic Skills (Adding Prerequisites Only)

Prerequisites/Corequisite

Prerequisite: BASW 0301 or ENGL 0301-minimum grade of C or acceptable TSI or Accuplacer reading score.

Basic Skills Course that develops and reinforces reading, math, and writing skills with special emphasis on writing to meet TSI requirements.

Hours (3 sem hrs; 2 lec, 2 lab)

Learning Objectives for BASW 0302 Course

- a. Understand the writing process of organization and development.
- b. Focus on writing well-developed, unified essays using a variety of writing types.
- c. Analyze paragraphs for topic sentences, major points, and elaboration.
- d. Evaluate essay's relevance to purpose and audience.
- e. Proofread essay to reflect the conventions of standard English.

Rationale / Justification / Assessment Data:

Justification for Revision for BASM 0301; BASM 0302; BASM 0303; BASR 0301; BASR 0302; BASR 0303

- Currently one course encompasses three levels. For the benefit of students, advisors, institutional research, and financial aid, the course needs to be divided into three separate levels of instruction.
- Students more readily see the progression of skill development as they enroll in subsequent levels of the course.
- The current course makes it difficult for students to see the benchmarks that they have met.
- Revision will change the way the course is structured, not the course's delivery or curriculum.

Justification for Revision for BASW 0301; BASW 0302

- Currently one course encompasses two levels. For the benefit of students, advisors, institutional research, and financial aid, the course needs to be divided into two separate levels of instruction.
- Students more readily see the progression of skill development when enrolling in the second level of the course.

- The current course makes it difficult for students to see the benchmarks that they have met.
- Revision will change the way the course is structured, not the course's delivery or curriculum.

Effects of Revisions:

- A. Faculty & Staff Requirements: None – Faculty and Staff are already serving this group of students.
- B. Equipment/Facility Requirements: None
- C. Location: ACcess Learning Center on all campuses
- D. Income projections: Tuition and lab fees will remain the same

Effective Term:

- Summer 2014

Curriculum Revision Request Form

Division: Academic Success

Department /Program: ACcess Learning Center

Prepared by: Dr. Tamara Clunis and Judy Isbell

Request(s): To add five new Non-Course Based Courses (NCB), to delete three existing non-course based 0101 courses, and to remove fees from established Non-Course-Based Courses.

Five New Courses:

1. NCBRW 0302 – Non-Course Based Integrated Reading and Writing

A non-course based option for the integration of critical reading and academic writing skills to meet TSI requirements for reading and /or writing.

Hours (3 sem hrs; 2 lec, 2 lab)

Learning Objectives for NCBRW 0302 Course

- a. Locate explicit textual information, draw complex inferences, describe, analyze, and evaluate the information within and across multiple texts of varying lengths
- b. Comprehend and use vocabulary effectively in oral communication, reading, and writing.
- c. Identify and analyze the audience, purpose, and message across a variety of texts.
- d. Describe and apply insights gained from reading and writing a variety of texts.
- e. Compose a variety of texts that demonstrate reading comprehension, clear focus, logical development of ideas, and use of appropriate language that advances the writer's purpose.
- f. Determine and use effective approaches and rhetorical strategies for given reading and writing situations.
- g. Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
- h. Evaluate relevance and quality of ideas and information in recognizing, formulating, and developing a claim.
- i. Develop and use effective reading and revision strategies to strengthen the writer's ability to compose college-level writing assignments.
- j. Recognize and apply the conventions of standard English in reading and writing.

2. NCBRW 0101 – Non-Course Based Integrated Reading and Writing

A non-course based option for the integration of critical reading and academic writing skills to meet TSI requirements for reading and /or writing.

Hours (1 sem hr; 1 lec, 0 lab)

Learning Objectives for NCBRW 0101 Course

- a. Locate explicit textual information, draw complex inferences, describe, analyze, and evaluate the information within and across multiple texts of varying lengths
- b. Comprehend and use vocabulary effectively in oral communication, reading, and writing.
- c. Identify and analyze the audience, purpose, and message across a variety of texts.
- d. Describe and apply insights gained from reading and writing a variety of texts.
- e. Compose a variety of texts that demonstrate reading comprehension, clear focus, logical development of ideas, and use of appropriate language that advances the writer's purpose.
- f. Determine and use effective approaches and rhetorical strategies for given reading and writing situations.
- g. Generate ideas and gather information relevant to the topic and purpose, incorporating the ideas and words of other writers in student writing using established strategies.
- h. Evaluate relevance and quality of ideas and information in recognizing, formulating, and developing a claim.
- i. Develop and use effective reading and revision strategies to strengthen the writer's ability to compose college-level writing assignments.
- j. Recognize and apply the conventions of standard English in reading and writing.

Rationale / Justification / Assessment Data:

Rationale: The Coordinating Board has encouraged non-course-based options for students to meet TSI requirements. The ACcess Learning Center offers non-course based options in math, reading and writing. We need to add Integrated Reading and Writing to the list of options.

Effects of Revisions:

- A. Faculty & Staff Requirements: Faculty and Staff are already serving this group of students. However, additional Faculty and Staff may be needed based on the number of students served.

- B. Equipment/Facility Requirements: None
- C. Location: ACcess Learning Centers on all campuses and off campus
- D. Income projections: These classes can be submitted for reimbursement

Effective Term:

- Summer 2014

3. NCBM 0101 – Non-Course Based Mathematics

A non-course based option to build, develop, and reinforce basic math skills to meet TSI requirements.

Hours (1 sem hr; 1 lec, 0 lab)

Learning Outcomes for NCBM 0101 Course

Students will build basic skills in math required for courses within their degree/certificate, and /or to pass entry-level program tests, and/or meet TSI requirements. Skills are built through individualized, computer – assisted instruction in conjunction with a wide array of supplemental materials to assist in skill development.

Rationale / Justification / Assessment Data:

Rationale: The Coordinating Board has encouraged non-course-based options for students to meet TSI requirements. The ACcess Learning Center offers NCBM 0302 non-course based option in math. We need to add NCBM 0101.

Effects of Revisions:

- A. Faculty & Staff Requirements: Faculty and Staff are already serving this group of students. However, additional Faculty and Staff may be needed based on the number of students served.
- B. Equipment/Facility Requirements: None
- C. Location: ACcess Learning Centers on all campuses and off campus
- D. Income projections: These classes can be submitted for reimbursement

Effective Term:

- Summer 2014

4. NCBR 0101 – Non-Course Based Reading

A non-course based option to build, develop, and reinforce basic reading skills to meet TSI requirements.

Hours (1 sem hr; 1 lec, 0 lab)

Learning Outcomes for NCBR 0101 Course

Students will build basic skills in reading required for courses within their degree/certificate, and /or to pass entry-level program tests, and/ or meet TSI requirements.. Skills are built through individualized, computer- assisted instruction in conjunction with a wide array of supplemental materials to assist in skill development.

Rationale / Justification / Assessment Data:

Rationale: The Coordinating Board has encouraged non-course-based options for students to meet TSI requirements. The ACcess Learning Center offers NCBR 0302 non-course based option in reading. We need to add NCBR 0101.

Effects of Revisions:

- A. Faculty & Staff Requirements: Faculty and Staff are already serving this group of students. However, additional Faculty and Staff may be needed based on the number of students served.
- B. Equipment/Facility Requirements: None
- C. Location: ACcess Learning Centers on all campuses and off campus
- D. Income projections: These classes can be submitted for reimbursement

Effective Term:

- Summer 2014

5. NCBW 0101 – Non-Course Based Writing

A non-course based option to build, develop, and reinforce basic writing skills to meet TSI requirements.

Hours (1 sem hr; 1 lec, 0 lab)

Learning Outcomes for NCBW 0101 Course

Students will build basic skills in writing required for courses within their degree/certificate, and /or to pass entry-level program tests and/or to meet TSI requirements. Skills are built through individualized, computer- assisted instruction in conjunction with a wide array of supplemental materials to assist in skill development.

Rationale / Justification / Assessment Data:

Rationale: The Coordinating Board has encouraged non-course-based options for students to meet TSI requirements. The ACcess Learning Center offers NCBW 0302 non-course based option in writing. We need to add NCBW 0101.

Effects of Revisions:

- A. Faculty & Staff Requirements: Faculty and Staff are already serving this group of students. However, additional Faculty and Staff may be needed based on the number of students served.
- B. Equipment/Facility Requirements: None
- C. Location: ACcess Learning Centers on all campuses and off campus
- D. Income projections: These classes can be submitted for reimbursement

Effective Term:

- Summer 2014

Delete the Following Courses:

Request to delete the following:

- NCBIM 0101
- NCBIR 0101
- NCBIW 0101

Rationale / Justification / Assessment Data:

Rationale: The "I" is confusing. The 0302 NCBOs and the 0101 NCBOs will be consistent with the new NCBM 0101, NCBR 0101 and NCBW 0101.

Effects of Revisions:

- A. Faculty & Staff Requirements: None
- B. Equipment/Facility Requirements: None
- C. Location: None
- D. Income projections: None

Effective Term:

- Summer 2014

Remove Fees:

Request to remove the \$30 fee from the following:

- NCBM 0302
- NCBR 0302
- NCBW 0302

Rationale / Justification / Assessment Data:

Rationale: The Coordinating Board encourages colleges to offer NCBOs to serve unique populations in a variety of ways. These interventions can range from 4 contact hours to 96 contact hours. These courses can be offered without charging the students tuition and/or fees, but the college can still receive state reimbursement .

The College must determine how to set the tuition/ fee structure to meet this unique delivery of services. Until the tuition and fee structure can be established, it is best not to charge a fee. The College is currently charging a \$30 fee for 14 hours or 60 hours. These fees were based on offering the TSI Assessment after completing the course. The Coordinating Board no longer encourages students to retest after each intervention.

Effects of Revisions:

- A. Faculty & Staff Requirements: None
- B. Equipment/Facility Requirements: None
- C. Location: These will be offered on campus and off campus
- D. Income projections: More classes can be submitted for reimbursement

Effective Term:

- Summer 2014

Current	Proposed
<p>ACCT 2301: Accounting Principles I Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills</p> <p>A study of accounting concepts and their application in transaction analysis and financial statement preparation and asset and equity accounting in proprietorships and corporations. Emphasis on accounting cycle for service and merchandising enterprises.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. To identify and apply generally accepted accounting principles, concepts, and procedures. 2. To identify and process steps in the accounting cycle for service and merchandising enterprises. 3. To identify and process transactions relating to assets, liabilities, and capital accounts. 4. To describe the accounting profession. 5. To describe the effects of transactions on the accounting equation through the financial statements using generally accepted accounting principles. 6. To record transactions utilizing subsidiary ledgers in an accounting system of specialized journals and describe the features of an effective accounting information system. 7. To identify features of an effective internal control system and control over cash through preparation of a bank reconciliation, recording petty cash disbursements, and recording transactions in a voucher system. 8. To define different types of receivables and record transactions relating to bad debt receivables and notes receivable. 9. To analyze different methods of accounting for merchandise inventory including lower of cost or market rule, estimating methods, perpetual and periodic systems. 10. To identify the elements of a plant asset cost including contrasts of capital from revenue expenditures, record depreciation by four methods, record depletion of natural resource, amortize intangible assets, and record the disposal of plant assets. 11. To classify liabilities as current or long-term, make basic payroll entries, and cite examples of contingent liabilities. 	<p>ACCT 2301: Principles of Financial Accounting Prerequisite: Meet TSI college-readiness standard for Mathematics; or equivalent Recommended co-requisite: MATH 1324 Mathematics for Business & Social Science</p> <p>This course is an introduction to the fundamental concepts of financial accounting as prescribed by U.S. generally accepted accounting principles (GAAP) as applied to transactions and events that affect business organizations. Students will examine the procedures and systems to accumulate, analyze, measure, and record financial transactions. Students will use recorded financial information to prepare a balance sheet, income statement, statement of cash flows, and statement of shareholders' equity to communicate the business entity's results of operations and financial position to users of financial information who are external to the company. Students will study the nature of assets, liabilities, and owners' equity while learning to use reported financial information for purposes of making decisions about the company. Students will be exposed to International Financial Reporting Standards (IFRS).</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Use basic accounting terminology and the assumptions, principles and constraints of the accounting environment. 2. Identify the difference between accrual and cash basis accounting. 3. Analyze and record business events in accordance with U.S. generally accepted accounting principles (GAAP). 4. Prepare adjusting entries and close the general ledger. 5. Prepare financial statements in an appropriate U.S. GAAP format, including the following: income statement, balance sheet, statement of cash flows, and statement of shareholder' equity. 6. Analyze and interpret financial statements using financial analysis techniques. 7. Describe the conceptual differences between International Financial Reporting Standards and U.S. generally accepted accounting principles.

<p>ACCT 2302: Accounting Principles II Prerequisite: ACCT 2301</p> <p>A study of the fundamentals of managerial accounting. Emphasis on accounting for a manufacturing concern, budgeting, planning, management decision making and analysis of financial reports.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. To define and develop a working knowledge of management accounting terminology and procedures. 2. To prepare and analyze reports for financial decision making including statement of cash flow, budgets, variance analysis, and other managerial decisions. 3. To identify the characteristics of a corporation, record transactions relating to issuance of stock and payment of dividends, and prepare financial statements. 4. To be able to journalize transactions for long-term debt and long-term investments. 5. To calculate financial ratios and prepare comparative financial statement analysis to be used in decision-making. 6. To be able to record transactions for manufacturing businesses and compute cost of goods sold. 	<p>ACCT 2302: Principles of Managerial Accounting Prerequisite: ACCT 2301</p> <p>This course is an introduction to the fundamental concepts of managerial accounting appropriate for all organizations. Students will study information from the entity's accounting system relevant to decisions made by internal managers, as distinguished from information relevant to users who are external to the company.</p> <p>The emphasis is on the identification and assignment of product costs, operational budgeting and planning, cost control and management decision making. Topics include product costing methodologies, cost behavior, operational and capital budgeting, and performance evaluation.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Identify the role and scope of financial and managerial accounting and the use of accounting information in the decision making process of managers. 2. Define operational and capital budgeting, and explain its role in planning, control, and decision making. 3. Prepare an operating budget, identify its major components, and explain the interrelationships among its various components. 4. Explain methods of performance evaluation. 5. Use appropriate financial information to make operational decisions. 6. Demonstrate use of accounting data in the areas of product costing, cost behavior, cost control, and operational and capital budgeting for management decisions.
<p>ANTH 2302: Introduction to Archeology Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills</p> <p>Archeology is the study of human history through the material traces that it has left behind. This course introduces the methods and theories used in the excavation and interpretation of material remains of past cultures.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. A basic understanding of the history of archaeology; 2. Understand how archaeologists work and what they're looking for; 3. Understanding the dating methods and terminology of archaeology; 	<p>ANTH 2302: Introduction to Archeology</p> <p>The study of the human past through material remains. The course includes a discussion of methods and theories relevant to archeological inquiry. Topics may include the adoption of agriculture, response to environmental change, the emergence of complex societies and ethics in the discipline.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Describe key concepts and theories in archeology. 2. Explain the key techniques and methods used in archeology. 3. Demonstrate an understanding of long-term cultural change from an archeological perspective.

<p>4. And know something about the archaeology of our own hemisphere.</p>	
<p>ANTH 2346: General Anthropology and the Humanities Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills</p> <p>A cross-cultural study of art, music, literature and religion in world cultures across time. The course focuses on diversity in the production of human culture, behavior, social institutions and artistic expression.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Students should understand the basic principles of anthropology and appreciate the diversity in human culture. 2. Their ideas about art, music, literature, and religion will be broader and include a knowledge of how other cultures understand artistic and spiritual expression. 	<p>ANTH 2346: General Anthropology The study of human beings, their antecedents, related primates, and their cultural behavior and institutions. Introduces the major subfields: physical and cultural anthropology, archeology, linguistics, their applications and ethics in the discipline.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Describe the key concepts and methods of anthropology. 2. Compare and contrast the subfields of anthropology, including but not limited to physical anthropology, cultural anthropology and archeology. 3. Demonstrate an understanding of anthropological approaches to human diversity
<p>ANTH 2351: Cultural Anthropology Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills</p> <p>Anthropology is the study of human beings in all times and all places. This course introduces the major sub-fields of anthropology and presents key concepts in the study of cultural diversity among world peoples.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Understand the fundamental ideas of cultural anthropology; 2. Understand how cultural anthropologists gather and analyze information; 3. Understand the relevance of anthropology in the modern world and what it has to say about social issues including terrorism, racism, the rise of nation-states; and the changing perceptions of sexuality and marriage; 4. Understand ethnocentrism in themselves and others; 5. Understand why there is such diversity and complexity in human behavior; 6. Understand race and gender issues in new ways. 	<p>ANTH 2351: Cultural Anthropology The study of human cultures. Topics may include social organization, institutions, diversity, interactions between human groups, and ethics in the discipline.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Describe key concepts and methods of cultural anthropology. 2. Explain the concept of culture, cultural diversity and culture change. 3. Demonstrate how anthropological concepts apply to addressing human and global challenges
<p>ARTS 1301: Art Appreciation Study of the artistic styles and visual elements in order to increase understanding and enjoyment of art.</p> <p>Learning Outcomes:</p>	<p>ARTS 1301: Art Appreciation A general introduction to the visual arts designed to create an appreciation of the vocabulary, media, techniques and purposes of the creative process. Students will critically interpret and evaluate works of art within formal, cultural and historical contexts.</p>

<ol style="list-style-type: none"> 1. To demonstrate awareness of the scope and variety of works in the arts and humanities. 2. To understand those works as expressions of individual and human values within an historical and social context. 3. To respond critically to works in the arts and humanities. 4. To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist. 5. To articulate an informed personal reaction to works in the arts and humanities. 6. To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts. 7. To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences. 	<p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Apply art terminology as it specifically relates to works of art. 2. Demonstrate knowledge of art elements and principles of design. 3. Differentiate between the processes and materials used in the production of various works of art. 4. Critically interpret and evaluate works of art. 5. Demonstrate an understanding of the impact of arts on culture.
<p>ARTS 1303: Art History I A survey of painting, sculpture, architecture and the minor arts from prehistoric times to the 14th Century.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. To demonstrate awareness of the scope and variety of works in the arts and humanities. 2. To understand those works as expressions of individual and human values within an historical and social context. 3. To respond critically to works in the arts and humanities. 4. To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist. 5. To articulate an informed personal reaction to works in the arts and humanities. 6. To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts. 7. To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences. 	<p>ARTS 1303: Art History I (Prehistoric to the 14th century) A chronological analysis of the historical and cultural contexts of the visual arts from prehistoric times to the 14th century.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Identify and describe works of art based on their chronology and style, using standard categories and terminology. 2. Investigate major artistic developments and significant works of art from prehistoric times to the 14th century. 3. Analyze the relationship of art to history by placing works of art within cultural, historical and chronological contexts. 4. Critically interpret and evaluate works of art.
<p>ARTS 1304: Art History II A survey of painting, sculpture, architecture and the minor arts from the 14th Century to the present.</p> <p>Learning Outcomes:</p>	<p>ARTS 1304: Art History II (14th century to the present) A chronological analysis of the historical and cultural contexts of the visual arts from the 14th century to the present day.</p>

<ol style="list-style-type: none"> 1. To demonstrate awareness of the scope and variety of works in the arts and humanities. 2. To understand those works as expressions of individual and human values within an historical and social context. 3. To respond critically to works in the arts and humanities. 4. To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist. 5. To articulate an informed personal reaction to works in the arts and humanities. 6. To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts. 7. To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences 	<p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Identify and describe works of art based on their chronology and style, using standard categories and terminology. 2. Investigate major artistic developments and significant works of art from the 14th century to the present day. 3. Analyze the relationship of art to history by placing works of art within cultural, historical and chronological contexts. 4. Critically interpret and evaluate works of art
<p>ARTS 1311: Design I Emphasis on two-dimensional design, including the fundamental elements and principles of line, color, texture, shape, space, form and unity. Learning Outcomes:</p> <ol style="list-style-type: none"> 1. To demonstrate awareness of the scope and variety of works in the arts and humanities. 2. To understand those works as expressions of individual and human values within an historical and social context. 3. To respond critically to works in the arts and humanities. 4. To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist. 5. To articulate an informed personal reaction to works in the arts and humanities. 6. To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts. 7. To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences 	<p>ARTS 1311: Design I (2-dimensional) An introduction to the fundamental terminology, concepts, theory and application of two-dimensional design. Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Identify and apply the elements of art and principles of two-dimensional design. 2. Employ discipline specific vocabulary in the evaluation of two-dimensional design problems. 3. Demonstrate creative skill in aesthetic problem solving within assigned parameters. 4. Demonstrate an appropriate level of professional practice, including safety, craft and presentation.
<p>ARTS 1312: Design II Prerequisite: ARTS 1311</p> <p>Emphasis on three-dimensional (sculptural) design concepts, materials and techniques.</p>	<p>ARTS 1312: Design II (3-dimensional) An introduction to the fundamental terminology, concepts, theory, and application of three-dimensional design. Learning Outcomes:</p>

<p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. To demonstrate awareness of the scope and variety of works in the arts and humanities. 2. To understand those works as expressions of individual and human values within an historical and social context. 3. To respond critically to works in the arts and humanities. 4. To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist. 5. To articulate an informed personal reaction to works in the arts and humanities. 6. To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts. 7. To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences. 	<ol style="list-style-type: none"> 1. Identify and apply the elements of art and principles of three-dimensional design. 2. Employ discipline specific vocabulary in the evaluation of three-dimensional design problems. 3. Demonstrate creative skill in aesthetic problem solving within assigned parameters. 4. Demonstrate an appropriate level of professional practice, including safety, craft and presentation.
<p>ARTS 1316: Drawing I Investigation of a variety of media, techniques and subjects. Exploration of perceptual and descriptive possibilities with consideration of drawing as a developmental process as well as an end in itself. Regular outside assignments.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. To demonstrate awareness of the scope and variety of works in the arts and humanities. 2. To understand those works as expressions of individual and human values within an historical and social context. 3. To respond critically to works in the arts and humanities. 4. To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist. 5. To articulate an informed personal reaction to works in the arts and humanities. 6. To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts. 	<p>ARTS 1316: Drawing I A foundation studio course exploring drawing with emphasis on descriptive, expressive and conceptual approaches. Students will learn to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will engage in critical analysis and begin to develop their understanding of drawing as a discipline.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Describe visual subjects through the use of accurate and sensitive observation. 2. Generate drawings which demonstrate descriptive, expressive and conceptual approaches. 3. Utilize varied materials and techniques with informed aesthetic and conceptual strategies. 4. Demonstrate an appropriate level of professional practice, including safety, craft and presentation. 5. Analyze and critique drawings verbally and/or in writing. 6. Relate drawing to design, art history and contemporary artistic production.

<p>7. To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences.</p>	
<p>ARTS 1317: Drawing II Prerequisite: ARTS 1316</p> <p>Expansion of ARTS 1316 stressing the expressive and conceptual aspects of drawing, including the human figure within a spatial environment. Regular outside assignments</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. To demonstrate awareness of the scope and variety of works in the arts and humanities. 2. To understand those works as expressions of individual and human values within an historical and social context. 3. To respond critically to works in the arts and humanities. 4. To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist. 5. To articulate an informed personal reaction to works in the arts and humanities. 6. To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts. 7. To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences. 	<p>ARTS 1317: Drawing II A studio course exploring drawing with continued emphasis on descriptive, expressive and conceptual approaches. Students will further develop the ability to see and interpret a variety of subjects while using diverse materials and techniques. Course work will facilitate a dialogue in which students will employ critical analysis to broaden their understanding of drawing as a discipline.</p> <ol style="list-style-type: none"> 1. Describe visual subjects through the use of accurate and sensitive observation. 2. Generate drawings which demonstrate descriptive, expressive and conceptual approaches with an increased focus on individual expression. 3. Utilize varied materials and techniques, including color media, with informed aesthetic and conceptual strategies. 4. Demonstrate an appropriate level of professional practice, including safety, craft and presentation. 5. Analyze and critique drawings verbally and/or in writing. 6. Relate their drawings to historical and contemporary developments in the field.
<p>BCIS 1305: Business Computer Applications Prerequisite: RDNG 0321-minimum grade of C or a score on a state-approved test indicating readiness for RDNG 0331</p> <p>In-depth study of computer hardware, software, operating systems and information systems pertaining to a business environment. The main focus of this course is to understand and use various business software applications including word processing, spreadsheets, databases, presentation graphics and other miscellaneous business applications.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Explore the impact of computer technology on society and how computer technology has changed how we think, 	<p>BCIS 1305: Business Computer Applications Students will study computer terminology, hardware, and software related to the business environment. The focus of this course is on business productivity software applications and professional behavior in computing, including word processing (as needed), spreadsheets, databases, presentation graphics and business-oriented utilization of the Internet.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Describe the fundamentals of Information Technology (IT) infrastructure components: hardware, software, and data communications systems. 2. Explain the guiding principles of professional behavior in computing. 3. Demonstrate proper file management techniques to manipulate electronic files

<p>live, work, play, communicate, and our values and beliefs.</p> <ol style="list-style-type: none"> Determine the computer application skills one should acquire to be successful in the job market, in college courses, and in everyday life. Recognize the ethical and societal effects and responsibilities of computer use. Discuss how activities such as plagiarism, theft of services or licensing, or the spread of viruses impacts the individual, society, and culture and what one can do to protect oneself and one's data. Discuss how digital actions can cause accidental or intentional harm to others and methods of preventing those actions. Recognize quality Web sites, practice online etiquette and safe surfing. Categorize computers based on size, application, and cost. Recognize the components, types, importance, advantages and disadvantages of networking computers. Evaluate the possibilities of e-commerce and cloud computing. Recognize and describe the features of computer operating systems and system utilities. Use PowerPoint to create presentations addressing the above issues. Use Word to create documents, mail merge, fliers, resumes and research papers. Use Excel to create personal budgets, grade books, manage business data, and analyze empirical data from various sources. Use Excel to prepare visual representation of data through charts and graphs. Combine the use of PowerPoint, Excel, and Word to create effective course presentations on given topics Identify current and future computer trends. 	<p>and folders in a local and networked environment.</p> <ol style="list-style-type: none"> Use business productivity software to manipulate data and find solutions to business problems. Explain the concepts and terminology used in the operation of application systems in a business environment. Identify emerging technologies for use in business applications. Complete projects that integrate business software applications.
<p>BUSI 1301: Introduction to Business Survey of modern business activities; basic industries, forms of organization, banking, credit, problems of management, business risks and the relation of government to business.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> List the factors of production and differentiate between the three major economic systems based on the way 	<p>BUSI 1301: Business Principles This course provides a survey of economic systems, forms of business ownership, and considerations for running a business. Students will learn various aspects of business, management, and leadership functions; organizational considerations; and decision-making processes. Financial topics are introduced, including accounting, money and banking, and securities markets. Also included are discussions of business challenges in the legal</p>

<p>each controls and uses the factors of production.</p> <ol style="list-style-type: none"> 2. Identify the major forms of business ownership and their appropriateness for small business, franchises, or multinational corporations. 3. Describe the Federal Reserve System's mission and the tools it uses to accomplish its mission. 4. Identify the types of financial institutions that make up the U.S. financial system and the services they offer. 5. Differentiate between the three basic financial statements and the budgeting process. Illustrate how the computation of key ratios from financial statements helps in analyzing a business' financial strengths and weaknesses. 6. Discuss the sources, instruments, and techniques of short-term and long-term financing. 7. Describe the activities of the management process and the basic skills needed by managers. 8. Identify the purpose of goal setting and differentiate between strategic, tactical, and operational plans. 9. Discuss the bases for organizational structure. Describe the effect authority, responsibility, leadership, corporate culture and the informal organization have on the organization. 10. Identify the functions of a specialized human resource department and explain the continuing responsibility of all departments for the effective training, development, motivation, and use of human resources. 11. Discuss why labor unions were organized, their primary goals, and methods for achieving these goals. 12. Identify the major components and tasks of operations and production management. 13. Define marketing and discuss the marketing function in product development, pricing, promotion and distribution. 	<p>and regulatory environment, business ethics, social responsibility, and international business. Emphasized is the dynamic role of business in everyday life.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Identify major business functions of accounting, finance, information systems, management and marketing. 2. Describe the relationships of social responsibility, ethics and law in business. 3. Explain forms of ownership, including their advantages and disadvantages. 4. Identify and explain the domestic and international considerations for today's business environment: social, economic, legal, ethical, technological, competitive and international. 5. Identify and explain the role and effect of government on business. 6. Describe the importance and effects of ethical practices in business and be able to analyze business situations to identify ethical dilemmas and ethical lapses. 7. Describe basic financial statements and show how they reflect the activity and financial condition of a business. 8. Explain the banking and financial systems, including the securities markets, business financing, and basic concepts of accounting. 9. Explain integrity, ethics and social responsibility as they relate to leadership and management. 10. Explain the nature and functions of management. 11. Identify strengths, weaknesses, opportunities and threats of information technology for businesses.
<p>BUSI 2301: Business Law I General principles of law relating to legal rights and remedies, contracts, agency employment and business organization, including partnerships and corporations. Practical business problems and their legal implications. Learning Outcomes</p>	<p>BUSI 2301: Business Law The course provides the student with foundational information about the U.S. legal system and dispute resolution, and their impact on business. The major content areas will include general principles of law, the relationship of business and the U.S. Constitution, state and federal legal systems, the relationship between law and ethics,</p>

<ol style="list-style-type: none"> 1. To learn the basic forms of business organizations; 2. To learn pertinent legal terminology; 3. To apply such terminology to legal topics relevant to business; 4. To understand the foundations of legal systems; 5. To understand the foundations contract law; and 6. To develop critical thinking for solving business law problems 	<p>contracts, sales, torts, agency law, intellectual property and business law in the global context.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Describe the origins and structure of the U.S. legal system. 2. Describe the relationship of ethics and law in business. 3. Define relevant legal terms in business. 4. Explain basic principles of law that apply to business and business transactions. 5. Describe business law in the global context. 6. Describe current law, rules and regulations related to settling business disputes.
<p>COSC 1437: Programming Fundamentals II Prerequisites: COSC 1436-minimum grade of C</p> <p>Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Demonstrate good logic design using only sequence, selection, and repetition logic structures; 2. Demonstrate effective use of recursion; 3. Demonstrate an understanding of software engineering principles applied to specification, design, coding, and program correctness; 4. Design several abstract data types (with much greater complexity than those designed in COSC 1436) and class types in such a way that each type has a set of operations and a set of values (what) that can be used independently of knowledge of implementation (how); 5. Implement several designs of a given abstract data type; 6. And to demonstrate fluency in the Java programming language. 	<p>COSC 1437: Programming Fundamentals II Prerequisite: COSC 1436</p> <p>This course focuses on the object-oriented programming paradigm, emphasizing the definition and use of classes along with fundamentals of object-oriented design. The course includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering processes. Students will apply techniques for testing and debugging software. (This course is included in the Field of Study Curriculum for Computer Science.)</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Identify and explain a programming development lifecycle, including planning, analysis, design, development and maintenance. 2. Demonstrate a basic understanding of object-oriented programming by using structs and classes in software projects. 3. Use object-oriented programming techniques to develop executable programs that include elements such as inheritance and polymorphism. 4. Document and format code in a consistent manner. 5. Apply basic searching and sorting algorithms in software design. 6. Apply single-and multi-dimensional arrays in software. 7. Use a symbolic debugger to find and fix runtime and logical errors in software. 8. Demonstrate a basic understanding of programming methodologies, including object-oriented, structured and procedural programming. 9. Describe the phases of program translation from source code to executable code.

COSC 2425: Computer Organization and Assembly Language Programming

Prerequisites: COSC 1437-minimum grade of C

Syntax and semantics of a typical assembly language; macros and microprocessors; design, construction and execution of assembly language programs; data representation; and addressing techniques.

Learning Outcomes

No syllabus found.

COSC 2425: Computer Organization

Prerequisite: COSC 1436

The organization of computer systems is introduced using assembly language. Topics include basic concepts of computer architecture and organization, memory hierarchy, data types, computer arithmetic, control structures, interrupt handling, instruction sets, performance metrics, and the mechanics of testing and debugging computer systems. Embedded systems and device interfacing are introduced.

Learning Outcomes:

1. Explain contemporary computer system organization.
2. Describe data representation in digital computers.
3. Explain the concepts of memory hierarchy, interrupt processing and input/output mechanisms.
4. Measure the performance of a computer system.
5. Design and develop assembly language applications.
6. Explain the interfaces between software and hardware components.
7. Explain the design of instruction set architectures.
8. Develop a single-cycle processor.
9. Explain the concept of virtual memory and how it is realized in hardware and software.
10. Explain the concepts of operating system virtualization.

CRIJ 1301: Introduction to Criminal Justice

History, philosophy and ethical considerations of criminal justice; the nature and impact of crime; and an overview of the criminal justice system, including law enforcement and court procedures.

Learning Outcomes:

1. Understand the importance of social control and how the U.S. criminal justice system protects individual rights.
2. Explain the relationship between local, state and federal levels of criminal justice and list the steps in the criminal justice process.
3. Understand how crime is categorized and measured.
4. Understand the role of criminal law in the modern criminal justice system.
5. Discuss the sources of law.
6. Compare and contrast the types of law.
7. Explain the basic purpose of policing in democratic societies.

CRIJ 1301: Introduction to Criminal Justice

This course provides a historical and philosophical overview of the American criminal justice system, including the nature, extent and impact of crime; criminal law; and justice agencies and processes.

Learning Outcomes:

1. Describe the history and philosophy of the American criminal justice system.
2. Explain the nature and extent of crime in America.
3. Analyze the impact and consequences of crime.
4. Evaluate the development, concepts and functions of law in the criminal justice system.
5. Describe the structure of contemporary federal, state and local justice agencies and processes.

<ol style="list-style-type: none"> 8. Understand the similarities and differences in the federal, state and local levels of law enforcement. 9. Outline the development of the jury trial. 10. Explain state and federal court organization. 11. Discuss the role of the courts in the criminal justice process. 12. Understand the concept of the courtroom workgroup. 13. Discuss the role of the prosecutor, defense attorney and the judge. 14. Understand the nature of the disposition. 15. Explain plea bargaining and its importance in the criminal justice process. 16. Describe the factors that guide sentencing. 17. Understand why prisons are referred to as "total institutions." 18. Describe special problems or points of contention between inmate rights and institutional requirements. 19. Discuss the purposes of community corrections. 20. Compare and contrast probation and parole. 21. Understand why the modern criminal justice system treats juvenile delinquents differently than it treats adult criminal offenders. 22. Discuss the concept of parens patriae. 23. Compare and contrast the war on terrorism with the war on crime. 24. Discuss the USA Patriot Act. 25. Discuss the principles of restorative justice. 	
<p>CRIJ 1306: Court Systems and Practices Study of the judiciary in the American criminal justice system and the adjudication processes and procedures.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Describe court and their purposes(s). 2. Explain the dual court system and describe which main court function is most important: upholding the law, protecting people's rights, or resolving disputes. 3. Define the role of courts in criminal justice today. 4. Explain how legislatures exercise control over American courts. 5. Explain how higher courts exercise control over lower courts. Contrast how the interpretation of higher-court 	<p>CRIJ 1306: Court Systems & Practices This course is a study of the court system as it applies to the structures, procedures, practices and sources of law in American courts, using federal and Texas statutes and case law.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Describe the American judicial systems (civil, criminal and juvenile), their jurisdiction, development and structure. 2. Analyze the function and dynamics of the courtroom work group. 3. Identify judicial processes from pretrial to appeal. 4. Describe the significant Constitutional Amendments, doctrines and other sources of law in the American judicial system.

decisions by the lower courts shape such controls.

6. Describe how the federal courts developed.
7. Explain how the U.S. Constitution and federal legislation influence the development of the federal courts.
8. Describe the various types of federal courts at work in this country today.
9. Explain state court structure; specifically understand the structure of Texas state courts.
10. Explain what state court workloads are like.
11. Understand the legal protections available to children at both the federal and state levels today.
12. Identify and briefly describe the most relevant U.S. Supreme Court juvenile justice decisions.
13. Discuss the various types of specialized courts; understand how they differ from other courts and explain how they developed.
14. Explain the process through which federal judgeships are occupied.
15. Discuss the qualifications necessary to become a federal or state judge.
16. Describe the process through which state judgeships are occupied.
17. Discuss the various types of prosecutors that work at federal, state, county and city levels and explain which type wields the most power.
18. Understand how the prosecutor's role developed over time.
19. Analyze prosecutorial discretion and describe how it affects charging decisions.
20. List the various types of defense attorneys working in criminal courts today and describe how they differ.
21. Outline the ethical standards that guide criminal defense attorneys today and describe the various sources of those standards.
22. Outline the rights of criminal defendants facing processing by the American justice system and explain the origin of those rights.
23. Explain what rights victims have under current law.
24. Define the exclusionary rule and explain why it is controversial.
25. Obtain a comprehensive understanding of all steps in the adjudication process.

<ol style="list-style-type: none"> 26. Explain plea bargaining, including its historical development and its use in courts today. 27. Describe what is involved in the process of entering a guilt plea and the consequences therein. 28. Understand when an accused offender has the right to a jury trial. 29. Explain what constitutional rights criminal defendants have at trial. 30. Outline the order of events in a criminal trial. 31. Explain the goals of criminal sentencing. 32. Understand the purpose of the criminal appeals process and discuss the potential consequences of an appeal. 33. Explain how the process of differential treatment applies to court processing. 34. Understand how common wrongful convictions are under our system of justice. Describe what can be done to further reduce the likelihood of wrongful convictions. Discuss exonerations and the reasons for them. 35. Outline what alternatives to traditional adjudication are identified in this chapter. Explain how such alternatives are applied today. 	
<p>CRIJ 1310: Fundamentals of Criminal Law Study of criminal law, its philosophical and historical development, major definitions and concepts, classifications and elements of crime, penalties using Texas statutes as illustrations and criminal responsibility.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Define criminal law and explain the significance of each of the definition's components. 2. Identify the purposes served by criminal law. 3. Expound upon the "rule of law" and explain why due process is an integral part of the rule of law. 4. Define actus reus, and define its basic elements; expound upon the concept of mens rea and describe the different levels or types of mens rea under the common law and the Model Penal Code. 5. Explain the concept of corpus delicti. 6. Distinguish between causation in fact and proximate cause. 7. Illustrate the nature of an ex post facto law and explain why our legal system does not permit the creation of ex post facto criminal laws. 	<p>CRIJ 1310: Fundamentals of Criminal Law This course is the study of criminal law including application of definitions, statutory elements, defenses and penalties using Texas statutes, the Model Penal Code and case law. The course also analyzes the philosophical and historical development of criminal law and criminal culpability.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Identify the elements of crimes and defenses under Texas statutes, Model Penal Code and case law. 2. Classify offenses and articulate penalties for various crimes. 3. Compare culpable mental states when assigning criminal responsibility. 4. Assess the impact of history and philosophy on current criminal laws. 5. Evaluate the application of criminal law to other areas of criminal justice such as law enforcement and corrections.

8. Explain why it is necessary that an offender take a "substantial step" toward the commission of a crime before mere plans become a criminal attempt.
9. Explain the purpose of a defense to a criminal charge and the nature of affirmative defenses.
10. Illustrate the difference between justifications and excuses, and give examples of justifications that might serve as defenses.
11. Describe syndrome-based defenses, and provide some examples of this type of defense.
12. Explain the difference between a finding of NGRI and one of GBMI.
13. Distinguish between the various legal "tests" for assessing insanity.
14. Distinguish noncriminal homicide from criminal homicide.
15. Identify and describe three types of criminal homicide.
16. Explain the concept of malice aforethought.
17. Explain the difference between the common law crimes of assault and battery.
18. Explain the difference between common law rape and modern statutes describing sexual assault.
19. Understand the differences between larceny and embezzlement, and tell why they are important.
20. Distinguish between extortion, robbery and burglary.
21. Identify the common elements of modern-day arson statutes and distinguish the modern definition from the common law definition.
22. Identify the three categories of social-order crimes and explain how they differ from one another.
23. Summarize the differences between perjury, bribery, and contempt, and explain how criminal contempt differs from civil contempt.
24. Define and distinguish terrorism, treason and sedition.
25. Describe victimless crimes, and provide examples therein.
26. Explain what is meant by victims' rights, and assess whether today's crime victims have sufficient rights.
27. List and explain the purposes of criminal sentencing, and identify the sentencing

<p>strategies that are most closely associated with each purpose.</p> <p>28. Summarize the features of three-strikes laws, and expound upon their relative effectiveness.</p> <p>29. Explain how habeas corpus appeals are limited in capital cases, and provide the rationale underlying such limitations.</p> <p>30. Describe how the purposes of criminal sentencing are served by indeterminate and determinate sentencing strategies, and explain which strategy is most appropriate today.</p>	
<p>CRIJ 2313: Correctional Systems and Practices</p> <p>Corrections in the criminal justice system; organization correctional systems; correctional role; institutional operations; alternatives to institutionalization; treatment and rehabilitation; current and future issues.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Define the term "corrections" and know how correctional agencies fulfill their mission of protecting society. 2. Outline the growth of corrections over the past two decades, and describe why the scope of correctional budgets, staffing, and clients makes it important for students to study corrections. 3. Specify the reasons for preventive detention, and describe the forms of release from jail pending trial. 4. List the purposes of the presentence investigation. 5. List and describe the six sentencing options available as criminal sanctions. 6. Explain the use of sentencing guidelines. 7. Describe the historical development of jail design and operations. 8. Discuss the daily operations of a jail. 9. Compare the various jail designs, and explain the positive benefits of direct supervision. 10. Explain the organization and operation of modern probation. 11. Contrast regular, intensive, and special caseloads. 12. Define and give examples of standard, and special conditions of probation. 13. Describe how the role and prevailing philosophies of prison operations have changed significantly over the past century. 14. Explain the mission of a prison. 	<p>CRIJ 2313: Correctional Systems & Practices</p> <p>This course is a survey of institutional and non-institutional corrections. Emphasis will be placed on the organization and operation of correctional systems; treatment and rehabilitation; populations served; Constitutional issues; and current and future issues.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Describe the organization and operation of correctional systems and alternatives to institutionalization. 2. Describe treatment and rehabilitative programs. 3. Differentiate between the short-term incarceration and long-term institutional environments. 4. Evaluate current and future correctional issues. 5. Identify the Constitutional rights applicable to the correctional setting.

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| <ol style="list-style-type: none">15. Compare and contrast the federal and state prison systems; specifically understand the make-up of the Texas prison system.16. Compare and contrast the ways inmates can be released from prison, to include parole, supervised mandatory release, and unconditional mandatory release.17. Outline the use of parole guidelines using salient factor scores to determine parole readiness.18. Describe the process of parole revocation, and list the due process rights for offenders during this process.19. Understand the use of incarceration rates to compare numbers of offenders over various time frames.20. Describe how offenders are assigned to various security levels of prisons, and how their daily routine operates.21. Identify the special needs of female inmates, and how correctional agencies have responded to their needs.22. Compare classification methods for male and female inmates.23. List and define the three categories of offenders referred to the juvenile justice system.24. Outline the steps in the juvenile justice process, and compare it with similar steps in the adult criminal justice process.25. Define "special offenders" and describe how they require special handling under correctional supervision.26. Understand the special needs of drug offenders, mentally ill inmates, violent inmates, sex offenders and inmates with HIV.27. Explain how prisons are organized and the role of all staff members, including management staff.28. Contrast the custody and treatment functions within a prison; list the ways in which the classification of inmates contributes to the management of a prison.29. Define the concept of "prisonization", and explain its impact on inmates both while serving a prison sentence and as they return to the community.30. Identify many of the common prison slang terms, and their meaning within a prison setting.31. List the eight types of activities that contribute to the security and custody functions within a prison. | |
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<ol style="list-style-type: none"> 32. Identify the various types of counts and how they are carried out in a prison. 33. Describe the historical development of the legal rights of inmates, and the creation and then abandonment of the hands-off doctrine by federal courts; explain how the First, Fourth, Eighth and Fourteenth Amendments to the U.S. Constitution create a basis for inmate lawsuits. 34. Compare and contrast public prisons and private prisons and discuss the benefits of correctional accreditation. 35. Identify some of the key questions facing corrections in the next ten years. 	
<p>CRIJ 2328: Police Systems and Practices The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police-community interaction; current and future issues.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Discuss the history of policing and the development of recent policing, from the first half of the twentieth century through the present time. 2. Introduce the numerous federal law enforcement agencies that enforce federal laws and regulations and assist local and state police departments. 3. Describe the size, scope, and functions of law enforcement agencies in the public sector. 4. Be familiar with the many changes made in U.S. public law enforcement following the September 11, 2001, terrorist attacks against the United States. 5. Illustrate the complexities of modern police organizations and how departments are organized on the basis of personnel, area, time, and function. 6. Be familiar with the police selection process and the standards that must be met to be accepted for employment as a police officer. 7. Understand the basis for police academy training, field training, community policing training, and probationary periods required in many police departments. 8. Explore the police role and its many interpretations, the goals and objectives of policing, the various operational styles of policing and the concept of police discretion, seeking to understand how and why discretion is exercised and the methods that have been used to control it. 9. Be familiar with the research indicating the existence of a distinct police culture or 	<p>CRIJ 2328: Police Systems & Practices This course examines the establishment, role and function of police in a democratic society. It will focus on types of police agencies and their organizational structure, police-community interaction, police ethics and use of authority.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Describe the types of police agencies and explain the role of police in America within the context of a democratic society. 2. Describe means and methods utilized to ensure police accountability. 3. Explain the historical development of policing. 4. Describe the selection process for police officers. 5. Compare and contrast organizational structures, policies, strategies and tactics employed to ensure police effectiveness, efficiency and equity.

subculture and the studies on police personality, including attempts made to define the police personality.

10. Discuss police officer stress and understand why it occurs, how it is exhibited, and what means can be utilized to deal with it.
11. Describe the history and problems of minorities in policing.
12. Illustrate how discrimination affects minorities in obtaining employment and promotions in policing.
13. Discuss the provisions within the U.S. legal system that enabled minorities to overcome job discrimination.
14. Be acquainted with the various definitions, types, and extent of police corruption.
15. Explore various forms of police misconduct other than police corruption, including drug-related corruption, police deception, sex-related corruption, and domestic violence.
16. Discuss the issue of liability and the effects of lawsuits on police officers and police agencies.
17. Understand the traditional methods of doing police work to include police traffic operations and special operations and examine their effectiveness.
18. Discuss some of the innovative and tactical ways of performing the patrol function.
19. Discuss police automobile pursuits.
20. Illustrate the meaning of police-community relations and their importance to the safety and quality of life in a community.
21. Explore public attitudes regarding the police and efforts undertaken around the nation to improve public perceptions.
22. Describe some innovative community crime prevention programs that focus on crime reduction and improving the quality of life in communities.
23. Discuss the effect of community policing and problem-solving policing on current policing and the implementation of community policing strategies, including the most recent methods, the role of the federal government, and some recent community policing successes.
24. Understand the role of the Bill of Rights and the U.S. Supreme Court in regulating the actions of the police.

<p>25. Become aware, through the exploration of case law, of the changing philosophy of the U.S. Supreme Court in areas regarding arrests, search and seizure, custodial interrogation, and identification procedures.</p>	
<p>DRAM 1310: Introduction to Theatre Examines various elements of theatre; brief history with introduction to theatre plant and activities, augmented by textbook study of stage terminology and introduction to organization of production procedure.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Possess a limited understanding of theatre history. 2. Define and explain theatre terminology, movements, and theories. 3. Compose a critical analysis of two productions beyond the mere retelling of the plot. 4. Develop an appreciation for the performing arts. 	<p>DRAM 1310: Introduction to Theater Survey of theater including its history, dramatic works, stage techniques, production procedures and relation to other art forms. Participation in productions may be required.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Analyze theater through written responses to play texts and/or live performance. 2. Demonstrate a basic knowledge of theater history and dramatic works. 3. Describe the collaborative nature of theater arts. 4. Demonstrate the relationship of the arts to everyday life as well as broader historical and social contexts.
<p>DRAM 1330: Stagecraft I Study and application of visual aesthetics which may include the physical theatre, scenery construction and painting, lighting and stage management</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Recognize and properly use lighting instruments, media, and related equipment. 2. POSSESS A DEEP RESPECT FOR THE THEATRE'S SAFETY PROCEDURES. 3. Understand basic lighting and sound techniques that can be applied to any production. 4. Utilize and understand theatrical terminology. 5. Apply basic drafting and design skills. 6. Compile production- and prompt-books for stage managing 	<p>DRAM 1330: Stagecraft I Study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound and theatrical management.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Apply a vocabulary and knowledge of the environment, tools and skills required to mount a theatrical production. 2. Demonstrate knowledge of the variety of work required to mount a theatrical production. 3. Describe the collaborative nature of production within theatre arts.
<p>DRAM 2331: Stagecraft II Prerequisite: DRAM 1330</p> <p>Additional emphasis and study of costume design, stage management, lighting and sound design; application of aesthetic and technical theories and practice of stage design and effects.</p> <p>Learning Outcomes</p> <ol style="list-style-type: none"> 1. Recognize and properly use lighting instruments, media, and related equipment. 	<p>DRAM 2331: Stagecraft II Continued study and application of the methods and components of theatrical production which may include one or more of the following: theater facilities, scenery construction and painting, properties, lighting, costume, makeup, sound and theatrical management.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Apply an expanded vocabulary and knowledge of the environment, tools and skills required to mount a theatrical production.

<ol style="list-style-type: none"> 2. 2. POSSESS A DEEP RESPECT FOR THE THEATRE'S SAFETY PROCEDURES. 3. 3. Understand basic lighting and sound techniques that can be applied to any production. 4. 4. Utilize and understand theatrical terminology. 5. 5. Apply basic drafting and design skills. 6. 6. Compile production- and prompt-books for stage managing. This course is designed to familiarize the student with the basics of theatrical lighting, sound, and stage management. Through demonstration and practice, the theatre major or interested student will be able to apply knowledge from this course to the real-world production of plays at this school and at other venues. 	<ol style="list-style-type: none"> 2. Demonstrate increased knowledge of the variety of work required to mount a theatrical production. 3. Describe in depth the collaborative nature of production within theatre arts.
<p>DRAM 1351: Acting I Fundamental acting techniques with emphasis on developing scenes from plays, and on developing ensemble performance and actor's responsibilities to other actors, to the play, to the director and production staff and to the audience. Classroom exercises to explore and discover the actor's own inner resources. Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Feel comfortable with working alone and with fellow performers, both in rehearsal and before an audience; 2. Have a sense of ensemble; 3. Apply GOTE as a character analysis tool; 4. Recognize and use basic blocking techniques; 5. Bring personal moments to the given material as well as create characters different from himself/herself; 6. Recognize and use some of the specialized vocabulary of the theatre; 7. Observe life and borrow elements, which are useful for performance; and, 8. Have an appreciation for theatre as an art form. 	<p>DRAM 1351: Acting I An introduction to the fundamental principles and tools of acting as used in auditions, rehearsals and performances. This may include ensemble performing, character and script analysis, and basic theater terminology. This exploration will emphasize the development of the actor's instrument: voice, body and imagination.</p> <ol style="list-style-type: none"> 1. Analyze scripts from the viewpoint of the actor. 2. Analyze, develop and perform a character. 3. Demonstrate effective and safe use of the voice and body. 4. Define and discuss terms and concepts using the vocabulary of theater. 5. Perform at an appropriately skilled level in ensemble building exercises, scenes and final projects, which may include participation in plays.
<p>DRAM 1352: Acting II Prerequisite: DRAM 1351 Actually creating a role with practice in sustaining the character; study and utilize theories of Konstantin Stanislavski on basics of character preparation. Learning Outcomes</p> <ol style="list-style-type: none"> 1. Have a basic understanding five common acting theories; 2. Add five monologues into his/her audition repertoire; 3. Have a resume; 	<p>DRAM 1352: Acting II Exploration and further training within the basic principles and tools of acting, including an emphasis on critical analysis of oneself and others. The tools include ensemble performing, character and script analysis, and basic theater terminology. This will continue the exploration of the development of the actor's instrument: voice, body and imagination.</p> <ol style="list-style-type: none"> 1. Analyze scripts more in depth from the viewpoint of the actor.

<p>4. Have a deeper understanding of the Sanford Meisner technique.</p>	<p>2. Analyze, develop and perform more complex characters.</p> <p>3. Demonstrate effective and safe use of the voice and body.</p> <p>4. Define and discuss terms and concepts using an expanded vocabulary of theater.</p> <p>5. Perform at an increasingly skilled level in ensemble building exercises, scenes and final projects, which may include participation in plays.</p> <p>6. Analyze and critique personal and peer performances.</p>
<p>DRAM 2361: Theatre History, Greeks to 16th Century Prerequisite: DRAM 1310</p> <p>A survey of the birth and early development of Western theatre from its roots in ritual through the Renaissance and Shakespeare.</p> <p>Learning Outcomes No syllabus on file</p>	<p>DRAM 2361: History of the Theater I Study of the history of the theater from primitive times through the Renaissance.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Analyze the history of theater through written responses to historic texts, artifacts and performance practices. 2. Identify essential terminology related to the history of theater. 3. Evaluate current productions of historical plays through an understanding of their original production conditions. 4. Evaluate the interaction between theater and society.
<p>DRAM 2362: Theatre History, 17th to 19th Century Prerequisite: DRAM 1310</p> <p>A survey of theatre theory, practice and literature in Europe, England and the United States from the early to mid 17th century until 1915, with special emphasis on the social, political, aesthetic and technological factors leading to the development of the modern Western theatre.</p> <p>Learning Outcomes No syllabus on file</p>	<p>DRAM 2362: History of the Theater II Study of the history of the theater from the Renaissance through today.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Analyze the history of theater through written responses to historic texts, artifacts and performance practices. 2. Identify essential terminology related to the history of theater. 3. Evaluate current productions of historical plays through an understanding of their original production conditions. 4. Evaluate the interaction between theater and society.
<p>DRAM 2366: Introduction to Film An introductory course in film studies which surveys the American film industry as an art form, a business and a means of communication. Extensive screenings and analysis of representative films from various genres. An examination of how Hollywood films work technically, artistically and culturally.</p> <p>Learning Outcomes: No syllabus on file.</p>	<p>DRAM 2366: Introduction to Cinema Survey and analyze cinema including history, film techniques, production procedures, selected motion pictures, and cinema's impact on and reflection of society. (Cross-listed as COMM 2366)</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Analyze film through written response. 2. Demonstrate a basic knowledge of film history, form and genre. 3. Describe the collaborative nature of cinema and the many jobs required to develop a motion picture.

	<p>4. Discuss/Describe the relationship of cinema to society as it relates to his/her perspective.</p>
<p>DRAM 1120: Theatre Practicum Practicum in theatre with emphasis on technique and procedures with experience gained in play productions. Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Each student will be able to safely use some of the power tools utilized in theatre production. These may include, but are not limited to, electric or cordless drill, circular saw, radial arm saw, and sewing machine. 2. The student will also learn to work in various areas of theatre production that may include, but not limited to, scenery, costuming, properties, lighting, and sound. 	<p>DRAM 1120: Theater Practicum I Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Use collaboration in the creation of theatrical productions. 2. Demonstrate the practical application of appropriately leveled theatrical skills and procedures. 3. Apply critical thinking skills required for the creation of a theatrical production.
<p>DRAM 1121: Theatre Practicum Practicum in theatre with emphasis on technique and procedures with experience gained in play productions. Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Each student will be able to safely use some of the power tools utilized in theatre production. These may include, but are not limited to, electric or cordless drill, circular saw, radial arm saw, and sewing machine. 2. The student will also learn to work in various areas of theatre production that may include, but not limited to, scenery, costuming, properties, lighting, and sound. 3. This course is designed to give the theatre major or interested student an appreciation for the production process. 4. The student will gain expertise in the construction, terminology, publicizing, and performance of two productions in the semester. 	<p>DRAM 1121: Theater Practicum II Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Use collaboration in the creation of theatrical productions. 2. Demonstrate the practical application of appropriately leveled theatrical skills and procedures. 3. Apply critical thinking skills required for the creation of a theatrical production.
<p>DRAM 2120: Theatre Practicum Practicum in theatre with emphasis on technique and procedures with experience gained in play productions. Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Each student will be able to safely use some of the power tools utilized in theatre production. These may include, but are not limited to, electric or cordless drill, circular saw, radial arm saw, and sewing machine. 2. The student will also learn to work in various areas of theatre production that may include, but not limited to, scenery, 	<p>DRAM 2120: Theater Practicum III Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions. Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Use collaboration in the creation of theatrical productions. 2. Demonstrate the practical application of appropriately leveled theatrical skills and procedures. 3. Apply critical thinking skills required for the creation of a theatrical production.

<p>costuming, properties, lighting, and sound.</p> <ol style="list-style-type: none"> 3. This course is designed to give the theatre major or interested student an appreciation for the production process. 4. The student will gain expertise in the construction, terminology, publicizing, and performance of two productions in the semester. 	
<p>DRAM 2121: Theatre Practicum Practicum in theatre with emphasis on technique and procedures with experience gained in play productions.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Each student will be able to safely use some of the power tools utilized in theatre production. These may include, but are not limited to, electric or cordless drill, circular saw, radial arm saw, and sewing machine. 2. The student will also learn to work in various areas of theatre production that may include, but not limited to, scenery, costuming, properties, lighting, and sound. 3. This course is designed to give the theatre major or interested student an appreciation for the production process. 4. The student will gain expertise in the construction, terminology, publicizing, and performance of two productions in the semester. 	<p>DRAM 2121: Theater Practicum IV Practicum in theater open to all students with emphasis on technique and procedures with experience gained in play productions.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Use collaboration in the creation of theatrical productions. 2. Demonstrate the practical application of appropriately leveled theatrical skills and procedures. 3. Apply critical thinking skills required for the creation of a theatrical production.
<p>GEOL 1303: Physical Geology Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills Corequisite: GEOL 1103</p> <p>Study of the earth's composition, structure and internal processes. Minerals rocks and their relationships are identified. Analysis of geologic processes and mapping are also studied.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Be able to explain the geologic processes that are included in the course material (note, not all geologic processes are included in the course). 2. Be able to explain how the science of geology is related to math, electronics, and computer science and the sciences of physics, chemistry, biology, astronomy, and oceanography. 3. Be able to explain the function of geologists in our society. 	<p>GEOL 1303: Physical Geology (lecture) Introduction to the study of the materials and processes that have modified and shaped the surface and interior of Earth over time. These processes are described by theories based on experimental data and geologic data gathered from field observations. Recommended Co-requisite: GEOL 1103</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Describe how the scientific method has led to our current understanding of Earth's structure and processes. 2. Interpret the origin and distribution of minerals, rocks and geologic resources. 3. Describe the theory of plate tectonics and its relationship to the formation and distribution of Earth's crustal features. 4. Quantify the rates of physical and chemical processes acting on Earth and how these processes fit into the context of geologic time. 5. Communicate how surface processes are driven by interactions among Earth's

	<p>systems (e.g., the geosphere, hydrosphere, biosphere and atmosphere).</p> <ol style="list-style-type: none"> Identify and describe the internal structure and dynamics of Earth. Describe the interaction of humans with Earth (e.g., resource development or hazard assessment).
<p>GEOL 1103: Physical Geology Laboratory Corequisite: GEOL 1303</p> <p>Rocks, minerals, topographic maps and mineral resources are studied.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> Be able to explain the geologic processes which are included in the course material (note, not all geologic processes are included in the course). Be able to explain how the science of geology is related to math, electronics, and computer science and the sciences of physics, chemistry, biology, astronomy, and oceanography. Be able to explain the function of geologists in our society 	<p>GEOL 1103: Physical Geology (lab) This laboratory-based course accompanies GEOL 1303, Physical Geology. Laboratory activities will cover methods used to collect and analyze earth science data. Pre/Co-requisite: GEOL 1303</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> Classify rocks and minerals based on chemical composition, physical properties and origin. Apply knowledge of topographic maps to quantify geometrical aspects of topography. Identify landforms on maps, diagrams and/or photographs and explain the processes that created them. Differentiate the types of plate boundaries and their associated features on maps and profiles and explain the processes that occur at each type of boundary. Identify basic structural features on maps, block diagrams and cross sections and infer how they were created. Demonstrate the collection, analysis and reporting of data.
<p>GEOL 1304: Historical Geology Prerequisite: RDNG 0331-minimum grade of C or a score on a state-approved test indicating college-level reading skills Corequisite: GEOL 1104</p> <p>The history of the earth. Life history as revealed by fossils, continental drift and changes in earth features are studied.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> Understand the concept of Geologic Time and be able to reproduce the Geologic Time Scale. Understand the formation of Sedimentary rocks and how depositional environment affects fossil formation. Understand the use of fossils in determining age and succession of sedimentary rock units. Demonstrate the ability to recognize and describe rock and fossil distribution for the major geologic time divisions. 	<p>GEOL 1304: Historical Geology (lecture) A comprehensive survey of the history of life and major events in the physical development of Earth as interpreted from rocks and fossils. Prerequisites: GEOL 1303 Recommended Co-requisite: GEOL 1104</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> Describe how the application of the scientific method has led to our current understanding of Earth history. Explain the historical development of Geology as a science and how it was influenced by early interpretations of fossils and the theory of evolution. Communicate how principles of relative and numerical age dating have been used to develop the Geologic Time Scale. Describe the processes involved in the formation and differentiation of the Earth and identify major milestones in the physical evolution of the planet. Identify the major milestones in the evolution of life from its initial inorganic stages, through development of the major

	<p>animal and plant groups, to mass extinctions.</p> <ol style="list-style-type: none"> 6. Explain how rocks and fossils are used to interpret ancient environments. 7. Identify the major tectonic events in the geologic evolution of North America.
<p>GEOL 1104: Historical Geology Laboratory Corequisite: GEOL 1304</p> <p>Fossils and earth history will be examined.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Understand the concept of Geologic Time and be able to reproduce the Geologic Time Scale. 2. Understand the formation of Sedimentary rocks and how depositional environment affects fossil formation. 3. Understand the use of fossils in determining age and succession of sedimentary rock units. 4. Demonstrate the ability to recognize and describe rock and fossil distribution for the major geologic time divisions. 	<p>GEOL 1104: Historical Geology (lab) This laboratory-based course accompanies GEOL 1304, Historical Geology. Laboratory activities will introduce methods used by scientists to interpret the history of life and major events in the physical development of Earth from rocks and fossils. Pre/Co-requisite: GEOL 1304</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Classify and interpret depositional environments using sedimentary rocks and fossils. 2. Taxonomically classify samples of geologically important fossil groups and use them to interpret the age of rocks on the Geologic Time Scale. 3. Apply relative and numerical age-dating techniques to construct geologic histories including the correlation of stratigraphic sections. 4. Reconstruct past continental configurations. 5. Integrate multiple types of data to interpret Earth history.
<p>HUMA 1301: Introduction to the Humanities I An interdisciplinary, multi-perspective assessment of cultural, political, philosophical and aesthetic factors critical to the formulation of values and the historical development of the individual and of society.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. To demonstrate awareness of the scope and variety of works in the arts and humanities. 2. To understand those works as expressions of individual and human values within an historical and social context. 3. To respond critically to a variety of exhibitions and performances. 4. To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist. 5. To articulate an informed personal reaction to works in the arts and humanities. 6. To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts. 	<p>HUMA 1301: Introduction to the Humanities I This stand-alone course is an interdisciplinary survey of cultures focusing on the philosophical and aesthetic factors in human values with an emphasis on the historical development of the individual and society and the need to create.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Demonstrate awareness of the scope and variety of works in the arts and humanities. 2. Articulate how these works express the values of the individual and society within an historical and social context. 3. Articulate an informed personal response and critically analyze works in the arts and humanities. 4. Demonstrate knowledge and understanding of the influence of literature, philosophy and the arts on cultural experiences. 5. Demonstrate an awareness of the creative process and why humans create.

<p>7. To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences.</p>	
<p>HUMA 1302: Introduction to the Humanities II An interdisciplinary, multi-perspective assessment of cultural, political, philosophical and aesthetic factors critical to the formulation of values and the historical development of the individual and of society. Course will focus on specific areas within the visual and performing arts pertaining to human creativity.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. To demonstrate awareness of the scope and variety of works in the arts and humanities. 2. To understand those works as expressions of individual and human values within an historical and social context. 3. To respond critically to a variety of exhibitions and performances. 4. To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist. 5. To articulate an informed personal reaction to works in the arts and humanities. 6. To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts. 7. To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences. 	<p>HUMA 1302: Introduction to the Humanities II This stand-alone course is an interdisciplinary survey of cultures focusing on the philosophical and aesthetic factors in human values with an emphasis on the historical development of the individual and society and the need to create.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Demonstrate awareness of the scope and variety of works in the arts and humanities. 2. Articulate how these works express the values of the individual and society within an historical and social context. 3. Articulate an informed personal response and critically analyze works in the arts and humanities. 4. Demonstrate knowledge and understanding of the influence of literature, philosophy and the arts on cultural experiences. 5. Demonstrate an awareness of the creative process and why humans create.
<p>HUMA 1315: Fine Arts Appreciation Understanding purposes and processes in the visual and musical arts including evaluation of selected works.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. To demonstrate awareness of the scope and variety of works in the arts and humanities. 2. To understand those works as expressions of individual and human values within an historical and social context. 3. To respond critically to a variety of exhibitions and performances. 4. To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist. 	<p>HUMA 1315: Fine Arts Appreciation This course is an exploration of the purposes and processes in the visual and performing arts (such as music, painting, architecture, drama and dance) and the ways in which they express the values of cultures and human experience.</p> <p>Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Employ formal elements and principles to critically analyze various works of the visual and performing arts. 2. Articulate the creative process of artistic works as expressions of human experience and cultural values. 3. Demonstrate an understanding of the aesthetic principles that guide the creation of, and response to, the arts. 4. Describe the relationship of the arts to everyday life.

<p>5. To articulate an informed personal reaction to works in the arts and humanities.</p> <p>6. To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts.</p> <p>7. To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences.</p>	
<p>HUMA 2323: World Cultures Study of human beings, their antecedents and related primates, and their cultural behavior and institutions. Introduces the major sub-fields: physical and cultural anthropology, archeology, linguistics and ethnology. Learning Outcomes: No syllabus on file. (new course)</p>	<p>HUMA 2323: World Cultures This course is a general study of diverse world cultures. Topics include cultural practices, social structures, religions, arts and languages. Learning Outcomes:</p> <ol style="list-style-type: none"> 1. Demonstrate knowledge of common terms and concepts associated with the study of world cultures. 2. Articulate an informed personal response and critically analyze works in the arts and humanities from various world cultures. 3. Demonstrate awareness of multiple cultural perspectives by comparing and contrasting the cultural expressions of diverse world communities. 4. Analyze various cultures to navigate diverse cultural spaces and recognize different world views. 5. Demonstrate an understanding of geography and the location of different cultural groups in the world.
<p>MATH 1324: Mathematics for Business Decisions I</p>	<p>MATH 1324: Mathematics for Business & Social Sciences (title change)</p>
<p>MATH 1325: Mathematics for Business Decisions II</p>	<p>MATH 1325: Calculus for Business & Social Sciences (title change)</p>

CURRICULUM REVISION REQUEST FORM

1. **Division:** Arts and Sciences
2. **Department/Program:** Visual Arts/ Art
3. **Prepared by:** Victoria Taylor-Gore
4. **Request:** Revise the Art A.S. degree as follows:
 - a. Update our program advisors' information.
 - b. Specify ARTS 1303 - Art History I for the Creative Arts area of the General Education Requirements.
 - c. Cut ARTS 2316 - Painting I and ARTS 2323 - Life Drawing I from the Major Course Requirements.
 - d. Add ARTS 2316 - Painting I and ARTS 2323 - Life Drawing I to the Major Course Options.
 - e. Cut ARTS 2317 - Painting II and ARTS 2346 - Ceramics I from the Major Course Options.
5. **Rationale/Justification:** In order to comply with the 60 hour limit for AS degrees by Fall 2015, we had to make some difficult sacrifices. It was decided to keep the lower level ARTS courses that would transfer most easily in the Major Course Requirements, add ARTS 2316 - Painting I and ARTS 2323 - Life Drawing I to the Major Course Options, and cut ARTS 2317 - Painting II and ARTS 2346 - Ceramics I from the Major Course Options.

With the current 4 hour science courses and the need to move 2 lab hours to Major Course Requirements, we understand our proposed changes do not get our Art A.S. degree to 60 hours at the current time. But Amarillo College intends to offer 3 hour science courses for non-science majors when available in the ACGM, and that will bring our Art A.S. degree back down to 60 hours when that change occurs.
6. **Effects of Revisions:**
 - A. **Faculty and Staff Requirements:** None
 - B. **Equipment/Facility Requirements:** None
 - C. **Location:** None
 - D. **Income projections:** None
7. **Effective Date:** Fall 2014

CURRENT	PROPOSED
<p>Program Advisor: Victoria Taylor-Gore, 371-5982- (vgore@actx.edu) or contact the Brenda Walsh, 371- 242- (bjwalsh@actx.edu)</p> <p>Associate in Science Major Code - ARTS.AS www.actx.edu/finearts Prepares students majoring in art, art education or graphic design to transfer to a university for a baccalaureate degree.</p> <p>Program Requirements</p> <p>General Education Requirements.....42</p> <p>Communication - 9 Hours Speech ENGL 1301 - Composition I ENGL 1302 - Composition II</p> <p>Social/Behavioral Sciences - 15 Hours Social/Behavioral Science Elective GOVT 2305 - United States Government GOVT 2306 - Texas Government HIST 1301 - United States History I HIST 1302 - United States History II</p> <p>Humanities - 3 Hours Humanities</p> <p>Fine Arts - 3 Hours ARTS 1303 - Art History I</p> <p>Mathematics - 3 Hours Mathematics</p> <p>Natural Sciences - 8 hours Natural Sciences</p> <p>Lifetime Fitness - 1 Hour Lifetime Fitness</p> <p>Major Course Requirements.....21</p> <p>ARTS 1304 - Art History II ARTS 1311 - Design I ARTS 1312 - Design II ARTS 1316 - Drawing I ARTS 1317 - Drawing II ARTS 2316 - Painting I ARTS 2323 - Life Drawing I</p> <p>Major Course Options.....3 Complete one course from the following list:</p> <p>ARTS 2317 - Painting II ARTS 2346 - Ceramics I</p> <p>Total.....66</p>	<p>Program Advisor: Contact Brenda Walsh, 371-5212 (bjwalsh@actx.edu), or Victoria Taylor-Gore, 371-5982 (vtaylor@gore@actx.edu)</p> <p>Associate in Science Major Code - ARTS.AS www.actx.edu/finearts Prepares students majoring in art, art education or graphic design to transfer to a university for a baccalaureate degree.</p> <p>Program Requirements</p> <p>General Education Requirements.....42</p> <p>Communication – 6 Hours ENGL 1301 – Composition I ENGL 1302 – Composition II OR ENGL 2311 – Technical and Business Writing</p> <p>Mathematics – 3 Hours</p> <p>Life and Physical Sciences – 6 Hours</p> <p>Language, Philosophy & Culture – 3 Hours</p> <p>Creative Arts – 3 Hours ARTS 1303 - Art History I</p> <p>American History– 6 Hours Government/Political Science – 6 Hours Social and Behavioral Science – 6 Hours</p> <p>Institutional Requirements – 6 Hours Speech – 3 hours EDUC 1300 – First Year Seminar</p> <hr/> <p>*Offer 4 hour science courses and move 2 lab hours to Major Requirements (intent is to offer 3 hour science courses for non- science majors when available in the ACGM).</p> <p>**If EDUC/PSYC 1300 is not required, then student must choose 3 hours from the General Education Course List.</p> <p>Major Course Requirements.....17</p> <p>ARTS 1304 - Art History II ARTS 1311 - Design I ARTS 1312 - Design II ARTS 1316 - Drawing I ARTS 1317 - Drawing II (2 hours from Life and Physical Sciences)</p> <p>Major Course Options.....3 Complete one course from the following list:</p> <p>ARTS 2316 - Painting I ARTS 2323 - Life Drawing I</p> <p>Total.....62</p>

Curriculum Revision Request Form

Division: Arts & Sciences

Department / Program: Biology

Prepared by: Claudie Biggers

Request(s):

- A. Deactivate the following courses:
 - a. BIOL 1414: Introduction to Biotechnology I
 - b. BIOL 1415: Biotechnology II

Rationale / Justification / Assessment Data:

- A. The courses have never been taught and are only required for the Biotechnology AS degree that has been deactivated.

Effects of Revisions:

A. Faculty & Staff Requirements: N/A

B. Equipment/Facility Requirements: N/A

C. Location: N/A

D. Income projections: N/A

Effective Term: Fall 2014

Curriculum Revision Request Form

Division: Arts & Sciences

Department / Program: Mathematics, Sciences & Engineering

Prepared by: Kathy Wetzel

Request(s):

- A. Change the prerequisite for ENGR 1371: Introduction to Engineering to:
 - a. Prerequisite: MATH 1414, minimum grade of C

Rationale / Justification / Assessment Data:

- A. Correlate to the prerequisite of Introduction to Engineering in the ACGM

Effects of Revisions:

A. Faculty & Staff Requirements: N/A

B. Equipment/Facility Requirements: N/A

C. Location: N/A

D. Income projections: N/A

Effective Term: Fall 2014

CURRICULUM REVISION REQUEST FORM

1. **Division:** Arts and Sciences
2. **Department/Program:** Visual Arts/Photography
3. **Prepared by:** Victoria Taylor-Gore
4. **Request:** Revise the Photography A.S. degree as follows:
 - a. Update our program advisors' information.
 - b. Specify ARTS 1311 - Design I for the Creative Arts area of the General Education Requirements.
5. **Rationale/Justification:** Our Photography Advisory Committee and Photography faculty all agreed that ARTS 1311 – Design I was the best option for the Creative Arts area of the General Education Core.

With the current 4 hour science courses and the need to move 2 lab hours to Major Course Requirements, we understand that our Photography A.S. degree is at 62 hours at the current time. But Amarillo College intends to offer 3 hour science courses for non-science majors when available in the ACGM, and that will bring our Photography A.S. degree back down to 60 hours when that change occurs.
6. **Effects of Revisions:**
 - A. **Faculty and Staff Requirements:** None
 - B. **Equipment/Facility Requirements:** None
 - C. **Location:** None
 - D. **Income projections:** None
7. **Effective Date:** Fall 2014

CURRENT	PROPOSED
<p>Program Advisor: Brent Cavanaugh, 371-5272- (blcavanaugh38@actx.edu) or contact Brenda Walsh, 371-5212 (bjwalsh@actx.edu)</p> <p>Associate in Arts Major Code - PHTC.AS actx.edu/photography Parallels the first two years of most four-year institutions offering a major in Photography. Students must provide for their own use the following equipment: digital camera (of design approved by instructor), light meter, flash unit and tripod.</p> <p>Program Requirements</p> <p>General Education Requirements.....42</p> <p>Communication - 9 Hours Speech ENGL 1301 - Composition I ENGL 1302 - Composition II</p> <p>Social/Behavioral Sciences - 15 Hours Social/Behavioral Science GOVT 2305 - United States Government GOVT 2306 - Texas Government HIST 1301 - United States History I HIST 1302 - United States History II</p> <p>Humanities - 3 Hours Humanities</p> <p>Fine Arts - 3 Hours Fine Arts</p> <p>Mathematics - 3 Hours Mathematics</p> <p>Natural Sciences - 8 Hours Natural Sciences</p> <p>Lifetime Fitness - 1 Hour Lifetime Fitness</p> <p>Major Course Requirements.....9 ARTS 2356 - Fundamentals of Photography I ARTS 2357 - Fundamentals of Photography II DRAM 2366 - Introduction to Film</p> <p>Recommended Courses.....9 Students will be advised for other courses based on the university to which they plan to transfer.</p> <p>Total.....60</p>	<p>Program Advisor: Contact Brenda Walsh, 371-5212 (bjwalsh@actx.edu), Brent Cavanaugh, 371-5272 (blcavanaugh38@actx.edu), or contact Victoria Taylor-Gore, 371-5982 (vtaylorgore@actx.edu)</p> <p>Associate in Arts Major Code - PHTC.AS actx.edu/photography Parallels the first two years of most four-year institutions offering a major in Photography. Students must provide for their own use the following equipment: digital camera (of design approved by instructor), light meter, flash unit and tripod.</p> <p>Program Requirements</p> <p>General Education Requirements.....42</p> <p>Communication – 6 Hours ENGL 1301 – Composition I ENGL 1302 – Composition II OR ENGL 2311 – Technical and Business Writing</p> <p>Mathematics – 3 Hours</p> <p>Life and Physical Sciences – 6 Hours</p> <p>Language, Philosophy & Culture – 3 Hours</p> <p>Creative Arts – 3 Hours ARTS 1311 - Design I</p> <p>American History– 6 Hours Government/Political Science – 6 Hours Social and Behavioral Science – 6 Hours</p> <p>Institutional Requirements – 6 Hours Speech – 3 hours EDUC 1300 – First Year Seminar</p> <hr/> <p>*Offer 4 hour science courses and move 2 lab hours to Major Requirements (intent is to offer 3 hour science courses for non-science majors when available in the ACGM).</p> <p>**If EDUC/PSYC 1300 is not required, then student must choose 3 hours from the General Education Course List.</p> <p>Major Course Requirements.....11 ARTS 2356 - Fundamentals of Photography I ARTS 2357 - Fundamentals of Photography II DRAM 2366 - Introduction to Film (2 hours from Life and Physical Sciences)</p> <p>Recommended Courses.....9 Students will be advised for other courses based on the university to which they plan to transfer.</p> <p>Total.....62</p>

Curriculum Revision Request Form

Division: Behavioral Studies

Department / Program: Sports and Exercise Sciences

Prepared by: Craig Clifton

Request(s):

- A. Change the course description of PHED 1301 Introduction to Sport and Fitness
- B. Increase Carter Fitness Center use fees that are attached to classes held in Carter Fitness Center from \$15 to \$30.

Rationale / Justification / Assessment Data:

- A. Description is currently not consistent with the ACGM course description. The new description is.
- B. Changes in core curriculum will create an approximate 90% drop in income generated from these fees. The increase will help to offset the anticipated drop in income to Carter Fitness Center. \$30 per semester is still a bargain to get access to Carter Fitness Center for the entire semester. This fee has been the same for over 10 years and is actually too low for what students get.

Effects of Revisions:

A. Faculty & Staff Requirements: None

B. Equipment/Facility Requirements: None

C. Location: None

D. Income projections: Even if this fee is increased, the drop in income due to core curriculum changes (removal of activity class requirement) will cause an overall decrease in funds generated from this fee. This is an attempt to offset some of the loss that will be incurred.

Effective Term: Fall 2014

Curriculum Revision Request

CURRENT	PROPOSED
<i>PHED 1301 - Introduction to Physical Fitness and Sport</i> <hr/> <p>Designed primarily as a professional orientation in physical education. A study of history, philosophy, modern trends, teacher qualifications, vocational opportunities, competence, evaluation and research.</p> <p>Hours (3 sem hrs; 3 lec)</p> <p>Notes Does not replace PHED activity class. Texas Common Course Number: PHED-1301</p>	<i>PHED 1301 - Introduction to Physical Fitness and Sport</i> <hr/> <p>Includes the study and practice of activities and principles that promote physical fitness. Carter Fitness Center membership included with this class. A variety of fitness and sports activities are available to choose from. Students will pick a section that fits his/her interests. Online material offers an orientation to the field of physical fitness and sport.</p> <p>Hours (3 sem hrs; 3 lec)</p> <p>Notes Texas Common Course Number: PHED-1301</p>

Curriculum Revision Request Form

Examples:

[Course Revision](#)
[Program Revision](#)
[New Course](#)

Division: Health Sciences

Department / Program: Mortuary Science

Prepared by: J. Scott Rankin

Request: Update course description

- Course additions must include student learning outcomes
- Program changes/additions must include program goals

a.

MRTS 2447 - Technical Procedures II

b.

c.

d.

Rationale / Justification / Assessment Data:

Update existing course descriptions to correspond with descriptions in the Workforce Education Course Manual (WECM).

Effects of Revisions:

- A. Faculty & Staff Requirements: None
- B. Equipment/Facility Requirements: None
- C. Location: None
- D. Income projections: None

Effective Term: Fall 2014

Print

Current	Proposed
<p>MRTS 2447 – Technical Procedures II Prerequisite: MRTS 2432 and MRTS 2445 A continuation of Technical Procedures I. Introduction of additional topics on treatment planning and application to include the fundamentals in the preservation, disinfection and restoration of human remains. Preservation of treatment planning and application in preparation for professional practice. This course is an enhanced online course that requires students to come to Amarillo at the end of the semester for an on-site lab. Students should be prepared to be in lab at their expense, M-F 8AM to 5PM one week prior to final examinations, no exceptions will be made to the required lab. Hours (4 sem hrs; 3 lec, 3 lab)</p>	<p>MRTS 2447 – Technical Procedures II Prerequisite: MRTS 2432 and MRTS 2445 A continuation of Technical Procedures I. Introduction of additional topics on treatment planning and application. <u>If this course is offered online, it is an enhanced online course that requires students to come to Amarillo at the end of the semester for an on-site lab. Students should be prepared to be in lab at their expense, M-F 8AM to 5PM one week prior to final examinations, no exceptions will be made to the required lab.</u> Hours (4 sem hrs; 3 lec, 3 lab)</p>

Curriculum Revision Request Form

Examples:

Course Revision
Program Revision
New Course

Division: Allied Health

Department / Program: Surgical Technology

Prepared by: Lisa Holdaway

Request: Drop of HECO 1322 Nutrition to meet criteria for AAS

- Course additions must include student learning outcomes
- Program changes/additions must include program goals

a.

Drop of HECO 1322 Nutrition To meet criteria for AAS

b.

Addition of any 1 hour physical fitness.

c.

d.

Rationale / Justification / Assessment Data:

The surgical technology program is dropping HECO 1322 Nutrition to meet the criteria set by the state for a 60 credit hour AAS degree. This course was added to accommodate the students who chose to continue on with the nursing program. Our program continues to be setup with the same core courses as the AAS nursing program. A one credit hour of any physical fitness course will be added to fill the one hour cap on AAS degree.

Effects of Revisions: Meet state requirements

- A. Faculty & Staff Requirements: none
- B. Equipment/Facility Requirements: none
- C. Location: none
- D. Income projections: none

Effective Term: Fall 2014

Print

Program Requirements
General Education Requirements (27 Semester Hours)

Communication - 6 Hours

- ENGL 1301 - Composition I
- SPCH 1318 - Interpersonal Communication

Humanities/Fine Arts - 3 Hours

- Humanities or Fine Arts

Mathematics/Natural Sciences - 15 Hours

- BIOL 2401 - Human Anatomy and Physiology I
- BIOL 2402 - Human Anatomy and Physiology II
- BIOL 2421 - Microbiology for Science Majors
- MATH 1332 - Contemporary Mathematics I
- (or any college level Mathematics course)

Social/Behavioral Sciences - 3 Hours

- PSYC 2301 - General Psychology

Major Course Requirements (26 Semester Hours)

- SRGT 1261 - Clinical I
- SRGT 1405 - Introduction to Surgical Technology
- SRGT 1409 - Fundamentals of Perioperative Concepts & Techniques
- SRGT 1441 - Surgical Procedures I
- SRGT 1442 - Surgical Procedures II
- SRGT 2360 - Clinical III
- SRGT 2461 - Clinical II
- SRGT 2130 - Professional Readiness

Related Course Requirements (9 Semester Hours)

- BCIS 1305 - Business Computer Applications
- HITT 1305 - Medical Terminology I
- HECO 1322 - Principles of Nutrition

Total (62 Semester Hours)

Proposed

Program Requirements
General Education Requirements (27 Semester Hours)

Communication - 6 Hours

- ENGL 1301 - Composition I
- SPCH 1318 - Interpersonal Communication

Humanities/Fine Arts - 3 Hours

- Humanities or Fine Arts

Mathematics/Natural Sciences - 15 Hours

- BIOL 2401 - Human Anatomy and Physiology I
- BIOL 2402 - Human Anatomy and Physiology II
- BIOL 2421 - Microbiology for Science Majors
- MATH 1332 - Contemporary Mathematics I
- (or any college level Mathematics course)

Social/Behavioral Sciences - 3 Hours

- PSYC 2301 - General Psychology

Major Course Requirements (26 Semester Hours)

- SRGT 1261 - Clinical I
- SRGT 1405 - Introduction to Surgical Technology
- SRGT 1409 - Fundamentals of Perioperative Concepts & Techniques
- SRGT 1441 - Surgical Procedures I
- SRGT 1442 - Surgical Procedures II
- SRGT 2360 - Clinical III
- SRGT 2461 - Clinical II
- SRGT 2130 - Professional Readiness

Related Course Requirements (7 Semester Hours)

- BCIS 1305 - Business Computer Applications
- HITT 1305 - Medical Terminology I
- PHED 1101 Lifetime Fitness or any PHED

Total (60 Semester Hours)

Curriculum Revision Request Form

Division: Technical Education

Department / Program: Automotive Technology

Prepared by: Rebecca Archer

Request(s):

- A. The General Other Fees be removed from the following Automotive Technology courses.

Rationale / Justification / Assessment Data:

- A. To lower the cost for the students where possible.

Effects of Revisions:

A. Faculty & Staff Requirements: None

B. Equipment/Facility Requirements: None

C. Location: None

D. Income projections: None

Effective Term: Fall 2014

Technical Education Division Automotive Technology Course Fees

OLD

AUMT 1307 – Automotive Electrical Systems
LABFE - \$24.00 ~~GENOT - \$60.00~~

AUMT 1310 – Automotive Brake Systems
LABFE - \$24.00 ~~GENOT - \$60.00~~

AUMT 1316 – Automotive Suspension and
Steering Systems
LABFE - \$24.00 ~~GENOT - \$60.00~~

AUMT 1319 – Automotive Engine Repair
LABFE - \$24.00 ~~GENOT - \$60.00~~

AUMT 1345 – Automotive Climate Control
Systems
LABFE - \$24.00 ~~GENOT - \$60.00~~

AUMT 2313 – Automotive Drive Train and
Axles
LABFE - \$24.00 ~~GENOT - \$60.00~~

AUMT 2317 – Automotive Engine
Performance Analysis I
LABFE - \$24.00 ~~GENOT - \$60.00~~

AUMT 2325 – Automotive Automatic
Transmission and Transaxle
LABFE - \$24.00 ~~GENOT - \$60.00~~

AUMT 2334 – Automotive Engine Performance
Analysis II
LABFE - \$24.00 ~~GENOT - \$60.00~~

NEW

AUMT 1307 – Automotive Electrical Systems
LABFE - \$24.00

AUMT 1310 – Automotive Brake Systems
LABFE - \$24.00

AUMT 1316 – Automotive Suspension and
Steering Systems
LABFE - \$24.00

AUMT 1319 – Automotive Engine Repair
LABFE - \$24.00

AUMT 1345 – Automotive Climate Control
Systems
LABFE - \$24.00

AUMT 2313 – Automotive Drive Train and
Axles
LABFE - \$24.00

AUMT 2317 – Automotive Engine
Performance Analysis I
LABFE - \$24.00

AUMT 2325 – Automotive Automatic
Transmission and Transaxle
LABFE - \$24.00

AUMT 2334 – Automotive Engine Performance
Analysis II
LABFE - \$24.00

Curriculum Revision Request Form

Division: Technical Education

Department / Program: Aviation Maintenance Technology

Prepared by: Rebecca Archer

Request(s):

- A. The General Other Fees be removed from the following Aviation Maintenance Technology courses.

Rationale / Justification / Assessment Data:

- A. To lower the cost for the students where possible.

Effects of Revisions:

A. Faculty & Staff Requirements: None

B. Equipment/Facility Requirements: None

C. Location: None

D. Income projections: None

Effective Term: Fall 2014

Technical Education Division Aviation Maintenance Technology Course Fees

OLD

AERM 1205 – Weight and Balance
LABFE - \$0 ~~GENOT - \$10.00~~

AERM 1208 – Federal Aviation Regulations
LABFE - \$0 ~~GENOT - \$5.00~~

AERM 1210 – Ground Operations
LABFE - \$0 ~~GENOT - \$15.00~~

AERM 1240 – Aircraft Propellers
LABFE - \$18.00 ~~GENOT - \$5.00~~

AERM 1241 – Wood, Fabric and Finishes
LABFE - \$18.00 ~~GENOT - \$5.00~~

AERM 1243 – Instruments and
Navigation/Communication
LABFE - \$18.00 ~~GENOT - \$5.00~~

AERM 1247 – Airframe Auxiliary Systems
LABFE - \$18.00 ~~GENOT - \$5.00~~

AERM 1253 – Aircraft Welding
LABFE - \$18.00 ~~GENOT - \$30.00~~

AERM 1300 – Aircraft Structural Manufacturing
LABFE - \$24.00 ~~GENOT - \$10.00~~

AERM 1303 – Shop Practices-Aerospace
Manufacturing
LABFE - \$24.00 ~~GENOT - \$15.00~~

AERM 1314 – Basic Electricity
LABFE - \$18.00 ~~GENOT - \$10.00~~

AERM 1315 – Aviation Science
LABFE - \$18.00 ~~GENOT - \$5.00~~

AERM 1344 – Aircraft Reciprocating Engines
LABFE - \$18.00 ~~GENOT - \$15.00~~

NEW

AERM 1205 – Weight and Balance
LABFE - \$0

AERM 1208 – Federal Aviation Regulations
LABFE - \$0

AERM 1210 – Ground Operations
LABFE - \$0

AERM 1240 – Aircraft Propellers
LABFE - \$18.00

AERM 1241 – Wood, Fabric and Finishes
LABFE - \$18.00

AERM 1243 – Instruments and
Navigation/Communication
LABFE - \$18.00

AERM 1247 – Airframe Auxiliary Systems
LABFE - \$18.00

AERM 1253 – Aircraft Welding
LABFE - \$18.00 GENOT \$10.00

AERM 1300 – Aircraft Structural Manufacturing
LABFE - \$24.00 GENOT \$5.00

AERM 1303 – Shop Practices-Aerospace
Manufacturing
LABFE - \$24.00 GENOT \$5.00

AERM 1314 – Basic Electricity
LABFE - \$18.00

AERM 1315 – Aviation Science
LABFE - \$18.00

AERM 1344 – Aircraft Reciprocating Engines
LABFE - \$18.00

OLD

AERM 1345 – Airframe Electrical Systems
LABFE - \$18.00 ~~GENOT - \$5.00~~

AERM 1349 – Hydraulic, Pneumatic and Fuel
Systems
LABFE - \$18.00 ~~GENOT - \$10.00~~

AERM 1350 – Landing Gear Systems
LABFE - \$18.00 ~~GENOT - \$10.00~~

AERM 1354 – Aircraft Composites
LABFE - \$24.00 ~~GENOT - \$40.00~~

AERM 1372 – Aircraft Sheet Metal
LABFE - \$18.00 ~~GENOT - \$30.00~~

AERM 1373 – Shop Practices
LABFE - \$18.00 ~~GENOT - \$15.00~~

AERM 1391 – Special Topics - Fasteners
LABFE - \$18.00 ~~GENOT - \$30.00~~

AERM 1456 – Aircraft Power Plant Electrical
LABFE - \$18.00 ~~GENOT - \$10.00~~

AERM 2231 – Airframe Inspection
LABFE - \$18.00 ~~GENOT - \$5.00~~

AERM 2233 – Assembly and Rigging
LABFE - \$18.00 ~~GENOT - \$10.00~~

AERM 2341 – Powerplant and Auxiliary Power
Units
LABFE - \$18.00 ~~GENOT - \$10.00~~

AERM 2351 – Aircraft Turbine Engine
Overhaul
LABFE - \$18.00 ~~GENOT - \$20.00~~

AERM 2352 – Aircraft Powerplant Inspection
LABFE - \$18.00 ~~GENOT - \$20.00~~

AERM 2359 – Advanced Composite Repair
LABFE - \$24.00 ~~GENOT - \$40.00~~

NEW

AERM 1345 – Airframe Electrical Systems
LABFE - \$18.00

AERM 1349 – Hydraulic, Pneumatic and Fuel
Systems
LABFE - \$18.00 GENOT \$3.00

AERM 1350 – Landing Gear Systems
LABFE - \$18.00 GENOT \$5.00

AERM 1354 – Aircraft Composites
LABFE - \$24.00

AERM 1372 – Aircraft Sheet Metal
LABFE - \$18.00

AERM 1373 – Shop Practices
LABFE - \$18.00

AERM 1391 – Special Topics - Fasteners
LABFE - \$18.00 GENOT \$20.00

AERM 1456 – Aircraft Power Plant Electrical
LABFE - \$18.00

AERM 2231 – Airframe Inspection
LABFE - \$18.00

AERM 2233 – Assembly and Rigging
LABFE - \$18.00 GENOT \$5.00

AERM 2341 – Powerplant and Auxiliary Power
Units
LABFE - \$18.00 GENOT \$5.00

AERM 2351 – Aircraft Turbine Engine
Overhaul
LABFE - \$18.00

AERM 2352 – Aircraft Powerplant Inspection
LABFE - \$18.00 GENOT \$10.00

AERM 2359 – Advanced Composite Repair
LABFE - \$24.00

OLD

AERM 2447 – Aircraft Reciprocating Engine
Overhaul

LABFE - \$18.00 ~~GENOT - \$20.00~~

AIRP 2333 – Aircraft Systems

LABFE - \$24.00 ~~GENOT - \$10.00~~

AVNC 1343 – Aircraft Electrical/Electronic
Systems Installation

LABFE - \$24.00 ~~GENOT - \$20.00~~

AVNC 2308 – Aircraft Electrical/Electronic
Systems Installation II

LABFE - \$24.00 ~~GENOT - \$20.00~~

NEW

AERM 2447 – Aircraft Reciprocating Engine
Overhaul

LABFE - \$18.00

AIRP 2333 – Aircraft Systems

LABFE - \$24.00 GENOT \$5.00

AVNC 1343 – Aircraft Electrical/Electronic
Systems Installation

LABFE - \$24.00 GENOT \$15.00

AVNC 2308 – Aircraft Electrical/Electronic
Systems Installation II

LABFE - \$24.00 GENOT \$15.00

Curriculum Revision Request Form

Division: Technical Education

Department / Program: Diesel Mechanics Technology

Prepared by: Rebecca Archer

Request(s):

- A. The General Other Fees be removed from the following Diesel Mechanics Technology courses.

Rationale / Justification / Assessment Data:

- A. To lower the cost for the students where possible.

Effects of Revisions:

A. Faculty & Staff Requirements: None

B. Equipment/Facility Requirements: None

C. Location: None

D. Income projections: None

Effective Term: Fall 2014

Technical Education Division Diesel Mechanics Technology Course Fees

OLD

DEMR 1321 – Power Train I
LABFE - \$24.00 ~~GENOT - \$60.00~~

DEMR 1323 – (HVAC) Troubleshooting/Repair
LABFE - \$24.00 ~~GENOT - \$60.00~~

DEMR – Power Train II
LABFE - \$24.00 ~~GENOT - \$60.00~~

DEMR 1406 – Diesel Engine I
LABFE - \$24.00 ~~GENOT - \$60.00~~

DEMR – Power Train I
LABFE - \$24.00 ~~GENOT - \$60.00~~

DEMR 1442 – Power Train Applications I
LABFE - \$24.00 ~~GENOT - \$60.00~~

DEMR 1449 – Diesel Engine II
LABFE - \$24.00 ~~GENOT - \$60.00~~

DEMR 2334 – Advanced Diesel Tune-Up
LABFE - \$24.00 ~~GENOT - \$60.00~~

DEMR 2432 – Electronic Controls
LABFE - \$24.00 ~~GENOT - \$60.00~~

NEW

DEMR 1321 – Power Train I
LABFE - \$24.00

DEMR 1323 – (HVAC) Troubleshooting/Repair
LABFE - \$24.00

DEMR – Power Train II
LABFE - \$24.00

DEMR 1406 – Diesel Engine I
LABFE - \$24.00

DEMR – Power Train I
LABFE - \$24.00

DEMR 1442 – Power Train Applications I
LABFE - \$24.00

DEMR 1449 – Diesel Engine II
LABFE - \$24.00

DEMR 2334 – Advanced Diesel Tune-Up
LABFE - \$24.00

DEMR 2432 – Electronic Controls
LABFE - \$24.00

Curriculum Revision Request Form

Division: Technical Education

Department / Program: Industrial Maintenance Technology

Prepared by: Rebecca Archer

Request(s):

- A. The General Other Fees be removed from the following Industrial Maintenance Technology courses.

Rationale / Justification / Assessment Data:

- A. To lower the cost for the students where possible.

Effects of Revisions:

A. Faculty & Staff Requirements: None

B. Equipment/Facility Requirements: None

C. Location: None

D. Income projections: None

Effective Term: Fall 2014

Technical Education Division Industrial Maintenance Technology Course Fees

OLD

ELMT 1305 – Basic Fluid Power

LABFE - \$24.00 ~~GENOT - \$60.00~~

ELMT 2341 – Electromechanical Systems

LABFE - \$24.00 ~~GENOT - \$60.00~~

ELPT 1311 – Basic Electrical Theory

LABFE - \$24.00 ~~GENOT - \$60.00~~

ELPT 2323 - Transformers

LABFE - \$24.00 ~~GENOT - \$60.00~~

HART 1307 – Refrigeration Principles

LABFE - \$24.00 ~~GENOT - \$60.00~~

HART 1345 – Gas and Electric Heating

LABFE - \$24.00 ~~GENOT - \$60.00~~

HART 2336 – Air Conditioning Trouble
Shooting

LABFE - \$24.00 ~~GENOT - \$60.00~~

HART 2342 – Commercial Refrigeration

LABFE - \$24.00 ~~GENOT - \$60.00~~

HART 2345 – Residential Air Conditioning
System Design

LABFE - \$24.00 ~~GENOT - \$60.00~~

IEIR 1306 – Electric Motors

LABFE - \$24.00 ~~GENOT - \$60.00~~

IEIR 1310 – Motor Controls

LABFE - \$24.00 ~~GENOT - \$60.00~~

IEIR 1312 – Distribution Systems

LABFE - \$24.00 ~~GENOT - \$60.00~~

IEIR 1343 – Industrial Equipment
Maintenance

LABFE - \$24.00 ~~GENOT - \$60.00~~

NEW

ELMT 1305 – Basic Fluid Power

LABFE - \$24.00

ELMT 2341 – Electromechanical Systems

LABFE - \$24.00

ELPT 1311 – Basic Electrical Theory

LABFE - \$24.00

ELPT 2323 - Transformers

LABFE - \$24.00

HART 1307 – Refrigeration Principles

LABFE - \$24.00

HART 1345 – Gas and Electric Heating

LABFE - \$24.00

HART 2336 – Air Conditioning Trouble
Shooting

LABFE - \$24.00

HART 2342 – Commercial Refrigeration

LABFE - \$24.00

HART 2345 – Residential Air Conditioning
System Design

LABFE - \$24.00

IEIR 1306 – Electric Motors

LABFE - \$24.00

IEIR 1310 – Motor Controls

LABFE - \$24.00

IEIR 1312 – Distribution Systems

LABFE - \$24.00

IEIR 1343 – Industrial Equipment
Maintenance

LABFE - \$24.00

Curriculum Revision Request Form

Division: Technical Education

Department / Program: Machining Technology

Prepared by: Rebecca Archer

Request(s):

- A. The General Other Fees be removed from the following Machining Technology courses.

Rationale / Justification / Assessment Data:

- A. To lower the cost for the students where possible.

Effects of Revisions:

A. Faculty & Staff Requirements: None

B. Equipment/Facility Requirements: None

C. Location: None

D. Income projections: None

Effective Term: Fall 2014

Technical Education Division Machining Technology Course Fees

OLD

INMT 1305 – Introduction to Industrial
Maintenance

LABFE - \$24.00 ~~GENOT - \$60.00~~

INMT 1345 – Computer Numerical Controls

LABFE - \$24.00 ~~GENOT - \$60.00~~

INMT 1375 – Maintenance Shop Practices

LABFE - \$24.00 ~~GENOT - \$60.00~~

INMT 2301 – Machinery Installation

LABFE - \$24.00 ~~GENOT - \$60.00~~

INMT 2303 – Pumps, Compressors &
Mechanical Drives

LABFE - \$24.00 ~~GENOT - \$60.00~~

MCHN 1354 – Intermediate Machining II

LABFE - \$24.00 ~~GENOT - \$60.00~~

MCHN 2303 – Fundamentals of Computer
Numerical Controlled (CNC)
Machine Controls

LABFE - \$24.00 ~~GENOT - \$60.00~~

MCHN 2341 – Advanced Machining I

LABFE - \$24.00 ~~GENOT - \$60.00~~

NEW

INMT 1305 – Introduction to Industrial
Maintenance

LABFE - \$24.00

INMT 1345 – Computer Numerical Controls

LABFE - \$24.00

INMT 1375 – Maintenance Shop Practices

LABFE - \$24.00

INMT 2301 – Machinery Installation

LABFE - \$24.00

INMT 2303 – Pumps, Compressors &
Mechanical Drives

LABFE - \$24.00

MCHN 1354 – Intermediate Machining II

LABFE - \$24.00

MCHN 2303 – Fundamentals of Computer
Numerical Controlled (CNC)
Machine Controls

LABFE - \$24.00

MCHN 2341 – Advanced Machining I

LABFE - \$24.00

Curriculum Revision Request Form

Division: Technical Education

Department / Program: Welding Technology

Prepared by: Rebecca Archer

Request(s):

- A. The General Other Fees be removed from the following Welding Technology courses.

Rationale / Justification / Assessment Data:

- A. To lower the cost for the students where possible.

Effects of Revisions:

A. Faculty & Staff Requirements: None

B. Equipment/Facility Requirements: None

C. Location: None

D. Income projections: None

Effective Term: Fall 2014

Technical Education Division Welding Technology Course Fees

OLD

WLDG 1175 – Metallurgy Lab

LABFE - \$0 ~~GENOT - \$30.00~~

WLDG 1307 – Introduction to Welding Using
Multiple Processes

LABFE - \$24.00 ~~GENOT - \$60.00~~

WLDG 1337 – Introduction to Welding
Metallurgy

LABFE - \$24.00 ~~GENOT - \$60.00~~

WLDG 1371 – Welding Fundamentals

LABFE - \$24.00 ~~GENOT - \$60.00~~

WLDG 1372 – Layout and Fabrication I

LABFE - \$24.00 ~~GENOT - \$60.00~~

WLDG 1373 – Thermal Cutting I

LABFE - \$24.00 ~~GENOT - \$60.00~~

WLDG 1374 – Thermal Cutting II

LABFE - \$24.00 ~~GENOT - \$60.00~~

WLDG 1375 – Shielded Metal Arc Welding I

LABFE - \$24.00 ~~GENOT - \$60.00~~

WLDG 1376 – Shielded Metal Arc Welding II

LABFE - \$24.00 ~~GENOT - \$60.00~~

WLDG 1377 – Gas Metal Arc Welding I

LABFE - \$24.00 ~~GENOT - \$60.00~~

WLDG 1378 – Gas Tungsten Arc Welding

LABFE - \$24.00 ~~GENOT - \$60.00~~

WLDG 2373 – Flux Cored Arc Welding I

LABFE - \$24.00 ~~GENOT - \$60.00~~

NEW

WLDG 1175 – Metallurgy Lab

NO FEES

WLDG 1307 – Introduction to Welding Using
Multiple Processes

LABFE - \$24.00

WLDG 1337 – Introduction to Welding
Metallurgy

LABFE - \$24.00

WLDG 1371 – Welding Fundamentals LABFE -
\$24.00

WLDG 1372 – Layout and Fabrication I

LABFE - \$24.00

WLDG 1373 – Thermal Cutting I

LABFE - \$24.00

WLDG 1374 – Thermal Cutting II

LABFE - \$24.00

WLDG 1375 – Shielded Metal Arc Welding I

LABFE - \$24.00

WLDG 1376 – Shielded Metal Arc Welding II

LABFE - \$24.00

WLDG 1377 – Gas Metal Arc Welding I

LABFE - \$24.00

WLDG 1378 – Gas Tungsten Arc Welding

LABFE - \$24.00

WLDG 2373 – Flux Cored Arc Welding I

LABFE - \$24.00

OLD

WLDG 2374 – Flux Cored Arc Welding II

LABFE - \$24.00 ~~GENOT-\$60.00~~

WLDG 2377 – Gas Metal Arc Welding II

LABFE - \$24.00 ~~GENOT-\$60.00~~

WLDG 2378 – Gas Tungsten Arc Welding II

LABFE - \$24.00 ~~GENOT-\$60.00~~

WLDG 2379 – Shielded Metal Arc Welding III

LABFE - \$24.00 ~~GENOT-\$60.00~~

NEW

WLDG 2374 – Flux Cored Arc Welding II

LABFE - \$24.00

WLDG 2377 – Gas Metal Arc Welding II

LABFE - \$24.00

WLDG 2378 – Gas Tungsten Arc Welding II

LABFE - \$24.00

WLDG 2379 – Shielded Metal Arc Welding III

LABFE - \$24.00

Curriculum Revision Request Form

Division: Technical Education

Department / Program: Automotive Collision Technology

Prepared by: Rebecca Archer

Request(s):

- A. The General Other Fees be removed from the following Automotive Collision Technology courses.

Rationale / Justification / Assessment Data:

- A. To lower the cost for the students where possible.

Effects of Revisions:

A. Faculty & Staff Requirements: None

B. Equipment/Facility Requirements: None

C. Location: None

D. Income projections: None

Effective Term: Fall 2014

Technical Education Division Automotive Collision Technology Course Fees

OLD

ABDR 1315 – Vehicle Trim and Hardware
LABFE - \$00.00 ~~GENOT - \$60.00~~

ABDR 1327 – Suspension Systems
LABFE - \$24.00 ~~GENOT - \$60.00~~

ABDR 1349 – Automotive Plastic and Sheet
Molded Compound Repair
LABFE - \$24.00 ~~GENOT - \$60.00~~

ABDR 1431 – Basic Refinishing
LABFE - \$24.00 ~~GENOT - \$60.00~~

ABDR 1441 – Structural Analysis and Damage
Repair I
LABFE - \$24.00 ~~GENOT - \$60.00~~

ABDR 1442 – Structural Analysis and Damage
Repair II
LABFE - \$24.00 ~~GENOT - \$60.00~~

ABDR 1455 – Non-Structural Metal Repair
LABFE - \$24.00 ~~GENOT - \$60.00~~

ABDR 2402 – Autobody Mechanical and
Electrical Service
LABFE - \$24.00 ~~GENOT - \$60.00~~

ABDR 2441 – Major Collision Repair and Panel
Replacement
LABFE - \$24.00 ~~GENOT - \$60.00~~

ABDR 2449 – Advanced Refinish I
LABFE - \$24.00 ~~GENOT - \$60.00~~

NEW

ABDR 1315 – Vehicle Trim and Hardware
LABFE - \$00.00 GENOT - \$35.00

ABDR 1327 – Suspension Systems
LABFE - \$24.00 GENOT - \$35.00

ABDR 1349 – Automotive Plastic and Sheet
Molded Compound Repair
LABFE - \$24.00 GENOT - \$35.00

ABDR 1431 – Basic Refinishing
LABFE - \$24.00 GENOT - \$35.00

ABDR 1441 – Structural Analysis and Damage
Repair I
LABFE - \$24.00 GENOT - \$35.00

ABDR 1442 – Structural Analysis and Damage
Repair II
LABFE - \$24.00 GENOT - \$35.00

ABDR 1455 – Non-Structural Metal Repair
LABFE - \$24.00 GENOT - \$35.00

ABDR 2402 – Autobody Mechanical and
Electrical Service
LABFE - \$24.00 GENOT - \$35.00

ABDR 2441 – Major Collision Repair and Panel
Replacement
LABFE - \$24.00 GENOT - \$35.00

ABDR 2449 – Advanced Refinish I
LABFE - \$24.00 GENOT - \$35.00

Curriculum Revision Request Form

Division: Technical Education

Department / Program: Fire Protection Technology

Prepared by: Rebecca Archer

Request(s):

- A. The General Other Fees be removed from the following Fire Protection Technology courses.

Rationale / Justification / Assessment Data:

- A. To lower the cost for the students where possible.

Effects of Revisions:

A. Faculty & Staff Requirements: None

B. Equipment/Facility Requirements: None

C. Location: None

D. Income projections: None

Effective Term: Fall 2014

Technical Education Division Fire Protection Technology Course Fees

OLD

FIRS 1301 – Firefighter Certification I

LABFE - \$24.00 ~~GENOT \$30.00~~

FIRS 1319 – Firefighter Certification IV

LABFE - \$24.00 ~~GENOT \$30.00~~

FIRS 1323 – Firefighter Certification V

LABFE - \$24.00 ~~GENOT \$30.00~~

FIRS 1329 – Firefighter Certification VI

LABFE - \$24.00 ~~GENOT \$30.00~~

FIRS 1407 - Firefighter Certification II

LABFE - \$24.00 ~~GENOT \$30.00~~

FIRS 1413 - Firefighter Certification III

LABFE - \$24.00 ~~GENOT \$30.00~~

FIRS 1433 – Firefighter Certification VII

LABFE - \$24.00 ~~GENOT \$130.00~~

FIRS 1543 – Aircraft Rescue and Firefighting

LABFE - \$24.00 ~~GENOT \$140.00~~

NEW

FIRS 1301 – Firefighter Certification I

LABFE - \$24.00 GENOT \$20.00

FIRS 1319 – Firefighter Certification IV

LABFE - \$24.00 GENOT \$20.00

FIRS 1323 – Firefighter Certification V

LABFE - \$24.00 GENOT \$20.00

FIRS 1329 – Firefighter Certification VI

LABFE - \$24.00 GENOT \$20.00

FIRS 1407 - Firefighter Certification II

LABFE - \$24.00 GENOT \$20.00

FIRS 1413 - Firefighter Certification III

LABFE - \$24.00 GENOT \$20.00

FIRS 1433 – Firefighter Certification VII

LABFE - \$24.00 GENOT \$110.00

FIRS 1543 – Aircraft Rescue and Firefighting

LABFE - \$24.00 GENOT \$120.00

CURRICULUM REVISION REQUEST

CURRICULUM REVISION REQUEST	
Division:	Technical Education
Department/Program:	Automotive Technology, Diesel Technology
Prepared by:	Brian Jacob
Request:	<p>Make the following changes to the course inventory:</p> <ol style="list-style-type: none"> 1. Delete the following courses: <ol style="list-style-type: none"> a. AUMT 1307 – Automotive Electrical Systems b. AUMT 1357 – Automotive Brake Systems Theory c. AUMT 2305 – Automotive Engine Theory d. AUMT 2309 – Automotive Drive Train and Ale Theory e. AUMT 2315 – Automotive Engine Performance Analysis Theory I f. AUMT 2323 – Automotive Automatic Transmission and Transaxle Theory g. AUMT 2437 – Automotive Electronics h. DEMR 1301 – Shop Safety and Procedures i. DEMR 1323 – Heating, Ventilation and Air Conditioning (HVAC) Troubleshooting and Repair j. DEMR 1421 – Power Train I k. DEMR 1442 – Power Train Applications I l. DEMR 1449 – Diesel Engine II m. DEMR 2334 – Advanced Diesel Tune Up and Troubleshooting n. DEMR 2348 – Failure Analysis 2. Add the following courses: <ol style="list-style-type: none"> a. AUMT 1305 – Introduction to Automotive Technology b. AUMT 2328 – Automotive Service c. AUMT 2337 – Automotive Electronics 3. Add prerequisites to the following courses: <ol style="list-style-type: none"> a. AUMT 1310 – Automotive Brake Systems b. AUMT 1319 – Automotive Engine Repair c. DEMR 1321 – Power Train I d. DEMR 1347 – Power Train II e. DEMR 1406 – Diesel Engine I f. DEMR 2331 – Advanced Brake Systems g. DEMR 2346 – Advanced Heating, Ventilation & Air Conditioning (HVAC) h. DEMR 2412 – Diesel Engine Testing & Repair II i. DEMR 2432 – Electronic Controls 4. Change the prerequisites on the following courses: <ol style="list-style-type: none"> a. AUMT 1316 – Automotive Suspension and Steering Systems b. AUMT 1345 – Automotive Climate Control Systems c. AUMT 2313 – Automotive Drive Train and Axles d. AUMT 2317 – Automotive Engine Performance Analysis I e. AUMT 2325 – Automotive Automatic Transmission and Transaxle

CURRICULUM REVISION REQUEST

Rationale/Justification:	<ol style="list-style-type: none"> 1. Deleting the following courses will eliminate courses that will no longer be used. 2. Adding the above courses will reflect courses that will provide students with more current technology in the automotive technology field. 3. Adding and changing prerequisites to the above courses will assure that the students complete courses in the proper sequence to be successful in their field of study.
Effects of Revisions	No changes at this time.
Faculty & Staff Requirements:	No changes at this time.
Equipment/Facility Requirements:	No changes at this time.
Location:	No changes at this time.
Income Projections:	No changes at this time.
Effective Date:	Fall 2014

AUMT 1307 - Automotive Electrical Systems

An overview of automotive electrical systems including topics in operational theory, testing, diagnosis and repair of batteries, charging and starting systems, and electrical accessories. Emphasis on electrical principles, schematic diagrams and service manuals. May be taught manufacturer specific.

Hours (3 sem hrs; 2 lec, 3 lab)

AUMT 1310 - Automotive Brake Systems

Operation and repair of drum/disc type brake systems. Topics include brake theory, diagnosis and repair of power, manual, anti-lock brake systems and parking brakes. May be taught with manufacturer specific instructions.

Hours (3 sem hrs; 2 lec, 3 lab)

AUMT 1316 - Automotive Suspension and Steering Systems

Prerequisites / Corequisite

Prerequisite: ABDR 1327

Diagnosis and repair of automotive suspension and steering systems including electronically controlled systems. Includes component repair, alignment procedures and tire and wheel service. May be taught manufacturer specific.

Hours (3 sem hrs; 2 lec, 3 lab)

AUMT 1319 - Automotive Engine Repair

Fundamentals of engine operation, diagnosis and repair. Emphasis on identification, inspection, measurements, disassembly, repair and reassembly of the engine. May be taught manufacturer specific.

Hours (3 sem hrs; 2 lec, 3 lab)

AUMT 1345 - Automotive Climate Control Systems

Prerequisites / Corequisite

Prerequisites: DEMR 1323

Diagnosis and repair of manual/electronic climate control systems; includes the refrigeration cycle and EPA guidelines for refrigerant handling. May be taught manufacturer specific.

Hours (3 sem hrs; 2 lec, 3 lab)

AUMT 1357 - Automotive Brake Systems Theory

Prerequisites / Corequisite

Prerequisite: AUMT 1310

AUMT 1305 - Introduction to Automotive Technology

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

Hours (3 sem hrs; 2 lec, 2 lab)

Prerequisites / Corequisite

Prerequisite: AUMT 1305

1305

Prerequisites / Corequisite

Prerequisite: MCHN 1343

AUMT 1305

Theory and principles related to the design, operation and servicing of automotive braking systems. Includes disc and drum type brakes, hydraulic systems, power assist components, anti-lock brake systems and diagnosis and reconditioning procedures.

Hours (3 sem hrs; 2 lec, 2 lab)

**AUMT 1380 - Cooperative Education -
Automobile/Automotive Mechanics
Technology/Technician**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Hours (3 sem hrs; 1 lec, 20 ext hrs)

Notes

This course may be repeated if topics and learning outcomes vary.

AUMT 2305 - Automotive Engine Theory

Prerequisites / Corequisite

Prerequisite: AUMT 1319

Fundamentals of engine operation and diagnosis including lubrication and cooling systems. Emphasis on identification of components, measurements, inspections and repair methods.

Hours (3 sem hrs; 2 lec, 2 lab)

**AUMT 2309 - Automotive Drive Train and Axle
Theory**

A study of automotive clutches, clutch operation devices, manual transmissions/transaxles and differentials. Emphasis on theory of transmission/transaxle and drive line components.

Hours (3 sem hrs; 2 lec, 2 lab)

AUMT 2313 - Automotive Drive Train and Axles

Prerequisites / Corequisite

Prerequisite: AUMT 2309

1305

A study of automotive clutches, clutch operation devices, manual transmissions/ transaxles and differentials with emphasis on diagnosis and repair. May be taught with manufacturer specific instructions.

Hours (3 sem hrs; 2 lec, 3 lab)

AUMT 2315 - Automotive Engine Performance

Analysis Theory I

Operation and diagnosis of basic engine dynamics including the study of the ignition system, fuel delivery systems and the use of engine performance diagnostic equipment.

Hours (3 sem hrs; 2 lec, 2 lab)

AUMT 2317 - Automotive Engine Performance

Analysis I

Prerequisites / Corequisite

Prerequisite: AUMT 2315

1305

Theory, operation, diagnosis of drivability concerns and repair of ignition, and fuel delivery systems. Use of current engine performance diagnostic equipment. May be taught with manufacturer specific instructions.

Hours (3 sem hrs; 2 lec, 4 lab)

AUMT 2323 - Automotive Automatic Transmission and Transaxle Theory

Theory of operation, hydraulic principles and electronic circuits of modern automatic transmissions and transaxles. Discussion of diagnosing and repair techniques.

Hours (3 sem hrs; 2 lec, 2 lab)

AUMT 2325 - Automotive Automatic Transmission and Transaxle

Prerequisites / Corequisite

Prerequisite: AUMT 2323

1305

A study of the operation, hydraulic circuits and electronic controls of modern automatic transmissions/transaxles. Diagnosis, disassembly and assembly procedures with emphasis on the use of special tools and repair techniques. May be taught manufacturer specific.

Hours (3 sem hrs; 2 lec, 3 lab)

AUMT 2334 - Automotive Engine Performance Analysis II

Prerequisites / Corequisite

Prerequisite: AUMT 2317

Diagnosis and repair of emission systems, computerized engine performance systems and advanced ignition and fuel systems. Includes use of advanced engine performance diagnostic equipment. May be taught manufacturer specific.

Hours (3 sem hrs; 2 lec, 4 lab)

AUMT 2328 - Automotive Service

Mastery of automotive service including competencies covered in related courses. May be taught manufacturer specific.

Hours (3 sem hrs; 2 lec, 3 lab)

AUMT 2337 - Automotive Electronics

Prerequisites / Corequisite

Prerequisite: ELPT 1311

Study of electronic principles applied to microcomputers and communication systems. Includes digital fundamentals, and use of electronic test equipment. May be taught manufacturer specific.

Hours (3 sem hrs; 2 lec, 3 lab)

AUMT 2437 - Automotive Electronics**Prerequisites / Corequisite**

Prerequisite: AUMT 1307

Study of electronic principles applied to microcomputers and communication systems. Includes digital fundamentals and use of electronic test equipment. May be taught manufacturer specific.

Hours (4 sem hrs; 2 lec, 6 lab)

DEMR 1301 - Shop Safety and Procedures

A study of shop safety, rules, basic shop tools and test equipment.

Hours (3 sem hrs; 3 lec)

DEMR 1321 - Power Train I

Fundamental repair and theory of power trains including clutches, transmissions, drive shafts and differentials.

Emphasis on inspection and repair.

Hours (3 sem hrs; 2 lec, 2 lab)

Prerequisites / Corequisite

Prerequisite: AUMT 1305

DEMR 1323 - Heating, Ventilation and Air Conditioning (HVAC) Troubleshooting and Repair

Introduction to heating, ventilation and air conditioning theory, testing and repair. Emphasis on refrigerant

reclamation, safety procedures, specialized tools and

pairs.

Hours (3 sem hrs; 2 lec, 2 lab)

DEMR 1329 - Preventative Maintenance

An introductory course designed to provide the student with basic knowledge of proper servicing practices.

Content includes record keeping and condition of major systems.

Hours (3 sem hrs; 2 lec, 2 lab)

DEMR 1347 - Power Train II

Continuation of fundamentals and theory of power train systems. Emphasis on disassembly, inspection and repair of power train components.

Hours (3 sem hrs; 2 lec, 2 lab)

Prerequisites / Corequisite

Prerequisite: AUMT 1305

DEMR 1406 - Diesel Engine I

An introduction to the basic principles of diesel engines and systems.

Hours (4 sem hrs; 2 lec, 6 lab)

Prerequisites / Corequisite

Prerequisite: AUMT 1305

DEMR 1421—Power Train I

Introduction to fundamentals, repair and theory of power trains including clutches, transmissions, drive shafts and differentials. Emphasis on inspection and repair.

Hours (4 sem hrs; 2 lec, 6 lab)

DEMR 1442—Power Train Applications I

In-depth coverage of the mechanics and theory of power trains. Emphasis on disassembly, inspection and repair of power train components.

Hours (4 sem hrs; 2 lec, 6 lab)

DEMR 1449—Diesel Engine II

An in-depth coverage of disassembly, repair, identification, evaluation and reassembly of diesel engines.

Hours (4 sem hrs; 2 lec, 6 lab)

DEMR 2331 - Advanced Brake Systems

An advanced brake system course for diesel powered equipment. Advanced concepts and schematics including anti-lock (ABS), air, pneumatic and hydraulic brake systems and related components.

Hours (3 sem hrs; 2 lec, 2 lab)

Prerequisites / Corequisite

Prerequisite: AUMT 1305

DEMR 2334—Advanced Diesel Tune-Up and Troubleshooting

Advanced concepts and skills required for tune up and troubleshooting procedures of diesel engines. Emphasis on the science of diagnostics with a common sense approach.

Hours (3 sem hrs; 2 lec, 2 lab)

DEMR 2346 - Advanced Heating, Ventilation & Air Conditioning (HVAC)

Advanced concepts in heating, ventilation, and air conditioning. Emphasis on systematic troubleshooting.

Hours (3 sem hrs; 2 lec, 3 lab)

Prerequisites / Corequisite

Prerequisite: AUMT 1305

DEMR 2348—Failure Analysis

An advanced course designed for analysis of typical part failures on equipment.

Hours (3 sem hrs; 2 lec, 2 lab)

DEMR 2412 - Diesel Engine Testing & Repair II

Continuation of Diesel Engine Testing and Repair I.

Coverage of testing and repairing diesel engines

including related systems and specialized tools.

Hours (4 sem hrs; 3 lec, 2 lab)

Prerequisites / Corequisite

Prerequisite: AUMT 1305

DEMR 2432 - Electronic Controls

Advanced skills in diagnostic and programming techniques of electronic control systems.

Hours (4 sem hrs; 2 lec, 6 lab)

Prerequisites / Corequisite

Prerequisite: ELPT 1311

Introduction to Automotive Technology

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
47.0604	AUMT	1005	Introduction to Automotive Technology	Active	0	64	128
47.0604	AUMT	1305	Introduction to Automotive Technology	Active	3	64	96
47.0604	AUMT	1405	Introduction to Automotive Technology	Active	4	80	128

Course Level: Introductory

Course Description: An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, professional responsibilities, and basic automotive maintenance. May be taught manufacturer specific.

End-of-Course Outcomes: Utilize appropriate safety procedures; describe historical development and career information of the automotive industry; demonstrate safe, professional, and responsible work practices; demonstrate the proper use of shop equipment and tools; describe the eight Automotive Service Excellence (ASE) vehicle subsystems; use service information; and perform basic automotive maintenance.

Lab Recommended

CIP Code Description: 47.0604 (Automobile/Automotive Mechanics Technology/Technician)

Effective Date: September 1, 2010

2 lec; 2 lab

Automotive Service

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
47.0604	AUMT	2028	Automotive Service	Active	0	80	160
47.0604	AUMT	2328	Automotive Service	Active	3	80	144
47.0604	AUMT	2428	Automotive Service	Active	4	128	160

Course Level: Advanced

Course Description: Mastery of automotive service including competencies covered in related courses. May be taught manufacturer specific.

End-of-Course Outcomes: Service, diagnose, and repair vehicle systems and maintain shop facilities and equipment.

Lab Recommended

CIP Code Description: 47.0604 (Automobile/Automotive Mechanics Technology/Technician)

Effective Date: September 1, 2010

2 lec; 3 lab

Automotive Electronics

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
47.0604	AUMT	2037	Automotive Electronics	Active	0	80	160
★ 47.0604	AUMT	2337	Automotive Electronics	Active	3	80	96
47.0604	AUMT	2437	Automotive Electronics	Active	4	96	160
47.0604	AUMT	2537	Automotive Electronics	Archived #	5	96	176

Course Level: Advanced

Course Description: Study of electronic principles applied to microcomputers and communication systems. Includes digital fundamentals, and use of electronic test equipment. May be taught manufacturer specific.

End-of-Course Outcomes: Employ proper safety procedures; use scan tools, digital storage oscilloscopes, and other electronic test equipment; and apply electronic principles to the diagnosis of microcomputers, analysis of communication circuits, and interpretation of sensor data.

Lab Recommended

CIP Code Description: 47.0604 (Automobile/Automotive Mechanics Technology/Technician)

Effective Date: September 1, 2010

2 lec; 3 lab

CURRICULUM REVISION REQUEST

CURRICULUM REVISION REQUEST	
Division:	Technical Education
Department/Program:	Automotive Collision Technology
Prepared by:	Brian Jacob
Request:	<ol style="list-style-type: none"> 1. Create an Automotive Collision Technology Basic Certificate (ABDR.MKT.CERT). 2. Create an Automotive Collision Technology Intermediate Certificate (ABDR.CERT). 3. Make the following changes to the ABDR.CERT.ABRT certificate: <ol style="list-style-type: none"> 1) Change the title to Automotive Collision Technology Advanced Certificate. 2) Add Technical Core Requirements section under the Program Requirements section to include the following courses: <ul style="list-style-type: none"> • ELPT 1311: Basic Electrical Theory • ETWR 1391: Special Topics in Professional, Technical, Business and Scientific Writing • INMT 1305: Introduction to Industrial Maintenance • MCHN 1343: Machine Shop Mathematics 3) Change the Major Requirements to 26 Semester Hours. 4) Remove the following courses from the Major Requirements section: <ul style="list-style-type: none"> • ABDR 1327: Suspension Systems • ABDR 2402: Autobody Mechanical and Electrical Service • ABDR 2441: Major Collision Repair and Panel Replacement 5) Change the Total Semester Hours to 38.
Rationale/Justification:	<p>The above changes will allow for marketable basic, intermediate and advanced certificates (stackable credentials).</p> <p>The combination of the four technical core classes will give the student math, writing skills, industry shop practices and basic electrical skills.</p> <p>This core will also allow students to achieve entry level skills that will make them employable.</p>
Effects of Revisions	No changes at this time.
Faculty & Staff Requirements:	No changes at this time.
Equipment/Facility Requirements:	No changes at this time.
Location:	No changes at this time.
Income Projections:	No changes at this time.
Effective Date:	Fall 2014

Automotive Collision Technology Basic Certificate

Program Advisor: Brian Jacob, 335-4219
(bjacob@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

Certificate of Completion

Major Code - ABDR.MKT.CERT
actx.edu/auto

This course of study is designed to prepare the student for the basic concepts of auto collision repair.

Program Requirements

Major Requirements (12 Semester Hours)

ABDR 1431 - Basic Refinishing
ABDR 1455 - Non-Structural Metal Repair
ABDR 2449 - Advanced Refinish I

Total (12 Semester Hours)

Automotive Collision Technology Intermediate Certificate

Program Advisor: Brian Jacob, 335-4219
(bjacob@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

Certificate of Completion

Major Code - ABDR.CERT
actx.edu/auto

This course of study is designed to prepare the student for intermediate levels of auto collision repair.

Program Requirements

Major Requirements (26 Semester Hours)

ABDR 1315 - Vehicle Trim and Hardware
ABDR 1349 - Automotive Plastic and Sheet Molded Compound Repair
ABDR 1431 - Basic Refinishing
ABDR 1441 - Structural Analysis and Damage Repair I
ABDR 1442 - Structural Analysis and Damage Repair II
ABDR 1455 - Non-Structural Metal Repair
ABDR 2449 - Advanced Refinish I

Total (26 Semester Hours)

Automotive Collision Technology Certificate

Program Advisor: Brian Jacob, 335-4219
(bjacob@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

Certificate of Completion

Major Code - ABDR.CERT.ABRT

actx.edu/auto

This course of study is designed to prepare the student in the area of auto collision repair. Upon completion, the student will be able to enter the industry with a comprehensive understanding of Auto Collision Technology.

Program Requirements

Major Requirements (37 Semester Hours)

ABDR 1315 - Vehicle Trim and Hardware
~~ABDR 1327 - Suspension Systems~~
ABDR 1349 - Automotive Plastic and Sheet Molded Compound Repair
ABDR 1431 - Basic Refinishing
ABDR 1441 - Structural Analysis and Damage Repair I
ABDR 1442 - Structural Analysis and Damage Repair II
ABDR 1455 - Non-Structural Metal Repair
~~ABDR 2402 - Autobody Mechanical and Electrical Service~~
~~ABDR 2441 - Major Collision Repair and Panel Replacement~~
ABDR 2449 - Advanced Refinish I

Total (37 Semester Hours)

Automotive Collision Technology Advanced Certificate

Technical Core Requirements (12 Semester Hours)

ELPT 1311 - Basic Electrical Theory
ETWR 1391 - Special Topics in Professional, Technical, Business and Scientific Writing
INMT 1305 - Introduction to Industrial Maintenance
MCHN 1343 - Machine Shop Mathematics

Major Requirements (26 Semester Hours)

ABDR 1315 - Vehicle Trim and Hardware
ABDR 1349 - Automotive Plastic and Sheet Molded Compound Repair
ABDR 1431 - Basic Refinishing
ABDR 1441 - Structural Analysis and Damage Repair I
ABDR 1442 - Structural Analysis and Damage Repair II
ABDR 1455 - Non-Structural Metal Repair
ABDR 2449 - Advanced Refinish I

Total (38 Semester Hours)

CURRICULUM REVISION REQUEST

CURRICULUM REVISION REQUEST	
Division:	Technical Education
Department/Program:	Automotive Technology
Prepared by:	Brian Jacob
Request:	<ol style="list-style-type: none"> 1. Make the following changes to the AUMT.CERT.CHSS certificate: <ol style="list-style-type: none"> 1) Change the title to Automotive Technology – Basic Automotive Certificate. 2) Change the description statement for the certificate. 3) Change the Transportation Core Requirements and 15 Semester Hours to the Technical Core Requirements and 12 Semester Hours. 4) Replace the Core Requirement classes with: <ul style="list-style-type: none"> • ELPT 1311 • ETWR 1391 • INMT 1305 • MCHN 1343 5) Change the Major Requirements to 18 Semester Hours. 6) Remove the following courses from the Major Requirements section: <ul style="list-style-type: none"> • AUMT 1357 • AUMT 2437 7) Add the following courses to the Major Requirements: <ul style="list-style-type: none"> • AUMT 1305 • AUMT 1310 • AUMT 2317 • AUMT 2337 8) Change the Total Semester Hours to 30. 2. Make the following changes to the AUMT.CERT.PTRN certificate: <ol style="list-style-type: none"> 1) Change the title to Automotive Technology – Advanced Automotive Certificate. 2) Change the description statement for the certificate. 3) Change the Transportation Core Requirements and 15 Semester Hours to the Technical Core Requirements and 12 Semester Hours. 4) Replace the Core Requirement classes with: <ul style="list-style-type: none"> • ELPT 1311 • ETWR 1391 • INMT 1305 • MCHN 1343

CURRICULUM REVISION REQUEST

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| | <ol style="list-style-type: none">5) Change the Major Requirements to 33 Semester Hours.6) Remove the following courses from the Major Requirements section:<ul style="list-style-type: none">• AUMT 2305• AUMT 2309• AUMT 2315• AUMT 23237) Add the following courses to the Major Requirements:<ul style="list-style-type: none">• AUMT 1305• AUMT 1310• AUMT 2316• AUMT 1345• AUMT 2328• AUMT 23378) Change the Total Semester Hours to 45. <p>3. Make the following changes to the AUMT.AAS degree:</p> <ol style="list-style-type: none">1) Add the Technical Core Statement to the description statement.2) Change the Transportation Core Requirements and 15 Semester Hours to the Technical Core Requirements and 12 Semester Hours.3) Replace the Core Requirement classes with:<ul style="list-style-type: none">• ELPT 1311• ETWR 1391• INMT 1305• MCHN 13434) Change the Major Requirements to 33 Semester Hours.5) Remove the following courses from the Major Requirements section:<ul style="list-style-type: none">• AUMT 1357• AUMT 2305• AUMT 2309• AUMT 2437• AUMT 2315• AUMT 23236) Add the following courses to the Major Requirements:<ul style="list-style-type: none">• AUMT 1305• AUMT 1310• AUMT 2328• AUMT 23377) Change the Total Semester Hours to 60. |
|--|--|

CURRICULUM REVISION REQUEST

Rationale/Justification:	<p>The above changes will allow for marketable basic and advanced certificates with stackable credentials.</p> <p>The combination of the four technical core classes will give the student math, writing skills, industry shop practices and basic electrical skills. This core will also allow students to achieve entry level skills that will make them employable.</p> <p>Students will complete these core classes prior to beginning any major requirements</p>
Effects of Revisions	No changes at this time.
Faculty & Staff Requirements:	No changes at this time.
Equipment/Facility Requirements:	No changes at this time.
Location:	No changes at this time.
Income Projections:	No changes at this time.
Effective Date:	Fall 2014

Automotive Technology - ~~Chassis and Body~~ Certificate

Program Advisor: Brian Jacob, 335-4219
(bjacob@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

Certificates of Completion

Major Code - AUMT.CERT.CHSS
actx.edu/auto

~~Prepares students to be an Automotive Technician with an expertise in the following areas:~~

Program Requirements

~~Transportation Core Requirements (15 Semester Hours)~~

~~ABDR 1327 – Suspension Systems
AUMT 1307 – Automotive Electrical Systems
AUMT 1310 – Automotive Brake Systems
DEMR 1301 – Shop Safety and Procedures
DEMR 1323 – Heating, Ventilation and Air Conditioning (HVAC) Troubleshooting and Repair~~

Major Requirements (13 Semester Hours)

AUMT 1316 - Automotive Suspension and Steering Systems
AUMT 1345 - Automotive Climate Control Systems
~~AUMT 1357 – Automotive Brake Systems Theory~~
~~AUMT 2437 – Automotive Electronics~~

Total (28 Semester Hours)

Automotive Technology - ~~Power Train~~ Certificate

Program Advisor: Brian Jacob, 335-4219
(bjacob@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

Certificates of Completion

Major Code - AUMT.CERT.PTRN
actx.edu/auto

~~Prepares students to be an Automotive Technician with an expertise in the following areas:~~

Basic Automotive Certificate

Prepares students for a basic entry-level technician. The Technical Core must be completed prior to other classes.

Technical Core Requirements (12 Semester Hours)

ELPT 1311 – Basic Electrical Theory
ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing
INMT 1305 – Introduction to Industrial Maintenance
MCHN 1343 – Machine Shop Mathematics

Major Requirements (18 Semester Hours)

AUMT 1305 – Introduction to Automotive Technology
AUMT 1310 – Automotive Brake Systems
AUMT 2317 – Automotive Engine Performance Analysis I
AUMT 2337 – Automotive Electronics

Total (30 Semester Hours)

Advanced Automotive Certificate

Prepares students for an advanced entry-level technician. The Technical Core must be completed prior to other classes.

Program Requirements

Transportation Core Requirements (15 Semester Hours)

ABDR 1327 – Suspension Systems
AUMT 1307 – Automotive Electrical Systems
AUMT 1310 – Automotive Brake Systems
DEMR 1301 – Shop Safety and Procedures
DEMR 1323 – Heating, Ventilation and Air Conditioning (HVAC) Troubleshooting and Repair

Major Requirements (27 Semester Hours)

AUMT 1319 - Automotive Engine Repair
AUMT 2305 – Automotive Engine Theory
AUMT 2309 – Automotive Drive Train and Axle Theory
AUMT 2313 - Automotive Drive Train and Axles
AUMT 2315 – Automotive Engine Performance Analysis Theory I
AUMT 2317 - Automotive Engine Performance Analysis I
AUMT 2323 – Automotive Automatic Transmission and Transaxle Theory
AUMT 2325 - Automotive Automatic Transmission and Transaxle
AUMT 2334 - Automotive Engine Performance Analysis II

Total (42 Semester Hours)

Automotive Technology (A.A.S.)

Program Advisor: Brian Jacob, 335-4219
(bjacob@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

Associate in Applied Science

Major Code - AUMT.AAS

actx.edu/auto

This program prepares a person to be an automotive technician and for ASE certification. The student works with the latest in automotive test equipment in hands-on laboratory experiences. Completion of this program prepares the student to work in the automotive industry.

Program Requirements

General Education Requirements (15 Semester Hours)

Technical Core Requirements (12 Semester Hours)

ELPT 1311 – Basic Electrical Theory
ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing
INMT 1305 – Introduction to Industrial Maintenance
MCHN 1343 – Machine Shop Mathematics

Major Requirements (33 Semester Hours)

AUMT 1305 – Introduction to Automotive Technology
AUMT 1310 – Automotive Brake Systems
AUMT 1316 – Automotive Suspension and Steering Systems
AUMT 1345 – Automotive Climate Control Systems
AUMT 2328 – Automotive Service
AUMT 2337 – Automotive Electronics

Total (45 Semester Hours)

The Technical Core must be completed prior to other classes.

Communications - 6 Hours

Speech

ENGL 1301 - Composition I

Social/Behavioral Science - 3 Hours

Social/Behavioral Science

Humanities/Fine Arts - 3 Hours

Humanities or Fine Arts

Mathematics/Natural Sciences - 3 Hours

MATH 1332 - Contemporary Mathematics I

(or any college level Mathematics course)

Transportation Core Requirements (15 Semester Hours)~~ABDR 1327 - Suspension Systems~~~~AUMT 1307 - Automotive Electrical Systems~~~~AUMT 1310 - Automotive Brake Systems~~~~DEMR 1301 - Shop Safety and Procedures~~~~DEMR 1323 - Heating, Ventilation and Air~~~~Conditioning (HVAC) Troubleshooting and Repair~~**Program Requirements (40 Semester Hours)**

AUMT 1316 - Automotive Suspension and Steering Systems

AUMT 1319 - Automotive Engine Repair

AUMT 1345 - Automotive Climate Control Systems

~~AUMT 1357 - Automotive Brake Systems Theory~~~~AUMT 2305 - Automotive Engine Theory~~~~AUMT 2309 - Automotive Drive Train and Axle Theory~~~~AUMT 2437 - Automotive Electronics~~

AUMT 2313 - Automotive Drive Train and Axles

~~AUMT 2315 - Automotive Engine Performance~~~~Analysis Theory I~~

AUMT 2317 - Automotive Engine Performance

Analysis I

~~AUMT 2323 - Automotive Automatic Transmission and Transaxle Theory~~

AUMT 2325 - Automotive Automatic Transmission and Transaxle

AUMT 2334 - Automotive Engine Performance

Analysis II

Total (70 Semester Hours)**Technical Core Requirements (12 Semester Hours)**

ELPT 1311 - Basic Electrical Theory

ETWR 1391 - Special Topics in Professional,

Technical, Business and Scientific Writing

INMT 1305 - Introduction to Industrial Maintenance

MCHN 1343 - Machine Shop Mathematics

Program Requirements (33 Semester Hours)

AUMT 1305 - Introduction to Automotive Technology

AUMT 1310 - Automotive Brake Systems

AUMT 2328 - Automotive Service

AUMT 2337 - Automotive Electronics

Total (60 Semester Hours)

CURRICULUM REVISION REQUEST

CURRICULUM REVISION REQUEST	
Division:	Technical Education
Department/Program:	Diesel Technology
Prepared by:	Brian Jacob
Request:	<ol style="list-style-type: none"> 1. Make the following changes to the DEMR.CERT.DT certificate: <ol style="list-style-type: none"> 1) Change the title to Diesel Technology – Advanced Mechanics Certificate. 2) Change the description statement for the certificate. 3) Change the Transportation Core Requirements and 15 Semester Hours to the Technical Core Requirements and 12 Semester Hours to include the following courses: <ul style="list-style-type: none"> • ELPT 1311 • ETWR 1391 • INMT 1305 • MCHN 1343 4) Change the Major Requirements to 30 Semester Hours. 5) Remove the following courses from the Major Requirements section: <ul style="list-style-type: none"> • DEMR 2432 • DEMR 1321 • DEMR 1347 • DEMR 2331 6) Add the following courses to the Major Requirements: <ul style="list-style-type: none"> • AUMT 1305 2. Add a new certificate DEMR.CERT
Rationale/Justification:	<p>The above changes will allow for marketable basic and advanced certificates with stackable credentials.</p> <p>The combination of the four technical core classes will give the student math, writing skills, industry shop practices and basic electrical skills. This core will also allow students to achieve entry level skills that will make them employable.</p> <p>Students will complete these core classes prior to beginning any major requirements</p>
Effects of Revisions	No changes at this time.
Faculty & Staff Requirements:	No changes at this time.
Equipment/Facility Requirements:	No changes at this time.
Location:	No changes at this time.
Income Projections:	No changes at this time.
Effective Date:	Fall 2014

Diesel Mechanics Technology—Diesel Technician Certificate

Program Advisor: Brian Jacob, 335-4219
(bjacob@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

Certificate of Completion
Major Code - DEMR.CERT.DT
actx.edu/diesel

~~Gives students a broad knowledge base of all aspects of Diesel Technology. Students enter the industry prepared to work in a shop environment in a variety of specialties.~~

Program Requirements

Transportation Core Requirements (15 Semester Hours)

~~ABDR 1327—Suspension Systems
AUMT 1307—Automotive Electrical Systems
AUMT 1310—Automotive Brake Systems
DEMR 1301—Shop Safety and Procedures
DEMR 1323—Heating, Ventilation and Air Conditioning (HVAC) Troubleshooting and Repair~~

Major Requirements (27 Semester Hours)

DEMR 1406 - Diesel Engine I
DEMR 2412 - Diesel Engine Testing & Repair II
DEMR 1329 - Preventative Maintenance
DEMR 2432—Electronic Controls
DEMR 1321—Power Train I
DEMR 1347—Power Train II
DEMR 2331—Advanced Brake Systems
DEMR 2346 - Advanced Heating, Ventilation & Air Conditioning (HVAC)

Total (42 Semester Hours)

Diesel Technology - Advanced Mechanics Certificate

Program Advisor: Brian Jacob, 335-4219
(bjacob@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

Certificate of Completion
Major Code - DEMR.CERT.DT
actx.edu/diesel

Gives students a broad knowledge base of all aspects of Diesel Technology. Students enter the industry prepared to work in a shop environment in a variety of specialties. The Technical Core must be completed prior to other classes.

Program Requirements

Technical Core Requirements (12 Semester Hours)

ELPT 1311 – Basic Electrical Theory
ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing
INMT 1305 – Introduction to Industrial Maintenance
MCHN 1343 – Machine Shop Mathematics

Major Requirements (30 Semester Hours)

AUMT 1305 – Introduction to Automotive Technology
DEMR 1321 - Power Train I
DEMR 1329 - Preventative Maintenance
DEMR 1347 - Power Train II
DEMR 1406 - Diesel Engine I
DEMR 2331 - Advanced Brake Systems
DEMR 2346 - Advanced Heating, Ventilation & Air Conditioning (HVAC)
DEMR 2412 - Diesel Engine Testing & Repair II
DEMR 2432 - Electronic Controls

Total (42 Semester Hours)

Diesel Technology - Basic Mechanics Certificate

Program Advisor: Brian Jacob, 335-4219
(bjacob@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

Certificate of Completion
Major Code - DEMR.CERT
actx.edu/diesel

Prepares students for a basic entry-level technician. The Technical Core must be completed prior to other classes.

Technical Core Requirements (12 Semester Hours)

ELPT 1311 – Basic Electrical Theory
ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing
INMT 1305 – Introduction to Industrial Maintenance
MCHN 1343 – Machine Shop Mathematics

Major Requirements (17 Semester Hours)

AUMT 1305 – Introduction to Automotive Technology
DEMR 1406 - Diesel Engine I
DEMR 2412 - Diesel Engine Testing & Repair II
DEMR 1329 - Preventative Maintenance
DEMR 2346 - Advanced Heating, Ventilation & Air Conditioning (HVAC)

Total (29 Semester Hours)

CURRICULUM REVISION REQUEST	
Division:	Career and Technical Education
Department/Program:	Aviation Maintenance Technology
Prepared by:	Brian Jacob
Request:	<ol style="list-style-type: none"> 1. Change the following course descriptions: <ul style="list-style-type: none"> • AERM 1210: Ground Operations • AERM 1240: Aircraft Propellers • AERM 1241: Wood, Fabric and Finishes • AERM 1247: Airframe Auxiliary Systems • AERM 1253: Aircraft Welding • AERM 1303: Shop Practices – Aerospace Manufacturing • AERM 1314: Basic Electricity • AERM 1344: Aircraft Reciprocating Engines • AERM 1345: Airframe Electrical Systems • AERM 1349: Hydraulic, Pneumatic and Fuel Systems • AERM 1351: Aircraft Turbine Engine Theory • AERM 1354: Aircraft Composites • AERM 1456: Aircraft Powerplant Electrical • AERM 2231: Airframe Inspection • AERM 2233: Assembly and Rigging • AERM 2341: Powerplant and Auxiliary Power Units • AERM 2351: Aircraft Turbine Engine Overhaul • AERM 2352: Aircraft Powerplant Inspection • AERM 2447: Aircraft Reciprocating Engine Overhaul • AIRP 2333: Aircraft Systems • AVNC 1343: Aircraft Electrical and Electronic Systems Installation 2. Delete the following courses from the Course Inventory: <ul style="list-style-type: none"> • AERM 1372: Aircraft Sheet Metal • AERM 1373: Shop Practices
Rationale/Justification:	<ol style="list-style-type: none"> 1. These course descriptions have been updated in the WECM catalog. 2. These two courses are already in the Course Inventory under different WECM numbers and have the same course outcomes.
Effects of Revisions	No Change
Faculty & Staff Requirements:	No Change
Equipment/Facility Requirements:	No Change
Location:	No Change
Income Projections:	No Change
Effective Date:	Fall 2014

AVIATION COURSE INVENTORY

AERM 1210 - Ground Operations

~~An introductory course in fuels, servicing methods and procedures, aircraft movement, securing and operations of aircraft, external power equipment, aircraft cleaning and corrosion control.~~

Hours (2 sem hr; 2 lec, 1 lab)

AERM 1240 - Aircraft Propellers

~~Fundamentals of construction of propellers. Skill development in inspection, servicing and repair of fixed-pitch, constant-speed and feathering propellers and governing systems. Instruction in removal, balancing and installation of propellers.~~

Hours (2 sem hrs; 1 lec, 2 lab)

AERM 1241 - Wood, Fabric and Finishes

~~A course in the use and care of various covering materials, finishes and wood structures including approved methods and procedures.~~

Hours (2 sem hrs; 1 lec, 2 lab)

AERM 1247 - Airframe Auxiliary Systems

~~Topics address airframe auxiliary systems including the operation and repair of position and warning systems; cabin atmospheric control systems; ice and rain control systems for aircraft and engines; and fire detection and protection systems.~~

Hours (2 sem hrs; 1 lec, 4 lab)

AERM 1253 - Aircraft Welding

~~Topics address repair procedures for steel, magnesium, brass and aluminum materials used in aircraft assembly. Selection and application of appropriate methods of welding, brazing and soldering steel, magnesium, brass and aluminum.~~

Hours (2 sem hrs; 1 lec, 2 lab)

AERM 1303 - Shop Practices - Aerospace Manufacturing

~~An introduction to the correct use of hand and power tools; equipment and precision measurement; identification of aircraft hardware; and the fabrication of fluid lines and tubing. Emphasis on procedures for testing, heat treating and inspection of aircraft structures. Also includes an introduction to manufacture of aircraft and its components from blueprints and engineering call-out procedures as applied with shop practice standards.~~

Hours (3 sem hrs; 2 lec, 2 lab)

AERM 1314 - Basic Electricity

~~A study of aircraft electrical systems and their requirements including the use of ammeter, voltmeter and ohmmeter; series and parallel circuits; inductance and capacitance; magnetism; converting alternating current (AC) to direct current (DC); controlling devices; maintenance and servicing of aircraft batteries; and reading and interpreting aircraft electrical diagrams to include solid state devices and logic functions.~~

Hours (3 sem hrs; 2 lec, 4 lab)

imf

An introductory course in fuels, servicing methods, safety procedures, aircraft movement, securing and operations of aircraft, external power equipment, aircraft cleaning, and corrosion control.

Fundamentals of propeller design, function and construction. Skill development in inspection, servicing, and repair of fixed-pitch, constant-speed, and feathering propellers and governing systems. Instruction in removal, balancing, installation of propellers, and fundamental safety procedures are also addressed.

A course in the use and care of various covering materials, finishes, and wood structures including approved methods and procedures. Safety also addressed.

A comprehensive study of airframe auxiliary systems including cabin atmospheric control systems, ice and rain control systems for aircraft and engines, and fire detection and protection systems. Fundamentals of safety procedures also addressed.

Skill development in repair procedures for steel, magnesium, brass, and aluminum materials. Includes the selection and application of appropriate methods of welding, brazing, and soldering. Fundamentals of safety procedures also addressed.

An introduction to shop safety, the correct use of hand tools, equipment, and precision measurement, identification of aircraft hardware, and the fabrication of fluid lines and tubing. Emphasis on procedures for testing, heat treating, and inspection of aircraft structures.

A study of aircraft electrical systems and their requirements including the use of ammeter, voltmeter, and ohmmeter; series and parallel circuits; inductance and capacitance; magnetism; converting alternating current (AC) to direct current (DC); controlling devices; maintenance and servicing of aircraft batteries; and reading and interpreting aircraft electrical diagrams to include solid state devices and logic functions. Fundamentals of safety also addressed.

January 14, 2014

AVIATION COURSE INVENTORY

AERM 1344 - Aircraft Reciprocating Engines

~~A study of reciprocating engines and their development, operating principles and theory. Instruction in engine instruments, lubricating and exhaust systems.~~

Hours (3 sem hrs; 2 lec, 4 lab)

Reciprocating engines, their development, operating principles, and theory. Includes engine instruments, lubrication, and exhaust systems. Also addresses fundamentals of safety.

AERM 1345 - Airframe Electrical Systems

~~A study of airframe electrical systems including installation, removal, disassembly and repair of electrical components and related wiring.~~

Hours (3 sem hrs; 2 lec, 4 lab)

A study of airframe electrical systems including installation, removal, disassembly, and repair of electrical components and related wiring. Fundamentals of electrical safety also addressed.

AERM 1349 - Hydraulic, Pneumatic and Fuel Systems

~~Skill development in inspecting, servicing and maintaining aircraft fluid systems including hydraulics, pneumatics and fuel. Application of basic concepts through detailed maintenance procedures.~~

Hours (3 sem hrs; 2 lec, 4 lab)

Skill development in inspecting, servicing, and maintaining aircraft fluid systems including hydraulics, pneumatics, and fuel. Application of concepts through detailed maintenance procedures. Fundamentals of safety procedures also addressed.

AERM 1351 - Aircraft Turbine Engine Theory

~~Theory, history and servicing of turbine engines to include lubrication, instrumentation, auxiliary power units and exhaust systems.~~

Hours (3 sem hrs; 2 lec, 4 lab)

General principles of theory, history, and servicing of turbine engines to include lubrication, instrumentation, auxiliary power units, and exhaust systems. Fundamentals of safety procedures are also addressed.

AERM 1354 - Aircraft Composites

~~Comprehensive concepts of the inspection and repair of composite, fiberglass, honeycomb and laminated structural materials including doors, windows, bonded structures and interior furnishings. Safety procedures will also be addressed.~~

Hours (3 sem hrs; 2 lec, 2 lab)

Comprehensive concepts of the inspection and repair of composite, fabric, core, and laminated structural materials including doors, windows, bonded structures, and interior furnishings. Safety procedures to include the handling and storage of composite materials will also be addressed.

AERM 1456 - Aircraft Powerplant Electrical

~~Theory, operation and maintenance of powerplants including electrical, ignition, starting and fire protection systems.~~

Hours (4 sem hrs; 2 lec, 5 lab)

General principles of theory, operation, and maintenance of powerplant electrical systems including ignition, starting, and fire protection systems. Fundamentals of safety procedures will also be addressed.

AERM 2231 - Airframe Inspection

~~A study of the materials and procedures for completing a 100-hour inspection as per Federal Aviation Regulations and manufacturers' service information.~~

Hours (2 sem hrs; 1 lec, 2 lab)

In-depth coverage of methods and procedures to perform airframe conformity and air worthiness inspections (including One Hundred Hour Inspections) in accordance with Federal Aviation Regulations and manufacturer's service information. Safety procedures will also be addressed.

AERM 2233 - Assembly and Rigging

~~An advanced course in assembly and rigging of fixed and rotary-wing aircraft.~~

Hours (2 sem hrs; 1 lec, 4 lab)

A comprehensive study of the assembly and rigging of fixed and rotary-wing aircraft including structural alignment, balancing and rigging of control systems, and assembly of aircraft components. Fundamentals of safety procedures are also addressed.

AERM 2341 - Powerplant and Auxiliary Power Units

~~General principles of auxiliary power units (APU), powerplant systems and components.~~

Hours (3 sem hrs; 2 lec, 2 lab)

Advanced concepts of auxiliary power unit (APU) and powerplant systems and components. Safety procedures will also be addressed.

AVIATION COURSE INVENTORY

AERM 2351 - Aircraft Turbine Engine Overhaul

~~Topics address inspection, disassembly, reassembly and replacement of gas turbine engines, sections and components~~

~~1 operational troubleshooting and analysis.~~

Hours (3 sem hrs; 2 lec, 4 lab)

Comprehensive study in inspection, disassembly, reassembly, and replacement of gas turbine engines, sections, and components including operational troubleshooting, analysis, and safety.

AERM 2352 - Aircraft Powerplant Inspection

~~In depth coverage of methods and procedures for completing airworthiness and conformity inspections on aircraft powerplants.~~

~~powerplants.~~

Hours (3 sem hrs; 1 lec, 6 lab)

In depth coverage of methods and procedures to perform powerplant conformity and airworthiness inspections (including one hundred hour inspections) in accordance with Federal Aviation Regulations and manufacturer's information. Safety procedures will also be addressed.

AERM 2447 - Aircraft Reciprocating Engine Overhaul

~~A study of reciprocating engine overhaul including measurement and inspection procedures. Instruction in removal and installation, inspections, checks, servicing and repair of engines.~~

Hours (4 sem hrs; 2 lec, 6 lab)

A comprehensive study of reciprocating engine overhaul including measurement and inspection procedures. Instruction in removal and installation, inspections, checks, servicing, repair of engines, and safety procedures will also be addressed.

AIRP 2333 - Aircraft Systems

~~Study of the general principles, operation and application of pneumatic, hydraulic, electrical, fuel, environmental, protection and warning systems. Emphasis on types of aircraft structures and their control systems.~~

Hours (3 sem hrs; 2 lec, 2 lab)

Study of the general principles, operation, and application of pneumatic, hydraulic, electrical, fuel, environmental, protection, and warning systems. Emphasis on subsystems and control systems.

AVNC 1343 - Aircraft Electrical and Electronic Systems Installation

~~A study of and practical experience in the installation of avionic systems in aircraft, mounting electronic equipment, construction and installation of electrical wiring and cables, proper use of tools and selection of materials.~~

Hours (3 sem hrs; 2 lec, 2 lab)

A comprehensive study of and practical experience in the installation of avionic systems in aircraft, mounting electronic equipment, construction and installation of electrical wiring and cables, proper use of tools, selection of materials, and safety.

AERM 1372 - Aircraft Sheet Metal

~~A course in inspection and repair of sheet metal structures including forming, layout and bending of sheet metal and identification, selection and installation of rivets and fasteners.~~

Hours (3 sem hrs; 2 lec, 4 lab)

AERM 1373 - Shop Practices

~~An introduction to the correct use of hand tools and equipment and precision measurement; identification of aircraft hardware; and the fabrication of fluid lines and tubing.~~

~~Emphasis on procedures for testing, heat treating and pection of aircraft structures.~~

Hours (3 sem hrs; 2 lec, 4 lab)

AVIATION COURSE INVENTORY

AERM 1303 - Shop Practices - Aerospace Manufacturing

An introduction to the correct use of hand and power tools; equipment and precision measurement; identification of aircraft hardware; and the fabrication of fluid lines and tubing. Emphasis on procedures for testing, heat treating and inspection of aircraft structures. Also includes an introduction to manufacture of aircraft and its components from blueprints and engineering call out procedures as applied with shop practice standards.

Hours (3 sem hrs; 2 lec, 2 lab)

AERM 1456 - Aircraft Powerplant Electrical

Theory, operation and maintenance of powerplants including electrical, ignition, starting and fire protection systems.

Hours (4 sem hrs; 2 lec, 5 lab)

AERM 1303 - Shop Practices

An introduction to shop safety, the correct use of hand tools, equipment, and precision measurement, identification of aircraft hardware, and the fabrication of fluid lines and tubing. Emphasis on procedures for testing, heat treating, and inspection of aircraft structures.

Hours (3 sem hrs; 2 lec, 4 lab)

AERM 1356 - Aircraft Powerplant Electrical

General principles of theory, operation, and maintenance of powerplant electrical systems including ignition, starting, and fire protection systems. Fundamentals of safety procedures will also be addressed.

Hours (3 sem hrs; 3 lec, 4 lab)

Shop Practices

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
47.0607	AERM	1003	Shop Practices	Active	0	64	80
47.0607	AERM	1203	Shop Practices	Active	2	64	80
47.0607	AERM	1303	Shop Practices	Active	3	64	80
47.0607	AERM	1103	Shop Practices	Archived #	1	64	64

Course Level: Introductory

Course Description: An introduction to shop safety, the correct use of hand tools, equipment, and precision measurement, identification of aircraft hardware, and the fabrication of fluid lines and tubing. Emphasis on procedures for testing, heat treating, and inspection of aircraft structures.

End-of-Course Outcomes: Perform basic shop safety, shop operations, and precision measurement procedures; identify and select non-destructive testing methods; perform non-destructive testing and heat treating procedures; identify and select aircraft hardware and materials; fabricate and install fluid lines and fittings; and inspect welds.

Lab Recommended

CIP Code Description: 47.0607 (Airframe Mechanics and Aircraft Maintenance Technology/Technician)

Effective Date: September 1, 2009

FAA required hours = 96
2 Lec, 2 Lab = 96 hrs

Aircraft Powerplant Electrical

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
47.0608	AERM	1056	Aircraft Powerplant Electrical	Active	0	80	128
47.0608	AERM	1356	Aircraft Powerplant Electrical	Active	3	80	128
47.0608	AERM	1456	Aircraft Powerplant Electrical	Active	4	96	128

Course Level: Intermediate

Course Description: General principles of theory, operation, and maintenance of powerplant electrical systems including ignition, starting, and fire protection systems. Fundamentals of safety procedures will also be addressed.

End-of-Course Outcomes: Maintain powerplant electrical systems and components; maintain powerplant ignition, starting, and fire protection systems; and demonstrate safety procedures.

Lab Recommended

CIP Code Description: 47.0608 (Aircraft Powerplant Technology/Technician)

Effective Date: September 1, 2009

FAA required hours = 112

3 Lec 4 Lab = 112

CURRICULUM REVISION REQUEST	
Division:	Career and Technical Education
Department/Program:	Aviation Maintenance Technology Aerospace
Prepared by:	Brian Jacob
Request:	<ol style="list-style-type: none"> 1. Make the following changes to the AERM.CERT.AERO certificate: <ol style="list-style-type: none"> a. Replace Manufacturing with Technical in the Core Requirements title. b. Remove the following courses from the Core Requirements section: <ul style="list-style-type: none"> • DFTG 1325 - Blueprint Reading and Sketching • EPCT 1307 - Introduction to Environmental Safety and Health • QCTC 1341 - Statistical Process Control • TECM 1343 - Technical Algebra and Trigonometry c. Add the following courses to the Core Requirements section: <ul style="list-style-type: none"> • ELPT 1311 – Basic Electrical Theory • ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing • INMT 1305 – Introduction to Industrial Maintenance • MCHN 1343 – Machine Shop Mathematics 2. Make the following changes to the AERM.AAS.AERO degree: <ol style="list-style-type: none"> a. Change the General Education Requirements to 15 semester hours. b. Change the Communications semester hours to 6. c. Remove ENGL 2311 – Technical and Business Writing from the Communications section. d. Replace Manufacturing with Technical in the Core Requirements title. e. Remove the following courses from the Core Requirements section: <ul style="list-style-type: none"> • DFTG 1325 - Blueprint Reading and Sketching • EPCT 1307 - Introduction to Environmental Safety and Health • QCTC 1341 - Statistical Process Control • TECM 1343 - Technical Algebra and Trigonometry f. Add the following courses to the Core Requirements section: <ul style="list-style-type: none"> • ELPT 1311 – Basic Electrical Theory • ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing • INMT 1305 – Introduction to Industrial Maintenance • MCHN 1343 – Machine Shop Mathematics g. Change the Related Requirements to 21 hours. h. Add AERM 1315 – Aviation Science to the Related Requirements.

	<p>3. Make the following changes to the AERM.AAS degree:</p> <ul style="list-style-type: none"> a. Remove EPCT 1307 – Introduction to Environmental Safety and Health from the Airframe section b. Add ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing to the Airframe section. c. Remove EPCT 1307 – Introduction to Environmental Safety and Health from the Powerplant section d. Add ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing to the Powerplant section. 	
Rationale/Justification:	<p>The above changes will:</p> <p>Items #1 and #2 - Reflect the new Technical Core Requirements and will eliminate courses that are no longer being taught.</p> <p>Item #3 – Replacing EPCT 1307 with ETWR 1391 will give students experience with writing skills that will be beneficial to the students' career success.</p>	
Effects of Revisions	No Change	
Faculty & Staff Requirements:	No Change	
Equipment/Facility Requirements:	No Change	
Location:	No Change	
Income Projections:	No Change	
Effective Date:	Fall 2014	

CURRICULUM REVISION REQUEST	
Division:	Career and Technical Education
Department/Program:	Aviation Maintenance Technology Aerospace
Prepared by:	Brian Jacob
Request:	<ol style="list-style-type: none"> 1. Make the following changes to the course inventory: <ul style="list-style-type: none"> • Change AERM 1303: <ol style="list-style-type: none"> a. Remove the Aerospace Manufacturing from the course title. b. Update the course description. c. Change the lecture and lab hours from 2 lec and 2 lab to 2 lec and 4 lab to meet FAA required contact hours. • Remove AERM 1456 - Aircraft Poweplant Electrical • Add AERM 1356 - Aircraft Poweplant Electrical 2. Make the following changes to the AERM.CERT.AERO certificate: <ul style="list-style-type: none"> • Change the Program Advisor from Richard Whitaker to Brian Jacob. 3. Make the following changes to the AERM.AAS.AERO degree: <ul style="list-style-type: none"> • Change the Program Advisor from Richard Whitaker to Brian Jacob. • Change the Related Requirements to 18 Semester Hours. • Remove AERM 1452 - Aircraft Sheet Metal • Add AERM 1352 - Aircraft Sheet Metal. • Change the Total Semester Hours to 60. 4. Make the following changes to the AERM.CERT.AM certificate: <ul style="list-style-type: none"> • Change the Program Advisor from Joe Gandy to Brian Jacob. • Remove AERM 1372 - Aircraft Sheet Metal. • Add AERM 1352 – Aircraft Sheet Metal. • Remove AERM 1373: Shop Practices. • Add AERM 1303 – Shop Practices. 5. Make the following changes to the AERM.CERT.PM certificate: <ul style="list-style-type: none"> • Change the Program Advisor from Joe Gandy to Brian Jacob. • Change the Major Course Requirements to 39 Semester Hours. • Remove AERM 1373 - Shop Practices. • Add AERM 1303 - Shop Practices. • Remove AERM 1456 – Aircraft Powerplant Electrical. • Add AERM 1356 – Aircraft Powerplant Electrical. • Change the Total to 39 Semester Hours. 6. Make the following changes to the AERM.AAS degree: <ul style="list-style-type: none"> • Change the Program Advisor from Joe Gandy to Brian Jacob. • Remove AERM 1373 - Shop Practices. • Add AERM 1303 - Shop Practices. • Change the Major Options to 30 Semester Hours. • Change the Airframe Semester Hours to 30.

	<ul style="list-style-type: none"> • Remove AERM 1372 - Aircraft Sheet Metal. • Add AERM 1352 – Aircraft Sheet Metal. • Remove QCTC 1341 – Statistical Process Control. • Change the Powerplant Semester Hours to 30. • Remove AERM 1456 – Aircraft Powerplant Electrical. • Add AERM 1356 – Aircraft Powerplant Electrical. • Remove QCTC 1341 – Statistical Process Control. • Change the Total to 60 Semester Hours
Rationale/Justification:	<p>The above changes will:</p> <ol style="list-style-type: none"> 1. Reflect the FAA approved curriculum and contact hours. 2. Will eliminate duplication of courses numbers with same title and course descriptions (i.e. AERM 1352 – Aircraft Sheet Metal and AERM 1372 – Aircraft Sheet Metal). 3. Will allow students from the Aerospace program to transition into the Aviation program with the required course credit and contact hours for like courses. 4. Will decrease the AAS degrees to 60 Semester Hours without eliminating any Aviation courses or General Education Course Requirements. 5. Will change the Program Advisor from instructors to the Program Coordinator.
Effects of Revisions	No Change
Faculty & Staff Requirements:	No Change
Equipment/Facility Requirements:	No Change
Location:	No Change
Income Projections:	No Change
Effective Date:	Fall 2014

**Aviation Maintenance Technology - Aerospace
Manufacturing Certificate**

Program Advisor Brian Jacob, 335-4219 (bjacob@actx.edu)
or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

*Contact the Testing Center or the Program Advisor for testing
requirements. Testing requirements are based on the unique
needs of the certificate program.*

Certificate of Completion
Major Code - AERM.CERT.AERO
actx.edu/aeromanu

Prepares and qualifies students to be proficient in the skills
required for aerospace and aircraft manufacturing careers.

Program Requirements

Manufacturing Core Requirements (12 Hours)

DFTG 1325 – Blueprint Reading and Sketching
EPCT 1307 – Introduction to Environmental Safety and
Health
QCTC 1341 – Statistical Process Control
TECM 1343 – Technical Algebra and Trigonometry

Major Course Requirements (12 Semester Hours)

AERM 1354 - Aircraft Composites
AERM 1303 - Shop Practices - Aerospace Manufacturing
AERM 1391 - Special Topics in Fasteners
AVNC 1343 - Aircraft Electrical and Electronic Systems
Installation

Total (24 Semester Hours)

**Aviation Maintenance Technology - Aerospace
Manufacturing (A.A.S.)**

Program Advisor: Brian Jacob, 335-4219 (bjacob@actx.edu)
or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

Associate in Applied Science
Major Code - AERM.AAS.AERO
actx.edu/aeromanu

Prepares and qualifies students to be proficient in the skills
required for aerospace and aircraft manufacturing careers.

Program Requirements

General Education Requirements (18 Semester Hours)

Communications - 9 Semester Hours

Speech
ENGL 1301 - Composition I
ENGL 2311 – Technical and Business Writing

Mathematics/Natural Sciences - 3 Semester Hours

MATH 1332 - Contemporary Mathematics I
(or any college level Mathematics course)

Social/Behavioral Science - 3 Semester Hours

Social and Behavioral Sciences

Technical

ELPT 1311 – Basic Electrical Theory
ETWR 1391 – Special Topics in Professional, Technical,
Business and Scientific Writing
INMT 1305 – Introduction to Industrial Maintenance
MCHN 1343 – Machine Shop Mathematics

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Humanities/Fine Arts - 3 Semester Hours

Humanities or Fine Arts

Manufacturing Core Requirements (12 Semester Hours)

DFTG 1325 – Blueprint Reading and Sketching
EPCT 1307 – Introduction to Environmental Safety and Health
QCTC 1341 – Statistical Process Control
TECM 1343 – Technical Algebra and Trigonometry

Major Course Requirements (12 Semester Hours)

AERM 1303 - Shop Practices - Aerospace Manufacturing
AERM 1354 - Aircraft Composites
AERM 1391 - Special Topics in Fasteners
AVNC 1343 - Aircraft Electrical and Electronic Systems Installation

Related Requirements (18 Semester Hours)

(1452) AERM 1300 - Aircraft Structural Manufacturing
AERM 1352 – Aircraft Sheet Metal
AERM 2359 - Advanced Composite Repair
AIRP 2333 - Aircraft Systems
AVNC 2308 - Aircraft Electrical/Electronic Systems Installation II
DFTG 1309 - Basic Computer-Aided Drafting

Total (60 Semester Hours)

Aviation Maintenance Technology (A.A.S.)

Program Advisor Brian Jacob, 335-4219
(jbjacob@actx.edu) or contact Melodie Graves, 335-4301
(mgraves24@actx.edu)

Associate in Applied Science
Major Code - AERM.AAS
actx.edu/aviation

Prepares and qualifies students to take all FAA Licensing Exams for Airframe or Powerplant certification. Students enter the industry with a comprehensive understanding of Aviation Maintenance Technology.

Program Requirements

General Education Requirements (15 Semester Hours)

Communications - 6 Hours

- Speech
- ENGL 1301 - Composition I

Mathematics/Natural Sciences - 3 Hours

- MATH 1332 - Contemporary Mathematics I
(or any college level Mathematics course)

Social/Behavioral Science - 3 Hours

- Social/Behavioral Science

Humanities/Fine Arts - 3 Hours

- Humanities or Fine Arts

Major Course Requirements (15 Semester Hours)

Technical

ELPT 1311 – Basic Electrical Theory
ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing
INMT 1305 – Introduction to Industrial Maintenance
MCHN 1343 – Machine Shop Mathematics

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AERM 1315 - Aviation Science

- ✓AERM 1205 - Weight and Balance
- ✓AERM 1208 - Federal Aviation Regulations
- ✓AERM 1210 - Ground Operations
- AERM 1314 - Basic Electricity
- AERM 1315 - Aviation Science
- AERM 1303 – Shop Practices

Major Options (30 Semester Hours)

The student must choose one of the following specialties:

Airframe (30 Semester Hours)

Prepares and qualifies students to take the General and Airframe sections of the FAA Licensing Exams. Meets the minimum requirements for positions within the aircraft manufacturing industry.

- AERM 1241 - Wood, Fabric and Finishes
- AERM 1243 - Instruments and Navigation/Communication
- AERM 1247 - Airframe Auxiliary Systems
- AERM 1253 - Aircraft Welding
- AERM 1345 - Airframe Electrical Systems
- AERM 1349 - Hydraulic, Pneumatic and Fuel Systems
- AERM 1350 - Landing Gear Systems
- AERM 1352 – Aircraft Sheet Metal
- AERM 2231 - Airframe Inspection
- AERM 2233 - Assembly and Rigging
- AERM 1354 - Aircraft Composites
- ~~EPCT 1307 – Introduction to Environmental Safety and Health~~

ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing

Powerplant (30 Semester Hours)

Prepares and qualifies students to take the General and Powerplant sections of the FAA Licensing Exams.

- AERM 1240 - Aircraft Propellers
- AERM 1344 - Aircraft Reciprocating Engines
- AERM 1351 - Aircraft Turbine Engine Theory
- AERM 1354 - Aircraft Composites
- AERM 1356 – Aircraft Powerplant Electrical
- AERM 2341 - Powerplant and Auxiliary Power Units
- AERM 2351 - Aircraft Turbine Engine Overhaul
- AERM 2352 - Aircraft Powerplant Inspection
- AERM 2447 - Aircraft Reciprocating Engine Overhaul
- ~~EPCT 1307 – Introduction to Environmental Safety and Health~~

ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing

Total (60 Semester Hours)

Aviation Maintenance Technology - Airframe Mechanic Certificate

Program Advisor: ~~Joe Gandy, 335-4382~~
~~ngandy@actx.edu~~) or contact Melodie Graves, 335-
4301 (mgraves24@actx.edu)

Brian Jacob, 335-4219 (bjacob@actx.edu)

*Contact the Testing Center or the Program Advisor for
testing requirements. Testing requirements are based on
the unique needs of the certificate program.*

Certificate of Completion
Major Code - AERM.CERT.AM
actx.edu/aviation

A certificate will be issued per FAA regulations at the
completion of Airframe and Powerplant sections.

Prepares and qualifies students to take the General and
Airframe section of the FAA Licensing Exams.

Program Requirements

Major Course Requirements (42 Semester Hours)

- AERM 1205 - Weight and Balance
- AERM 1208 - Federal Aviation Regulations
- AERM 1210 - Ground Operations
- AERM 1241 - Wood, Fabric and Finishes
- AERM 1243 - Instruments and
Navigation/Communication
- AERM 1247 - Airframe Auxiliary Systems
- AERM 1253 - Aircraft Welding
- AERM 1314 - Basic Electricity
- AERM 1315 - Aviation Science
- AERM 1345 - Airframe Electrical Systems
- AERM 1349 - Hydraulic, Pneumatic and Fuel
Systems
- AERM 1350 - Landing Gear Systems
- AERM 1354 - Aircraft Composites
- ~~AERM 1372 - Aircraft Sheet Metal~~
- ~~AERM 1373 - Shop Practices~~
- AERM 2231 - Airframe Inspection
- AERM 2233 - Assembly and Rigging
- AERM 1352 - Aircraft Sheet Metal
- AERM 1303 - Shop Practices

Total (42 Semester Hours)

Aviation Maintenance Technology - Powerplant Mechanic Certificate

Program Advisor: ~~Joe Gandy, 335-4382~~

~~jmgandy@actx.edu~~) or contact Melodie Graves, 335-
01 (mgraves24@actx.edu)

Brian Jacob, 335-4219 (bjacob@actx.edu)

Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

Certificate of Completion

Major Code - AERM.CERT.PM

actx.edu/aviation

A certificate will be issued per FAA regulations at the completion of Airframe and Powerplant sections.

Prepares and qualifies students to take the General and Powerplant section of the FAA Licensing Exams.

Program Requirements

Major Course Requirements (40 Semester Hours)

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- AERM 1205 - Weight and Balance
- AERM 1208 - Federal Aviation Regulations
- AERM 1210 - Ground Operations
- AERM 1240 - Aircraft Propellers
- AERM 1314 - Basic Electricity
- AERM 1315 - Aviation Science
- AERM 1344 - Aircraft Reciprocating Engines
- AERM 1351 - Aircraft Turbine Engine Theory
- ~~AERM 1373 - Shop Practices~~
- ~~AERM 1456 - Aircraft Powerplant Electrical~~
- AERM 2341 - Powerplant and Auxiliary Power Units
- AERM 2351 - Aircraft Turbine Engine Overhaul
- AERM 2352 - Aircraft Powerplant Inspection
- AERM 2447 - Aircraft Reciprocating Engine Overhaul

- AERM 1303 – Shop Practices
- AERM 1356 – Aircraft Powerplant Electrical

Total (40 Semester Hours)

39

Fire Protection Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Fire Protection Technology
Prepared by:	Ed Nolte and Dennis Eaves
<ul style="list-style-type: none"> • Course additions must include student learning outcomes • Program changes/additions must include program goals 	
Request:	<p><i>Revise the Fire Protection Technology Basic Firefighter Certificate and Associate of Applied Science Degree as follows:</i></p> <ol style="list-style-type: none"> 1. Fire Protection - Basic Firefighter Certificate <ol style="list-style-type: none"> a. Delete the following courses <ol style="list-style-type: none"> i. BIOL 2401 – Human Anatomy and Physiology I ii. HITT 1305 – Medical Terminology iii. FIRS 1171 – Firefighter Orientation iv. FIRS 1323 – Firefighter Certification V v. FIRS 1329 – Firefighter Certification VI vi. FIRS 1433 – Firefighter Certification VII b. Revise the following courses <ol style="list-style-type: none"> i. FIRS 1301 – Firefighter Certification I to FIRS 1401 – Firefighter Certification I ii. FIRS 1407 – Firefighter Certification II to FIRS 1507 – Firefighter Certification II c. Revise and update all course descriptions 2. Fire Protection – Associate of Applied Science (A.A.S.) <ol style="list-style-type: none"> a. Apply all deletions and revisions from the Basic Firefighter Certificate to the A.A.S. Degree b. Apply all revisions/changes to the college's General Education Requirements c. Revise and update all course descriptions d. Delete the following course <ol style="list-style-type: none"> i. FIRT 2474 – Hazardous Materials Technician e. Add the following courses <ol style="list-style-type: none"> i. FIRS 2450 – Hazardous Materials Technician ii. FIRS 1204 – Basic Wildland Firefighting

Rational:	<p><i>The Fire Protection department requests the above changes to accomplish the following goals:</i></p> <ol style="list-style-type: none"> 1. Fire Protection – Basic Firefighter Certificate <ol style="list-style-type: none"> a. Delete and revise classes to meet required hours of instruction for the Basic Structural Fire Suppression certification through the Texas Commission on Fire Protection. b. Align the certificate program for the integration of a maximum 60 hour Associate of Applied Science Degree requirement established by the THECB by 2015. c. Routine housekeeping based on WECM course description revisions. 2. Fire Protection – Associate of Applied Science (A.A.S.) <ol style="list-style-type: none"> a. Delete <i>FIRT 2474 – Hazardous Material Technician</i> (local needs course) and add <i>FIRS 2450 – Hazardous Material Technician</i> (new course added to the WECM inventory) to standardize course with other colleges across the state. b. Add <i>FIRS 1204 – Basic Wildland Firefighting</i> to address, prepare and train for the threat of wildland fires in the Texas Panhandle. c. Align the A.A.S. to meet the maximum 60 hour requirement for all Associate of Applied Science Degree's by 2015. d. Routine housekeeping based on WECM course description revisions.
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: Minor decrease in income based on the reduction of semester hours.
Effective Date:	Fall 2014

Current	Proposed
<p>Fire Protection - Basic Firefighter Certificate</p> <p>Program Advisor: Dennis Eaves, 335-4306 (dseaves@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu).</p> <p><i>Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.</i></p> <p>Students seeking entry into the Fire Protection program must file a specific program application form and complete additional admission procedures as required. Information is available on the Fire Protection website: www.actx.edu/fire</p> <p>Certificate of Completion Major Code - FIRS.CERT Students seeking to enter this program must fulfill special admission requirements including diagnostic testing. Consult with the program advisor.</p> <p>The program will prepare students to become certifiable as Basic Firefighters in the State of Texas. Volunteer firefighter will find the courses beneficial in upgrading their service to the community.</p> <p>Major Course Requirements (34 Semester Hours) EMSP 1163 - Clinical - Emergency Medical Technology/Technician EMSP 1501 - Emergency Medical Technician – Basic BIOL 2401 – Human Anatomy and Physiology I CHIT 1305 – Medical Terminology I RS 1171 – Firefighter Orientation FIRS 1301 – Firefighter Certification I FIRS 1319 - Firefighter Certification IV FIRS 1323 – Firefighter Certification V FIRS 1329 – Firefighter Certification VI FIRS 1407 – Firefighter Certification II FIRS 1413 - Firefighter Certification III FIRS 1433 – Firefighter Certification VII</p> <p>Total (38 Semester Hours)</p>	<p>Fire Protection - Basic Firefighter Certificate</p> <p>Program Advisor: Dennis Eaves, 335-4306 (dseaves@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu).</p> <p><i>Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.</i></p> <p>Students seeking entry into the Fire Protection program must file a specific program application form and complete additional admission procedures as required. Information is available on the Fire Protection website: www.actx.edu/fire</p> <p>Certificate of Completion Major Code - FIRS.CERT Students seeking to enter this program must fulfill special admission requirements including diagnostic testing. Consult with the program advisor.</p> <p>The program will prepare students to become certifiable as Basic Firefighters in the State of Texas. Volunteer firefighter will find the courses beneficial in upgrading their service to the community.</p> <p>Major Course Requirements (22 Semester Hours) EMSP 1163 - Clinical - Emergency Medical Technology/Technician EMSP 1501 - Emergency Medical Technician – Basic FIRS 1401 - Firefighter Certification I FIRS 1319 - Firefighter Certification IV FIRS 1507 - Firefighter Certification II FIRS 1413 - Firefighter Certification III</p> <p>Total (22 Semester Hours)</p>

Current	Proposed
<p>Fire Protection Technology (A.A.S.)</p> <p>Program Advisor: Dennis Eaves, 335-4306 (dseaves@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu).</p> <p>Associate in Applied Science Major Code – FIRS.AAS</p> <p>actx.edu/fire</p> <p>This is a two-year program leading to an associate degree in applied science. The program is designed for students interested in a career in the fire protection field, either as a professional firefighter or as a fire protection technician in industry. The courses will aid the professional firefighter in achieving promotion and advancement within his/her profession. Volunteer firefighter will find the courses beneficial in upgrading their service to the community. Licensed firefighters may be awarded an equivalent of 24 semester hours credit for completion of an approved Texas Commission of Fire Protection Academy (Firefighter Certification courses)</p> <p>General Education Requirements (49 Semester Hours)</p> <p>Communications – 6 Hours Speech* ENGL 1301 – Composition I</p> <p>Humanities/Fine Arts* – 3 Hours</p> <p>Mathematics* – 3 Hours</p> <p>Natural Sciences – 4 Hours BIOL 2401 – Human Anatomy and Physiology I</p> <p>Social/Behavioral Science* – 3 Hours</p> <p>Major Course Requirements (50-52 Semester Hours)</p> <p>EMSP 1163 – Clinical – Emergency Medical Technology/ Technician EMSP 1501 – Emergency Medical Technician – Basic FIRS 1171 – Firefighter Orientation FIRS 1301 – Firefighter Certification I FIRS 1319 – Firefighter Certification IV FIRS 1319 – Firefighter Certification V FIRS 1323 – Firefighter Certification VI FIRS 1407 – Firefighter Certification II FIRS 1413 – Firefighter Certification III FIRS 1433 – Firefighter Certification VII FIRS 1543 – Aircraft Rescue and Firefighting Or FIRS 2344 – Driver/Operator – Pumper FIRT 1342 – Fire Officer I FIRT 1343 – Fire Officer II FIRT 2305 – Fire Instructor I FIRT 2307 – Fire Instructor II FIRT 2474 – Hazardous Materials Technician</p> <p>Total (69-71 Semester Hours)</p>	<p>Fire Protection Technology (A.A.S.)</p> <p>Program Advisor: Dennis Eaves, 335-4306 (dseaves@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu).</p> <p>Associate in Applied Science Major Code – FIRS.AAS actx.edu/fire</p> <p>This is a two-year program leading to an associate degree in applied science. The program is designed for students interested in a career in the fire protection field, either as a professional firefighter or as a fire protection technician in industry. The courses will aid the professional firefighter in achieving promotion and advancement within his/her profession. Volunteer firefighter will find the courses beneficial in upgrading their service to the community. Certified firefighters may be awarded an equivalent of 16 semester hours credit for completion of an approved Texas Commission of Fire Protection Academy (Firefighter Certification courses)</p> <p>General Education Requirements (15 Semester Hours)</p> <p>Communications – 3 Hours ENGL 1301 – Composition I</p> <p>Social/Behavioral Science – 3 hours</p> <p>Life & Physical Sciences* or Mathematics* - 3 Hours *Additional 1 hour will apply to major course requirements</p> <p>Language, Philosophy, & Culture or Creative Arts – 3 Hours</p> <p>Component Area Option – 3 Hours Speech (Communication foundational component area) Or EDUC 1300: First Year Seminar</p> <p>Major Course Requirements (43-44 Semester Hours)</p> <p>EMSP 1163 – Clinical – Emergency Medical Technology/ Technician EMSP 1501 – Emergency Medical Technician – Basic FIRS 1401 – Firefighter Certification I FIRS 1319 – Firefighter Certification IV FIRS 1507 – Firefighter Certification II FIRS 1413 – Firefighter Certification III FIRS 1204 – Basic Wildland Firefighting FIRS 1543 – Aircraft Rescue and Firefighting Or FIRS 2450 – Hazardous Materials Technician FIRS 2344 – Driver/Operator – Pumper FIRT 1342 – Fire Officer I FIRT 1343 – Fire Officer II FIRT 2305 – Fire Instructor I FIRT 2307 – Fire Instructor II</p> <p>Elective Requirements (0-2 Semester Hours) Complete a sufficient number of elective hours to meet the 60 semester hour requirement for the degree.</p> <p>Total (60 Semester Hours)</p>

Current	Proposed
<p>Fire Protection Technology</p> <p>FIRS 1171 – Firefighter Orientation</p> <p>Basic Firefighter Certificate program requirements: clothing, equipment, breathing apparatus, school uniform, physical exam and class meeting schedules, opportunities of employment and expectations of students. Hours (1 sem hr; 1 lec)</p> <p>FIRS 1304 - Firefighter Certification I</p> <p>An introduction to firefighter safety and development. Topics include Texas Commission on Fire Protection Rules and Regulations, firefighter safety, fire science, personal protective equipment, self-contained breathing apparatus and fire reports and records. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p>FIRS 1349 - Firefighter Certification IV</p> <p>A study of equipment, tactics and procedures used in forcible entry, ventilation, salvage and overhaul. Preparation for certification as a basic firefighter. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p>FIRS 1323 – Firefighter Certification V</p> <p>The study of ropes and knots, rescue procedures and techniques and hazardous materials. Preparation for certification as a basic firefighter. Hours (3 sem hrs; 2 lec, 4 lab)</p> <p>FIRS 1329 – Firefighter Certification VI</p> <p>Topics include fire protection systems, wildland fire and pre-incident planning. Preparation for certification as a basic firefighter. Hours (3 sem hrs; 2 lec, 2 lab)</p>	<p>Fire Protection Technology</p> <p>FIRS 1401 - Firefighter Certification I</p> <p>Basic Firefighter Certificate program requirements including school policy, code of student conduct, and an introduction to firefighter safety and development. Topics include Texas Commission on Fire Protection Rules and Regulations, firefighter safety, fire science, personal protective equipment, self-contained breathing apparatus and fire reports and records. One of a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, and IV to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)*** Hours (4 sem hrs; 2 lec, 6 lab)</p> <p>FIRS 1319 - Firefighter Certification IV-Capstone</p> <p>A study of equipment, tactics and procedures used in forcible entry, ventilation, salvage and overhaul. An in-depth study and practice of simulated emergency operations and hands-on live fire training exercises; incident command procedures; and combined operations using proper extinguishing methods. Emphasis on safety. This capstone class prepares the student to take the TCFP basic firefighting examination and become a certifiable firefighter. One of a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, and III to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)*** Hours (3 sem hrs; 2 lec 4 lab)</p>

FIRS 1407 - Firefighter Certification II

The study of basic principles and skill development in handling fire service hose and ladders. Topics include the distribution system of water supply, basic building construction and emergency service communication, procedures and equipment.

Hours (4 sem hrs; 3 lec, 4 lab)

FIRS 1413 - Firefighter Certification III

General principles of fire apparatus, pump operations, fire streams and public operations as they relate to fundamental development of basic firefighter skills.

Hours (4 sem hrs; 2 lec, 4 lab)

FIRS 1433 - Firefighter Certification VII

An in-depth study and practice of simulated emergency operations and hands-on live fire training exercises; incident command procedures; and combined operations using proper extinguishing methods. Emphasis on safety.

Hours (4 sem hrs; 3 lec, 2 lab)

FIRS 1543 - Aircraft Rescue and Firefighting

Principles and techniques of aircraft firefighting. Satisfies curriculum and training hour recommendation for Texas Commission on Fire Protection's Aircraft Rescue Firefighting Certification.

Hours (5 sem hr; 4 lec, 4 lab)

FIRS 1507 - Firefighter Certification II

The study of basic principles and skill development in handling fire service hose and ladders. Topics include the distribution system of water supply, basic building construction and emergency service communication, procedures and equipment. The student will also learn the practice of ropes and knots, rescue procedures and techniques, and learn the Awareness and Operations levels of Hazardous Materials. One of a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, III, and IV to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)***

Hours (5 sem hrs; 3 lec, 6 lab)

FIRS 1413 - Firefighter Certification III

The study of fire inspection techniques and practices, public transportation and fire cause determination and the general principles of fire apparatus, pump operations, and fire streams. Also includes fire protection systems, pre-fire planning, and the control and extinguishment of wildland firefighting. One of a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, II, and IV to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP)***

Hours (4 sem hrs; 2 lec, 6 lab)

FIRS 1543 - Aircraft Rescue and Firefighting

Principles and techniques of aircraft firefighting. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Basic Aircraft Rescue Fire Suppression. **THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION**

Hours (5 sem hr; 4 lec, 4 lab)

FIRS 2344 - Driver/Operator – Pumper

Principles and techniques of fire apparatus operations and theories. Satisfies curriculum and training hour requirements for the Texas Commission on Fire Protection Driver/Operator-Pumper.

Hours (3 sem hrs; 3 lec)

FIRT 1342 - Fire Officer I

Identify various fire department organizational structures including human resource management; community and governmental relationships; and administrative functions for the implementation of departmental policies and procedures. Perform preliminary fire investigation; deploy assigned resources; and integrate a safety to ensure a safe work environment for firefighters.

Hours (3 sem hrs; 3 lec)

FIRT 1343 - Fire Officer II

Identify the organizational structure of local government; evaluate member performance; and prepare and present public education programs and news releases. Conduct fire inspections at the company level; investigate fires to determine origin and preliminary cause; identify duties involved in supervising multi-unit emergency operations; and review injury, accident and health exposure reports.

Hours (3 sem hrs; 3 lec)

FIRT 2305 - Fire Instructor I

Preparation of fire and emergency services personnel to deliver instruction from a prepared lesson plan. Includes the use of instructional aids and evaluation instruments to meet the Texas Commission on Fire Protection requirements for Fire Instructor I certification.

Hours (3 sem hrs; 3 lec)

FIRT 2307 - Fire Instructor II

Development of individual lesson plans for a specific topic including learning objectives, instructional aids and evaluation instruments. Includes techniques for supervision and coordination of activities of other instructors to meet Texas Commission on Fire Protection requirements for Fire Instructor II certification.

Hours (3 sem hrs; 3 lec)

FIRS 2344 - Driver/Operator – Pumper

Principles and techniques of fire apparatus operations and theories. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Driver/Operator-Pumper. ****THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION****

Hours (3 sem hrs; 3 lec)

FIRT 1342 - Fire Officer I

Identify various fire department organizational structures including human resource management; community and governmental relationships; and administrative functions for the implementation of departmental policies and procedures. Perform preliminary fire investigation; deploy assigned resources; and integrate a safety to ensure a safe work environment for firefighters. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Officer I certification. ****THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION****

Hours (3 sem hrs; 3 lec)

FIRT 1343 - Fire Officer II

Identify the organizational structure of local government; evaluate member performance; and prepare and present public education programs and news releases. Conduct fire inspections at the company level; investigate fires to determine origin and preliminary cause; identify duties involved in supervising multi-unit emergency operations; and review injury, accident and health exposure reports. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Fire Officer II certification. ****THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION****

Hours (3 sem hrs; 3 lec)

FIRT 2305 - Fire Instructor I

Preparation of fire and emergency services personnel to deliver instruction from a prepared lesson plan. Includes the use of instructional aids and evaluation instruments to meet the Texas Commission on Fire Protection requirements for Fire Instructor I certification. ****THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION****

Hours (3 sem hrs; 3 lec)

FIRT 2307 - Fire Instructor II

Development of individual lesson plans for a specific topic including learning objectives, instructional aids and evaluation instruments. Includes techniques for supervision and coordination of activities of other instructors to meet Texas Commission on Fire Protection requirements for Fire Instructor II certification. ****THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION****

Hours (3 sem hrs; 3 lec)

FIRT 2474 – Hazardous Materials Technician

This is an in-depth class in the duties, responsibilities and tactics of a hazardous materials technician. The student will study and use control techniques and equipment; address selection and use of personal protective equipment (including decontamination equipment); and study and use monitoring devices that a haz-mat technician would be expected to use.

Hours (4 sem hrs; 3 lec, 2 lab)

FIRS 2450 - Hazardous Materials Technician

This is an in-depth class in the duties, responsibilities and tactics of a hazardous materials technician. The student will study and use control techniques and equipment; address selection and use of personal protective equipment (including decontamination equipment); and study and use monitoring devices that a haz-mat technician would be expected to use. Meets the curriculum

requirements of the Texas Commission on Fire Protection (TCFP) for Hazardous Materials Technician. **THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION**

Hours (4 sem hrs; 3 lec, 2 lab)

FIRS 1204 – Basic Wildland Firefighting

Students receive instruction in fire behavior, LCES (lookouts, communications, escape routes, and safety zones), suppression techniques and tactics associated with wildland fires and emergency shelter deployment. Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Basic Wildland Firefighter. **THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION**

Hours (2 sem hrs: 1 lec, 4 lab)

Basic Wildland Firefighting

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
43.0203	FIRS	1004	Basic Wildland Firefighting	Active	0	32	80
43.0203	FIRS	1204	Basic Wildland Firefighting	Active	2	32	80

Course Level: Introductory

Course Description: Meets the curriculum requirements of the Texas Commission on Fire Protection (TCFP) for Basic Wildland Firefighter.** THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION**

End-of-Course Outcomes: Demonstrate competencies set forth in the TCFP curriculum for Basic Wildland Firefighter.

Licensing/Certification Agency: Texas Commission on Fire Protection

CIP Code Description: 43.0203 (Fire Science/Firefighting)

Effective Date: September 1, 2013

[Return to Search Page](#)

CIP Code: 43.0203 (Fire Science/Firefighting)

Course Title: Firefighter Certification I

Course Level: Introductory

Course Description: One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification II, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION (TCFP) ***

End-of-Course Outcomes: Demonstrate competencies, for subjects taught, set forth in the TCFP curriculum for Basic Fire Suppression.

Lab Recommended

WECM Course(s)

SCH Rubric

Range: 64-128

FIRS 1401

CEU Rubric:

Course Reference(s):

FIRS 1001: Firefighter Certification I

Year: 2010

WECM Appendix

CIP	Rubric	Number	Course Name	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
43.0203	FIRS	1401	Firefighter Certification I	4	64	128

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CIP Code: 43.0203 (Fire Science/Firefighting)

Course Title: Firefighter Certification II

Course Level: Introductory

Course Description: One in a series of courses in basic preparation for a new firefighter. Should be taken in conjunction with Firefighter Certification I, III, IV, V, VI, and VII to satisfy the Texas Commission on Fire Protection (TCFP) curriculum for Basic Structural Fire Suppression, Course #100. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION***

End-of-Course Outcomes: Demonstrate competencies, for subjects taught, set forth in the TCFP curriculum for Basic Fire Suppression.

Lab Recommended

WECM Course(s)

SCH Rubric

Range: 80-144

FIRS 1507

CEU Rubric:

Course Reference(s):

FIRS 1007/1407: Firefighter Certification II

Year: 2010

WECM Appendix

CIP	Rubric	Number	Course Name	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
43.0203	FIRS	1507	Firefighter Certification II	5	80	144

Hazardous Materials Technician

CIP	Rubric	Number	Course Title	Status	Semester Credit Hrs	Min Cont Hrs	Max Cont Hrs
43.0203	FIRS	2050	Hazardous Materials Technician	Active	0	80	128
43.0203	FIRS	2450	Hazardous Materials Technician	Active	4	80	128

Suggested Prerequisite: Hazmat Operations Level

Course Level: Advanced

Course Description: Meets the curriculum of the Texas Commission on Fire Protection (TCFP) for Hazardous Materials Technician. **THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS CERTIFIED AS A TRAINING FACILITY BY THE TEXAS COMMISSION ON FIRE PROTECTION**

End-of-Course Outcomes: Demonstrate competencies set forth in the TCFP curriculum for Hazardous Materials Technician.

Licensing/Certification Agency: Texas Commission on Fire Protection

Lab Recommended

CIP Code Description: 43.0203 (Fire Science/Firefighting)

Effective Date: September 1, 2013

Industrial Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies Department / Industrial Maintenance Technology -> Industrial Technology (IMT0)
Prepared by:	Dr. Kim T. Hays and Ms. Delane McUne
<ul style="list-style-type: none"> Course additions must include student learning outcomes Program changes/additions must include program goals 	
Request:	<p>a. Delete the following courses:</p> <p> CETT 1303 – DC Circuits CETT 1305 – AC Circuits CETT 1321 – Electronic Fabrication CETT 1325 – Digital Fundamentals CETT 1329 – Solid State Devices CETT 1349 – Digital Systems CETT 1357 – Linear Integrated Circuits ENER 1350 – Overview of Energy Industry INTC 1348 – Analytical Instrumentation INTC 1355 – Unit Operations INTC 1356 – Instrumentation Calibration INTC 1358 – Flow and Measurement Calibration METL 1313 – Introduction to Corrosion RBTC 1305 – Robotic Fundamentals RBTC 1343 – Robotics RBTC 1345 – Robot Interfacing RBTC 2339 – Robot Programming and Diagnostics RBTC 2345 – Robot Application, Setup and Testing RBTC 2347 – Computer Integrated Manufacturing WIND 2310 – Wind Turbine Materials/Electro-Mechanical Equipment WIND 2315 – Wind Business WIND 2355 – Wind Turbine Troubleshooting and Repair </p> <p>b. Revise the following classes:</p> <p><u>Delete:</u> DFTG 1325 – Blueprint Reading and Sketching</p> <p><u>Delete:</u> EPCT 1307 – Introduction to Environmental Safety and Health</p> <p><u>Delete:</u> QCTC 1341 – Statistical Process Control</p>

Replace: TECM 1301 – Industrial Mathematics with
MCHN 1343 – Machine Shop Mathematics

Course Description:

Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses and all technical fields.

End-of-Course Outcomes:

1. Convert between decimals and fractions.
2. Use measuring tools.
3. Calculate ratios and proportions in a technical application.
4. Transpose linear equations to solve for unknowns.

Hours (3 sem hrs; 2 lec; 2 lab)

delete
Replace: MCHN 2307 – Millwright IV with
MCHN 1332 – Bench Work and Layout - new course from the Machining Technology course inventory.

Course Description:

An introduction to bench work and layout. Application of the use and theory of tools such as hand tools, height gages, pedestal grinders, and layout tools.

End-of-Course Outcomes:

- Identify layout and hand tools.
- Describe the proper use of layout and hand tools.
- List the safety procedures in operating a pedestal grinder.
- Demonstrate proper use of layout tools using precision and semi-precision procedures.
- Adjust clearances on the tool rest and the spark arrestor on the pedestal grinder.
- Perform grinding procedures on twist drills and tool blanks.
- Perform grinding wheel replacement.

Hours (3 sem hrs; 2 lec; 2 lab)

delete
Replace: HART 2345 – Residential Air Conditioning Systems Design
with
HART 2338 – Air Conditioning Installation and Startup

Course Description:

A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

End-of-Course Outcomes:

- Install air conditioning equipment and evaluate system performance.

	<ul style="list-style-type: none"> • Demonstrate disposal and recycling of materials, including refrigerants and mercury. • Demonstrate bending and cutting technique for system piping. • Install equipment and ductwork according to industry standards to maximize efficiency. <p>Hours (3 sem hrs; 2 lec; 2 lab)</p> <p><i>delete</i></p> <p><u>Replace:</u> INTC 2339 – Instrument and Control Review with <u>INTC 2310: Principles of Industrial Measurements II</u></p> <p>Course Description: Additional principles of measurement. Includes devices used to measure process variables and basic control functions.</p> <p>End-of-Course Outcomes:</p> <ul style="list-style-type: none"> • Apply additional principles of process instrumentation. • Describe the control loop as applied to additional process variables. • Calibrate and/or configure measurement instruments. • Demonstrate safety procedures. <p>Hours (3 sem hrs; 2 lec; 2 lab)</p>
Rational:	<p>The Industrial Technology department requests the above changes to accomplish the following goals:</p> <ol style="list-style-type: none"> a. These classes are being deleted because they will no longer be taught as a result of the “merge” between the Industrial Maintenance, Electronics, Instrumentation, and Renewable Energy programs. The Robotics Technology program will be deleted in its entirety. b. Classes are being revised for the following reasons: <p>The Manufacturing Core is being changed to the Technical Core which is being added as a new marketable skills certificate.</p> <p>Deleted classes within the Technical Core are:</p> <p>DFTG 1325 – Blueprint Reading & Sketching EPCT 1307 – Intro to Environmental Safety and Health QCTC 1341 – Statistical Process Control TECM 1301 – Industrial Mathematics</p> <p>Added classes within the Technical Core are:</p> <p>ELPT 1311 – Basic Electrical Theory ETWR 1391 – Special Topics in Professional, Technocal, Business and Scientific Writing MCHN 1343 – Machine Shop Mathematics INMT 1305 – Intro to Industrial Maintenance (already in program)</p>

	<p><u>Electromechanical Technician Option</u> <u>Added:</u> ELMT 2333 – Industrial Electronics; already existing course from the “deactivated” Electronics program. Industrial Electronics is being added to fulfill the need in technical areas for high voltage electronics.</p> <p><u>Replaced:</u> MCHN 2307 – Millwright IV with <u>MCHN 1332</u> – Bench Work and Layout - new course from the Machining Technology course inventory. The Bench Work and Layout class is being added because it focuses on intermediate level experiences with hand tools and machines.</p> <p><u>Heating, Air Conditioning and Refrigeration Option</u> <u>Replaced:</u> HART 2345 – Residential Air Conditioning Systems Design with <u>HART 2338</u> – Air Conditioning Installation and Startup The Systems Design class was focused for the design and sales force in the air conditioning industry. The new Air Conditioning Installation and Startup class is one that will better satisfy industries’ request for installers.</p> <p><u>Added:</u> WLDG 1372 – Layout and Fabrication I; already existing course from the Welding Technology program. This class is being added to give the students an opportunity to learn the fabrication and assembly of metal ductwork used in residential and commercial HVAC construction.</p> <p><u>Instrument and Electronics Technician Option</u> <u>Replaced:</u> INTC 2339 – Instrument and Control Review with <u>INTC 2310:</u> Principles of Industrial Measurements II The Instrument and Control Review class is being changed because the students were not getting enough experience to prepare them to take the national testing. The new Principles of Industrial Measurements II class will enable students to learn new devices and control systems.</p>
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Replace: MCHN 2307 – Millwright IV with
MCHN 1332 – Bench Work and Layout - new course from the Machining Technology course inventory.

Course Description:

An introduction to bench work and layout. Application of the use and theory of tools such as hand tools, height gages, pedestal grinders, and layout tools.

End-of-Course Outcomes:

- Identify layout and hand tools.
- Describe the proper use of layout and hand tools.
- List the safety procedures in operating a pedestal grinder.
- Demonstrate proper use of layout tools using precision and semi-precision procedures.
- Adjust clearances on the tool rest and the spark arrestor on the pedestal grinder.
- Perform grinding procedures on twist drills and tool blanks.
- Perform grinding wheel replacement.

Hours (3 sem hrs; 2 lec; 2 lab)

Replace: HART 2345 – Residential Air Conditioning Systems Design with
HART 2338 – Air Conditioning Installation and Startup

Course Description:

A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

End-of-Course Outcomes:

- Install air conditioning equipment and evaluate system performance.
- Demonstrate disposal and recycling of materials, including refrigerants and mercury.
- Demonstrate bending and cutting technique for system piping.
- Install equipment and ductwork according to industry standards to maximize efficiency.

Hours (3 sem hrs; 2 lec; 2 lab)

Replace: INTC 2339 – Instrument and Control Review with
INTC 2310: Principles of Industrial Measurements II

Course Description:

Additional principles of measurement. Includes devices used to measure process variables and basic control functions.

End-of-Course Outcomes:

- Apply additional principles of process instrumentation.
- Describe the control loop as applied to additional process variables.
- Calibrate and/or configure measurement instruments.

	<ul style="list-style-type: none"> • Demonstrate safety procedures. <p>Hours (3 sem hrs; 2 lec; 2 lab)</p> <p>Add: <u>ELMT 2333 – Industrial Electronics</u> – existing course from the “deactivated” Electronics program.</p> <p>Course Description: Devices, circuits, and systems primarily used in automated manufacturing and/or process control including computer controls and interfacing between mechanical, electrical, electronic, and computer equipment. Includes presentation of programming schemes..</p> <p>End-of-Course Outcomes:</p> <ul style="list-style-type: none"> • Describe how electronic input and output circuits are used to control automated manufacturing and/or process systems. • Identify basic elements used for input, output, timing, and control. • Define how programmable electronic systems use input data to alter output responses. • Troubleshoot a representative system. • Demonstrate how system operation can be altered with software programming. <p>Hours (3 sem hrs; 2 lec; 2 lab)</p> <p>Add: <u>WLDG 1372 – Layout and Fabrication I</u> – existing course in Welding Technology</p> <p>Course Description: An introduction to layout as it is applied to development of patterns and drawings for the fabrication of sheet metal and structural shapes. Calculations involve joint/bend allowance and metal forming. Projects develop skills in print interpretation and the use of shears, breaks, and hand tools.</p> <p>End-of-Course Outcomes:</p> <ul style="list-style-type: none"> • Demonstrate proper use of tools used for pattern development, and sheet metal working. • Demonstrate knowledge of plan development. • Demonstrate project development from plan. • Develop pattern and build common piping angles and transitions. • Develop pattern and build common duct angles and transitions. <p>Hours (3 sem hrs; 2 lec; 2 lab)</p>
Rational:	<p>The Industrial Technology department requests the above changes to accomplish the following goals:</p> <p>a. These classes are being deleted because they will no longer be taught as a</p>

result of the “merge” between the Industrial Maintenance, Electronics, Instrumentation, and Renewable Energy programs. The Robotics Technology program will be deleted in its entirety.

- b. Classes are being revised for the following reasons:

The Manufacturing Core is being changed to the Technical Core which is being added as a new marketable skills certificate.

Deleted classes within the Technical Core are:

DFTG 1325 – Blueprint Reading & Sketching

EPCT 1307 – Intro to Environmental Safety and Health

QCTC 1341 – Statistical Process Control

TECM 1301 – Industrial Mathematics

Added classes within the Technical Core are:

ELPT 1311 – Basic Electrical Theory

ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing

MCHN 1343 – Machine Shop Mathematics

INMT 1305 – Intro to Industrial Maintenance (already in program)

Electromechanical Technician Option

Added: ELMT 2333 – Industrial Electronics; already existing course from the “deactivated” Electronics program.

Industrial Electronics is being added to fulfill the need in technical areas for high voltage electronics.

Replaced: MCHN 2307 – Millwright IV with

MCHN 1332 – Bench Work and Layout - new course from the Machining Technology course inventory.

The Bench Work and Layout class is being added because it focuses on intermediate level experiences with hand tools and machines.

Heating, Air Conditioning and Refrigeration Option

Replaced: HART 2345 – Residential Air Conditioning Systems Design with HART 2338 – Air Conditioning Installation and Startup

The Systems Design class was focused for the design and sales force in the air conditioning industry. The new Air Conditioning Installation and Startup class is one that will better satisfy industries’ request for installers.

Added: WLDG 1372 – Layout and Fabrication I; already existing course from the Welding Technology program.

This class is being added to give the students an opportunity to learn the fabrication and assembly of metal ductwork used in residential and commercial HVAC construction.

Instrument and Electronics Technician Option

	<p><u>Replaced:</u> INTC 2339 – Instrument and Control Review with <u>INTC 2310:</u> Principles of Industrial Measurements II</p> <p>The Instrument and Control Review class is being changed because the students were not getting enough experience to prepare them to take the national testing. The new Principles of Industrial Measurements II class will enable students to learn new devices and control systems.</p>
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Current	Proposed
Industrial Maintenance Technology AT 1301 - Programmable Logic Controllers Prerequisite - IEIR 1310. An introduction to programmable logic controllers as used in industrial environments including basic concepts, programming, application, troubleshooting of ladder logic, and interfacing of equipment. Hours (3 sem hrs; 2 lec; 2 lab) ELMT 1305 - Basic Fluid Power Prerequisite - TECM-1304. Basic fluid power course covering pneumatic and hydraulic systems, fluid power symbols, operating theory, components, vacuum and hydraulics; and basic electrical and manual controls. Hours (3 sem hrs; 2 lec; 2 lab) ELMT 1391 - Special Topics in Electromechanical Technology/Technician Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Hours (3 sem hrs; 2 lec; 2 lab) ELMT 2341 - Electromechanical Systems Prerequisite - MCHN-2312. Application of electromechanical systems. Emphasizes programmable control devices and solid state systems. Hours (3 sem hrs; 2 lec; 2 lab) ELMT 2380 - Cooperative Education - Electromechanical Technology/Technician Career related activities encountered in the student's area of specialization offered through an individualized agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Hours (3 sem hrs; 1 lec; 20 lab) HART 1307 - Refrigeration Principles Prerequisite - TECM-1304. An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, basic thermodynamics, refrigeration handling and containment, and refrigeration components and safety. Hours (3 sem hrs; 2 lec; 2 lab) HART 1345 - Gas & Electric Heating Prerequisite - TECM-1304. A study of the procedures and principles used in servicing heating systems including gas-fired furnaces and electric heating systems. Hours (3 sem hrs; 2 lec; 2 lab) RT 2336 - Air Conditioning Troubleshooting Prerequisite - HART-1307. An advanced course in application of troubleshooting principles and use of test instruments to diagnose air conditioning and refrigeration components and system problems including conducting performance	Industrial Technology ELMT 1301 - Programmable Logic Controllers Prerequisite - IEIR 1310. An introduction to programmable logic controllers as used in industrial environments including basic concepts, programming, application, troubleshooting of ladder logic, and interfacing of equipment. Hours (3 sem hrs; 2 lec; 2 lab) ELMT 1305 - Basic Fluid Power Prerequisite - INMT 1305 and ELPT 1311. Basic fluid power course covering pneumatic and hydraulic systems, fluid power symbols, operating theory, components, vacuum and hydraulics; and basic electrical and manual controls. Hours (3 sem hrs; 2 lec; 2 lab) ELMT 1391 - Special Topics in Electromechanical Technology/Technician Prerequisite – Instructor Consent Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. Hours (3 sem hrs; 2 lec; 2 lab) ELMT 2341 - Electromechanical Systems Prerequisite – ELMT 1301 and Instructor Consent. Final Semester Application of electromechanical systems. Emphasizes programmable control devices and solid state systems. Hours (3 sem hrs; 2 lec; 2 lab) ELMT 2380 - Cooperative Education - Electromechanical Technology/Technician Prerequisite – Instructor Consent Career related activities encountered in the student's area of specialization offered through an individualized agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Hours (3 sem hrs; 1 lec; 20 lab) HART 1307 - Refrigeration Principles Prerequisite - INMT 1305 and ELPT 1311. An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, basic thermodynamics, refrigeration handling and containment, and refrigeration components and safety. Hours (3 sem hrs; 2 lec; 2 lab) HART 1345 - Gas & Electric Heating Prerequisite - INMT 1305 and ELPT 1311. A study of the procedures and principles used in servicing heating systems including gas-fired furnaces and electric heating systems. Hours (3 sem hrs; 2 lec; 2 lab) HART 2336 - Air Conditioning Troubleshooting Prerequisite – ELMT 1301 and Instructor Consent. Final Semester An advanced course in application of troubleshooting principles and use of test instruments to diagnose air conditioning and refrigeration components and system problems including conducting performance

tests.

Hours (3 sem hrs; 2 lec; 2 lab)

HART 2342 - Commercial Refrigeration

Prerequisite - HART 1307.

Theory of and practical application in the maintenance of commercial refrigeration; high, medium, and low temperature applications and ice machines.

Hours (3 sem hrs; 2 lec; 2 lab)

HART 2345 - Residential Air Conditioning Systems Design

Prerequisite - HART 1307.

A study of the properties of air and results of cooling, heating, humidifying or dehumidifying; heat gain and heat loss calculations including equipment selection and balancing the air system.

Hours (3 sem hrs; 2 lec; 2 lab)

IEIR 1306 - Electric Motors

Prerequisite - CETT 1303, CETT 1305.

Fundamentals of single phase and three phase alternating current motors and direct current motors including operating principles, characteristics, application, selection, installation, maintenance, and troubleshooting.

Hours (3 sem hrs; 2 lec; 2 lab)

IEIR 1310 - Motor Controls

Prerequisite - CETT 1303, CETT 1305.

General principles and fundamentals of electrical controls and control components including magnetic motor starters, troubleshooting techniques, overload protection and various protective devices, relay logic, schematics, and diagrams.

Hours (3 sem hrs; 2 lec; 2 lab)

IEIR 1312 - Distribution Systems

Prerequisite - CETT 1303, CETT 1305.

Fundamentals of distribution systems including single-phase, three-phase, and poly-phase systems. Grounding, circuit breakers, ground fault protection devices and the National Electric Code.

Hours (3 sem hrs; 2 lec; 2 lab)

INMT 2301 - Machinery Installation

Prerequisite - INMT 1375.

Students utilize skills acquired in previous studies. Machinery foundation, location and layout for machine footprint, installation, and alignment activities are practiced and tested as well as implementation of prevention and predictive maintenance programs. Emphasis is on the various methods of shaft alignment including laser shaft alignment and shaft straightening.

Hours (3 sem hrs, 2 lec, 2 lab)

MCHN 2312 - Millwright V

Prerequisite - MCHN 2307.

A study of the recognition and application of gearboxes. A review of drive installations using chain and belt drives. This course will focus on troubleshooting, repairing, and installing gearboxes, chain drives, and belt drives.

Hours (3 sem hrs, 2 lec, 2 lab)

CM 1301 - Industrial Mathematics

Math skills applicable to industrial occupations. Includes fraction and decimal manipulation, measurement, percentage, and problem-solving techniques for equations and ratio/proportion applications.

tests.

Hours (3 sem hrs; 2 lec; 2 lab)

HART 2342 - Commercial Refrigeration

Prerequisite - HART 1307.

Theory of and practical application in the maintenance of commercial refrigeration; high, medium, and low temperature applications and ice machines.

Hours (3 sem hrs; 2 lec; 2 lab)

HART 2338 - Air Conditioning Installation and Startup

Prerequisite - HART 1307

A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

Hours (3 sem hrs; 2 lec, 2 lab)

IEIR 1306 - Electric Motors

Prerequisite - INMT 1305 and ELPT 1311.

Fundamentals of single phase and three phase alternating current motors and direct current motors including operating principles, characteristics, application, selection, installation, maintenance, and troubleshooting.

Hours (3 sem hrs; 2 lec; 2 lab)

IEIR 1310 - Motor Controls

Prerequisite - INMT 1305 and ELPT 1311.

General principles and fundamentals of electrical controls and control components including magnetic motor starters, troubleshooting techniques, overload protection and various protective devices, relay logic, schematics, and diagrams.

Hours (3 sem hrs; 2 lec; 2 lab)

IEIR 1312 - Distribution Systems

Prerequisite - INMT 1305 and ELPT 1311.

Fundamentals of distribution systems including single-phase, three-phase, and poly-phase systems. Grounding, circuit breakers, ground fault protection devices and the National Electric Code.

Hours (3 sem hrs; 2 lec; 2 lab)

INMT 2301 - Machinery Installation

Prerequisite - INMT 1305 and ELPT 1311.

Students utilize skills acquired in previous studies. Machinery foundation, location and layout for machine footprint, installation, and alignment activities are practiced and tested as well as implementation of prevention and predictive maintenance programs. Emphasis is on the various methods of shaft alignment including laser shaft alignment and shaft straightening.

Hours (3 sem hrs, 2 lec, 2 lab)

MCHN 2312 - Millwright V

Prerequisite - INMT 2301.

A study of the recognition and application of gearboxes. A review of drive installations using chain and belt drives. This course will focus on troubleshooting, repairing, and installing gearboxes, chain drives, and belt drives.

Hours (3 sem hrs, 2 lec, 2 lab)

MCHN 1343 - Machine Shop Mathematics

Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses and all technical fields.

Hours (3 sem hrs, 3 lec)

Electronic Systems Technology

CETT 1303 – DC Circuits

A study of the fundamentals of direct current including Ohm's law, Kirchhoff's laws and circuit analysis techniques.

Hours (3 sem hrs; 2 lec, 2 lab)

CETT 1305 – AC Circuits

Prerequisite: CETT 1303

A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers and resonance.

Hours (3 sem hrs; 2 lec, 2 lab)

CETT 1321 – Electronic Fabrication

Prerequisite: CETT 1303

A study of electronic circuit fabrication techniques including printed circuit boards, wire wrapping, bread boarding and various soldering techniques.

Hours (3 sem hrs; 2 lec, 2 lab)

CETT 1325 – Digital Fundamentals

Prerequisite: CETT 1303

An entry level course in digital electronics to include numbering systems, logic gates, Boolean algebra and combinational logic.

Hours (3 sem hrs; 2 lec, 2 lab)

CETT 1329 – Solid State Devices

Prerequisite: CETT 1325

A study of diodes, transistor characteristics and other semiconductor devices, including analysis of static and dynamic characteristics, biasing techniques and thermal considerations.

Hours (3 sem hrs; 2 lec, 2 lab)

CETT 1349 – Digital Systems

Prerequisites: CETT 1321, CETT 1325

A course in electronics covering digital systems. Emphasis on application and troubleshooting digital systems.

Hours (3 sem hrs; 2 lec, 2 lab)

CETT 1357 – Linear Integrated Circuits

Prerequisites: CETT 1305, CETT 1321

A study of characteristics, operations and testing of linear integrated circuits. Applications include instrumentation and active filtering.

Hours (3 sem hrs; 2 lec, 2 lab)

EECT 2335 - Telecommunications

Prerequisite: ELMT 1301

A study of modern telecommunications systems incorporating microwave, satellite, optical and wire/cable-based communications systems. Instruction in installation, testing and maintenance of communications systems components.

Hours (3 sem hrs; 2 lec, 2 lab)

ELMT 2333 - Industrial Electronics

Prerequisites: CETT 1325, ELMT 1301

Devices, circuits and systems primarily used in automated

Hours (3 sem hrs, 2 lec, 2 lab)

ELPT 1311 – Basic Electrical Theory

Prerequisite – MCHN 1343 and ETWR 1302.

Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.

Hours (3 sem hrs; 2 lec, 2 lab)

No replacement

No replacement

No replacement

No replacement

No replacement

No replacement

EECT 2335 - Telecommunications

Prerequisite: INMT 1305 and ELPT 1311.

A study of modern telecommunications systems incorporating microwave, satellite, optical and wire/cable-based communications systems. Instruction in installation, testing and maintenance of communications systems components.

Hours (3 sem hrs; 2 lec, 2 lab)

ELMT 2333 - Industrial Electronics

Prerequisites: ELMT 1301 and IEIR 1306

Devices, circuits and systems primarily used in automated

manufacturing and/or process control including computer controls and interfacing between mechanical, electrical, electronic and computer equipment. Includes presentation of programming schemes.
Hours (3 sem hrs; 2 lec, 2 lab)

Instrumentation Technology

EECT 1380 - Cooperative Education - Electrical, Electronic and Communications Engineering Technology/Technician

Prerequisite: Instructor consent

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Hours (3 sem hrs; 1 lec, 20 hrs work/week)

EECT 1391 - Special Topics in Electrical, Electronic and Communications Engineering Technology/Technician

Prerequisite: Instructor consent

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Hours (3 sem hrs; 2 lec, 2 lab)

IC 1301 - Principles of Industrial Measurements I

Prerequisite: CETT-1303

Principles of measurement. Includes operation of devices used to measure process variables and basic control functions.

Hours (3 sem hrs; 2 lec, 2 lab)

INTC 1343 - Application of Industrial Automatic Controls

Prerequisites: BCIS 1305, CETT 1305, ELMT 1301, INTC 1301

Automatic process control including measuring devices, analog and digital instrumentation, signal transmitters, recorders, alarms, controllers, control valves and process and instrument diagrams. Includes connection and troubleshooting of loops.

Hours (3 sem hrs; 2 lec, 2 lab)

INTC 1348 - Analytical Instrumentation

Prerequisite: CETT 1305

Analytical instruments emphasizing utilization in process applications. Includes, but not limited to, chromatography, pH, conductivity and spectrophotometric instruments.

Hours (3 sem hrs; 2 lec, 2 lab)

INTC 1355 - Unit Operations

Prerequisite: INTC 1301

Automatic control requirements of industrial processes. Includes control systems, control loop tuning and analysis.

Hours (3 sem hrs; 3 lec)

INTC 1356 - Instrumentation Calibration

Prerequisite: CETT 1305, INTC 1301

Techniques for configuring and calibrating transmitters, controllers, recorders, valves and valve positioners.

manufacturing and/or process control including computer controls and interfacing between mechanical, electrical, electronic and computer equipment. Includes presentation of programming schemes.
Hours (3 sem hrs; 2 lec, 2 lab)

EECT 1380 - Cooperative Education - Electrical, Electronic and Communications Engineering Technology/Technician

Prerequisite: Instructor consent

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Hours (3 sem hrs; 1 lec, 20 hrs work/week)

EECT 1391 - Special Topics in Electrical, Electronic and Communications Engineering Technology/Technician

Prerequisite: Instructor consent

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Hours (3 sem hrs; 2 lec, 2 lab)

INTC 1301 - Principles of Industrial Measurements I

Prerequisite: INMT 1305 and ELPT 1311.

Principles of measurement. Includes operation of devices used to measure process variables and basic control functions.

Hours (3 sem hrs; 2 lec, 2 lab)

INTC 1343 - Application of Industrial Automatic Controls

Prerequisites: INTC 1301

Automatic process control including measuring devices, analog and digital instrumentation, signal transmitters, recorders, alarms, controllers, control valves and process and instrument diagrams. Includes connection and troubleshooting of loops.

Hours (3 sem hrs; 2 lec, 2 lab)

No replacement

No replacement

No replacement

Hours (3 sem hrs; 2 lec, 2 lab)

INTC 1358 - Flow and Measurement Calibration

Prerequisite: CETT 1305, INTC 1304

Practical methods of flow measurements and flow integration. Emphasizes primary flow element selection and calculations in accordance with American Gas Association (AGA) and American Petroleum Institute (API) standards.

Hours (3 sem hrs; 2 lec, 2 lab)

INTC 1380 - Cooperative Education - Instrumentation Technology/Technician

Prerequisite: Instructor consent

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Hours (3 sem hrs; 1 lec, 20 hrs work/week)

INTC 1391 - Special Topics in Instrumentation Technology/Technician

Prerequisite: Instructor consent

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Hours (3 sem hrs; 2 lec, 2 lab)

INTC 2339 - Instrument and Control Review

Prerequisite: INTC 1343, INTC 1355

An overview of instrument and control technology in preparation for industry employment and national testing.

Hours (3 sem hrs; 3 lec)

METL 1313 - Introduction to Corrosion

Prerequisite: CETT 1305

An introduction to internal, external and atmospheric corrosion including terminology causes of common corrosion problems in industry, and general remedies such as cathodic protection, protective coatings, material selection and chemical treatments.

Hours (3 sem hrs; 3 lec)

Renewable Energy

ELMT 1302 - Solar Photovoltaic Systems

Design and installation of solar photovoltaic systems and their applications.

Hours (3 sem hrs; 2 lec, 2 lab)

ENER 1350 - Overview of Energy Industry

Introduction to the major sectors of the energy industry. Includes a comparison of energy industry careers.

Hours (3 sem hrs; 3 lec)

HART 1311 - Solar Fundamentals

Prerequisite: CETT 1303, ENER 1350

No replacement

INTC 1380 - Cooperative Education - Instrumentation Technology/Technician

Prerequisite: Instructor consent

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

Hours (3 sem hrs; 1 lec, 20 hrs work/week)

INTC 1391 - Special Topics in Instrumentation Technology/Technician

Prerequisite: Instructor consent

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Hours (3 sem hrs; 2 lec, 2 lab)

INTC 2310 - Principles of Industrial Measurements II

Prerequisite: INTC 1343

Additional principles of measurement. Includes devices used to measure process variables and basic control functions.

Hours (3 sem hrs; 3 lec, 2 lab)

No replacement

ELMT 1302 - Solar Photovoltaic Systems

Prerequisite: INMT 1305 and ELPT 1311.

Design and installation of solar photovoltaic systems and their applications.

Hours (3 sem hrs; 2 lec, 2 lab)

No replacement

HART 1311 - Solar Fundamentals

Prerequisite: INMT 1305 and ELPT 1311.

Study of heat transference, motors, pumps and other mechanical devices; solid state switches; photovoltaic plates and energy conversion; thermal dynamics; and solar energy.
Hours (3 sem hrs; 2 lec, 2 lab)

HART 1393 - Special Topics in Solar Technology/Technician

Prerequisite: HART 1314

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Hours (3 sem hrs; 2 lec, 2 lab)

WIND 2310 - Wind Turbine Materials/Electro-Mechanical Equipment

Prerequisite: CETT 1303, ENER 1350

Identification and analysis of the components and systems of wind turbine.

Hours (3 sem hrs; 2 lec, 3 lab)

WIND 2315 - Wind Business

Prerequisite: ENER 1350

Topics in business concepts as they apply specifically to the wind energy industry.

Hours (3 sem hrs; 3 lec)

WIND 2355 - Wind Turbine Troubleshooting and Repair

Prerequisite: CETT 1305, ELMT 1301, WIND 2310

Operation, maintenance, troubleshooting and repair of wind turbine electro-mechanical systems.

Hours (3 sem hrs; 2 lec, 3 lab)

WIND 2359 - Wind Power Delivery System

Prerequisite: CETT 1305, WIND 2310

Components, equipment and infrastructure used in the production and transmission of electricity as related to wind turbine power.

Hours (3 sem hrs; 2 lec, 2 lab)

WIND 1391 - Special Topics in Wind Energy

Prerequisite: Instructor Consent

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Hours (3 sem hrs; 2 lec, 2 lab)

Robotics Technology

RBTC 1305 - Robotic Fundamentals

An introduction to flexible automation. Topics include installation, repair, maintenance and development of flexible robotic manufacturing systems.

Hours (3 sem hrs; 2 lec, 2 lab)

RBTC 1343 - Robotics

Prerequisite: RBTC 1305

Principles and applications of robots. Includes installation, interfacing, programming, maintenance and safety of robots and robotic cells.

Study of heat transference, motors, pumps and other mechanical devices; solid state switches; photovoltaic plates and energy conversion; thermal dynamics; and solar energy.

Hours (3 sem hrs; 2 lec, 2 lab)

HART 1393 - Special Topics in Solar Technology/Technician

Prerequisite: **Instructor Consent**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Hours (3 sem hrs; 2 lec, 2 lab)

No replacement

No replacement

No replacement

WIND 2359 - Wind Power Delivery System

Prerequisite: **INMT 1305 and ELPT 1311**

Components, equipment and infrastructure used in the production and transmission of electricity as related to wind turbine power.

Hours (3 sem hrs; 2 lec, 2 lab)

WIND 1391 - Special Topics in Wind Energy

Prerequisite: Instructor Consent

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Hours (3 sem hrs; 2 lec, 2 lab)

No replacement

No replacement

<p>Hours (3 sem hrs; 2 lec, 2 lab)</p> <p><i>RBTC 1345 – Robot Interfacing</i> Study of the basic principles of robot controllers, controller input/output, memory and interfacing with computer integrated manufacturing. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p><i>RBTC 2339 – Robot Programming and Diagnostics</i> A course in the programming of industrial robots, the developmental of programming techniques and the diagnosis of faults in the systems. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p><i>RBTC 2345 – Robot Application, Setup and Testing</i> A capstone course that provides the student with laboratory experience in the installation, set-up and testing of robotic cells. Topics include maintenance. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p><i>RBTC 2347 – Computer Integrated Manufacturing</i> The principles of computer integrated manufacturing, including case studies and implementation of process control techniques, CAD/CAM, operations, software and networking for CIM systems. Hours (3 sem hrs; 2 lec, 2 lab)</p>	<p>No replacement</p> <p>No replacement</p> <p>No replacement</p> <p>No replacement</p>
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ETWR 1391 – ST: Technical Communication

Course Competencies

Students will be able to:

- Demonstrate effective critical reading skills
- Demonstrate effective critical writing skills
- Describe the basic components of safety, health and environmental systems as defined by the Occupational Safety and Health Administration (OSHA)
- Perform internet research and demonstrate information literacy skills
- Effectively implement study skills
- Design and create an online career portfolio

Industrial Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies Department / Industrial Maintenance Technology -> Industrial Technology (IMT0)
Prepared by:	Dr. Kim T. Hays and Ms. Delane McUne
<ul style="list-style-type: none"> • Course additions must include student learning outcomes • Program changes/additions must include program goals 	
Request:	<p>a. Deactivate the following program awards:</p> <p>Industrial Maintenance Technology Heating, Air Conditioning, and Refrigeration Certificate Major Code – IMRT.CERT.HART ✓</p> <p>Electronics Systems Technology (A.A.S.) Major Code – CETT.AAS.EST</p> <p>Electronics Systems Technology - Advanced Electronics Certificate Major Code – CETT.CERT.ADV</p> <p>Electronics Systems Technology – Basic Electronics Certificate Major Code – CETT.CERT.GEN</p> <p>Instrument and Control Technology (A.A.S.) Major Code – CETT.AAS</p> <p>Instrument and Control Technology - Advanced Instrumentation Technician Major Code – INTC.CERT.EICT</p> <p>Instrument and Control Technology – Basic Instrumentation Technician Major Code – INTC.CERT.BICT</p> <p>Renewable Energy (A.A.S.) Major Code – RNEW.AAS</p> <p>Renewable Energy – Advanced Solar Technician Major Code – RNEW.CERT.ASLR</p> <p>Renewable Energy – Basic Solar Technician Major Code – RNEW.CERT.BSLR</p>

	<p>Renewable Energy – Advanced Wind Technician Major Code – RNEW.CERT.AWND</p> <p>Renewable Energy – Basic Wind Technician Major Code – RNEW.CERT.BWND</p> <p>Robotics Technology (A.A.S.) Major Code – CETT.AAS.RBTC</p> <p>Robotics Technology Certificate Major Code – CETT.CERT.RBTC</p>
Rational:	<p>The Industrial Technology department requests the above changes to accomplish the following goals:</p> <p>a. These program awards are being deactivated because they will no longer be taught as a result of the “merge” between the Industrial Maintenance, Electronics, Instrumentation, and Renewable Energy programs. The Robotics Technology program will be deleted in its entirety.</p> <p>This “merge” is taking place because of multiple related skill sets. The merger will evolve into a new Industrial Technology Department.</p>
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Industrial Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies Department / Industrial Maintenance Technology -> Industrial Technology (IMT0)
Prepared by:	Dr. Kim T. Hays and Ms. Delane McUne
	<ul style="list-style-type: none"> • Course additions must include student learning outcomes • Program changes/additions must include program goals
Request:	<p>Add the Technical Core Marketable Skills Certificate as follows:</p> <p>a. The following courses will be combined to make the certificate:</p> <p>ELPT 1311 – Basic Electrical Theory ETWR 1391 – Special Topics in Professional, Technical, Business, and Scientific Writing INMT 1305 – Introduction to Industrial Maintenance MCHN 1343 – Machine Shop Mathematics</p>
Rational:	<p>The Industrial Technology department requests the above changes to accomplish the following goals:</p> <p>a. The combination of these four classes will give the student math and writing skills as well as industry shop practices and beginning electrical skills. Students will complete this certificate prior to beginning any major requirements. This certificate will also allow students to achieve entry level skills that will make them employable.</p> <p>Technical Core Classes are:</p> <ul style="list-style-type: none"> • ELPT 1311 – Basic Electrical Theory • ETWR 1391 – Special Topics in Professional, Technical, Business, and Scientific Writing • INMT 1305 – Introduction to Industrial Maintenance • MCHN 1343 – Machine Shop Mathematics
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Industrial Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies Department / Industrial Maintenance Technology -> Industrial Technology (IMT0)
Prepared by:	Dr. Kim T. Hays and Ms. Delane McUne
<ul style="list-style-type: none"> • Course additions must include student learning outcomes • Program changes/additions must include program goals 	
Request:	<p>Revise the Industrial Maintenance Technology Electromechanical Certificate as follows:</p> <ol style="list-style-type: none"> Change the department name from Industrial Maintenance Technology to Industrial Technology Change the name from Electromechanical Certificate to Industrial Technology Advanced Certificate Update program advisors' information and certificate description Change the Manufacturing Core to the Technical Core Requirements (new marketable skills cert). Decrease the Major Course Requirements from 42 semester hours to 15 semester hours Add Major Options to include: <ul style="list-style-type: none"> Electromechanical Technician Heating, Air Conditioning, and Refrigeration Instrument and Electronics Technician Solar Technician Wind Technician Add courses in Major Options to total 18 semester hours. Decrease Total Semester Hours from 54 to 45.
Rational:	<p>The Industrial Technology department requests the above changes to accomplish the following goals:</p> <ol style="list-style-type: none"> This department is changing the name from Industrial Maintenance Technology to Industrial Technology to reflect the merge of multiple technical options. This certificate will now be one that has several options instead of a certificate built for one skill set.

- c. Advisor is changing to reflect administrative changes.
- d. The Manufacturing Core is being changed to the Technical Core which is being added as a new marketable skills certificate. Students will complete the new core prior to starting major core requirements in order to gain math and writing skills.

Deleted classes are:

DFTG 1325 – Blueprint Reading & Sketching
 EPCT 1307 – Intro to Environmental Safety and Health
 QCTC 1341 – Statistical Process Control
 TECM 1301 – Industrial Mathematics

Added classes are:

ELPT 1311 – Basic Electrical Theory
 ETWR 1391 – Special Topics in Professional, Technocal, Business and Scientific Writing
 MCHN 1343 – Machine Shop Mathematics
 INMT 1305 – Intro to Industrial Maintenance (already in program)

- e. With the addition of new options there are several common classes to all options instead of just one skill set. Major course requirements are changed to 15 semester hours and major options is 18 hours.
- f. Because of the merge of programs, it has become necessary to add options to show each skill set.
- g. The revised courses are:
Electromechanical Technician Option
Added: ELMT 2333 – Industrial Electronics; already existing course from the “deactivated” Electronics program.
 Industrial Electronics is being added to fulfill the need in technical areas for high voltage electronics.

Replaced: MCHN 2307 – Millwright IV with
MCHN 1332 – Bench Work and Layout - new course from the Machining Technology course inventory.
 The Bench Work and Layout class is being added because it focuses on intermediate level experiences with hand tools and machines.

Heating, Air Conditioning and Refrigeration Option
Replaced: HART 2345 – Residential Air Conditioning Systems Design with
HART 2338 – Air Conditioning Installation and Startup

	<p>The Systems Design class was focused for the design and sales force in the air conditioning industry. The new Air Conditioning Installation and Startup class is one that will better satisfy industries' request for installers.</p> <p><u>Added: WLDG 1372</u> – Layout and Fabrication I; already existing course from the Welding Technology program.</p> <p>This class is being added to give the students an opportunity to learn the fabrication and assembly of metal ductwork used in residential and commercial HVAC construction.</p> <p><u>Instrument and Electronics Technician Option</u></p> <p><u>Replaced: INTC 2339</u> – Instrument and Control Review with <u>INTC 2310: Principles of Industrial Measurements II</u></p> <p>The Instrument and Control Review class is being changed because the students were not getting enough experience to prepare them to take the national testing. The new Principles of Industrial Measurements II class will enable students to learn new devices and control systems.</p> <p>h. The Industrial Technology Advanced Certificate will mirror the Industrial Technology A.A.S. degree except for General Education Requirements.</p>
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Industrial Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies Department / Industrial Maintenance Technology -> Industrial Technology (IMT0)
Prepared by:	Dr. Kim T. Hays and Ms. Delane McUne
	<ul style="list-style-type: none"> • Course additions must include student learning outcomes • Program changes/additions must include program goals
Request:	<p>Revise the Industrial Maintenance Technology Industrial Maintenance Certificate as follows:</p> <ol style="list-style-type: none"> Change the department name from Industrial Maintenance Technology to Industrial Technology Change the name from Industrial Maintenance Certificate to Industrial Technology Basic Certificate Update program advisors' information and certificate description Change the Manufacturing Core to the Technical Core Requirements (new marketable skills cert). Decrease the Major Course Requirements from 30 semester hours to 9 semester hours Add Major Options to include: <ul style="list-style-type: none"> Electromechanical Technician Heating, Air Conditioning, and Refrigeration Instrument and Electronics Technician Solar Technician Wind Technician Add courses in Major Options to total 3-6 semester hours. Decrease Total Semester Hours from 42 to 24-27.
Rational:	<p>The Industrial Technology department requests the above changes to accomplish the following goals:</p> <ol style="list-style-type: none"> This department is changing the name from Industrial Maintenance Technology to Industrial Technology to reflect the merge of multiple technical options. This certificate will now be one that has several options instead of a certificate built for one skill set.

	<p>c. Program Advisor is changing to reflect administrative changes and the description will better describe the certificate purpose.</p> <p>d. The Manufacturing Core is being changed to the Technical Core which is being added as a new marketable skills certificate. Students will complete the new core prior to starting major core requirements in order to gain math and writing skills.</p> <p>e. With the addition of new options there are several common classes to all options instead of just one skill set. Major course requirements are changed to 9 semester hours and major options is 3-6 hours.</p> <p>f. Because of the merge of programs, it has become necessary to add options to show each skill set.</p> <p>g. Each option will distinguish itself by only one or two classes (3-6 semester hours). These options put together with the major course requirements and the marketable skills certificate will provide basic knowledge in order to provide students with basic entry level skills to find employment.</p> <p>h. With the additional options instead of one skill set, the Industrial Technology Basic Certificate will be a second level foundation for the students to build toward the more advanced certificate or the Industrial Technology A.A.S. degree and that is the reason for total semester hours to be only 24-27 hours</p>
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Industrial Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies Department / Industrial Maintenance Technology -> Industrial Technology (IMT0)
Prepared by:	Dr. Kim T. Hays and Ms. Delane McUne
<ul style="list-style-type: none"> Course additions must include student learning outcomes Program changes/additions must include program goals 	
Request:	<p>Revise the Industrial Maintenance Technology AAS degree as follows:</p> <ol style="list-style-type: none"> a. Change the department name from Industrial Maintenance Technology to Industrial Technology to reflect the merge of multiple technical options. b. Update program advisors' information and the degree description. c. Update the academic core as specified by the Texas Higher Education Coordinating Board and AC Curriculum committee. d. Change the Manufacturing Core to the Technical Core Requirements (new marketable skills cert). e. Decrease the Major Course Requirements from 30 semester hours to 15 semester hours f. Increase Major Options to include: <ul style="list-style-type: none"> Electromechanical Technician Heating, Air Conditioning, and Refrigeration Instrument and Electronics Technician Solar Technician Wind Technician g. Increase Major Options from 12-15 semester hours to 18 semester hours. Changes in courses include: <ul style="list-style-type: none"> Electromechanical Technician ELMT 2333 – Industrial Electronics MCHN 1332 – Bench Work and Layout Heating, Air Conditioning, and Refrigeration HART 2338 – Air Conditioning Installation and Startup WLDG 1372 – Layout and Fabrication I Instrument and Electronics Technician INTC 2310 – Principles of Industrial Measurements II h. Decrease Total Semester Hours to 60.

Rational:	<p>The Industrial Technology department requests the above changes to accomplish the following goals:</p> <ul style="list-style-type: none"> a. This department is changing the name from Industrial Maintenance Technology to Industrial Technology to reflect the merge of multiple technical options. b. Advisor is changing to reflect administrative changes and the description is changing to reflect the various new options. c. Revision to the Academic core is required by the Texas Higher Education Coordinating Board. d. The Manufacturing Core is being changed to the Technical Core which is being added as a new marketable skills certificate. Students will complete the new core prior to starting major core requirements in order to gain math and writing skills. <p>Deleted classes are:</p> <ul style="list-style-type: none"> DFTG 1325 – Blueprint Reading & Sketching EPCT 1307 – Intro to Environmental Safety and Health QCTC 1341 – Statistical Process Control TECM 1301 – Industrial Mathematics <p>Added classes are:</p> <ul style="list-style-type: none"> ELPT 1311 – Basic Electrical Theory ETWR 1391 – Special Topics in Professional, Technocal, Business and Scientific Writing MCHN 1343 – Machine Shop Mathematics INMT 1305 – Intro to Industrial Maintenance (already in program) <ul style="list-style-type: none"> e. With the addition of new options there are several common classes to all options instead of just two options. The number of semester hours for common classes has been reduced from 30 hours to 15 hours. All Major Course Requirements are existing classes. f. Because of the merge of programs, it has become necessary to add options for each skill set. g. The revised courses are: <ul style="list-style-type: none"> <u>Electromechanical Technician Option</u> <u>Added:</u> ELMT 2333 – Industrial Electronics; already existing course from the “deactivated” Electronics program. Industrial Electronics is being added to fulfill the need in technical areas for high voltage electronics. <u>Replaced:</u> MCHN 2307 – Millwright IV with
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	<p><u>MCHN 1332 – Bench Work and Layout</u> - new course from the Machining Technology course inventory. The Bench Work and Layout class is being added because it focuses on intermediate level experiences with hand tools and machines.</p> <p><u>Heating, Air Conditioning and Refrigeration Option</u> <u>Replaced:</u> HART 2345 – Residential Air Conditioning Systems Design with HART 2338 – Air Conditioning Installation and Startup The Systems Design class was focused for the design and sales force in the air conditioning industry. The new Air Conditioning Installation and Startup class is one that will better satisfy industries' request for installers.</p> <p><u>Added:</u> WLDG 1372 – Layout and Fabrication I; already existing course from the Welding Technology program. This class is being added to give the students an opportunity to learn the fabrication and assembly of metal ductwork used in residential and commercial HVAC construction.</p> <p><u>Instrument and Electronics Technician Option</u> <u>Replaced:</u> INTC 2339 – Instrument and Control Review with INTC 2310: Principles of Industrial Measurements II The Instrument and Control Review class is being changed because the students were not getting enough experience to prepare them to take the national testing. The new Principles of Industrial Measurements II class will enable students to learn new devices and control systems.</p> <p>h. Total course hours have been decreased to meet with upcoming Texas Higher Education Coordinating Board structure requirements.</p>
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Current	Proposed
<p>Industrial Maintenance Technology A.A.S.</p> <p>Program Advisor - Bob Johnson, 335-4263 (rjohnson@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)</p> <p>Associate In Applied Science Major Code - IMRT.AAS actx.edu/industrial Industrial Maintenance Technicians operate, troubleshoot, maintain, and service industrial and commercial equipment and facilities. Students choose an area of specialization which includes Electromechanical and Heating, Air Conditioning, and Refrigeration.</p> <p>General Education Requirements (15 Semester Hours) Communications – 6 Hours Speech* ENGL 1301 - Freshman Composition I Social/Behavioral Science* - 3 Hours Humanities/Fine Arts* - 3 Hours Mathematics/Natural Sciences – 3 Hours MATH 1332 - Contemporary Mathematics 1 (or any college level Mathematics course)</p> <p>Manufacturing Core (12 Semester Hours) DFTG 1325 - Blueprint Reading and Sketching EPCT 1307 - Intro to Environmental Safety and Health QCTC 1341 - Statistical Process Control TECM 1301 - Industrial Mathematics</p> <p>Major Course Requirements (30 Semester Hours) CETT 1303 - DC Circuits CETT 1305 - AC Circuits ELMT 1301 - Programmable Logic Controllers IEIR 1306 - Electric Motors IEIR 1310 - Motor Controls IEIR 1312 - Distribution Systems INMT 1305 - Introduction to Industrial Maintenance INMT 1375 - Maintenance Shop Practices INMT 2301 - Machinery Installation WLDG 1307 - Introduction to Welding Using Multiple Processes</p> <p>Major Options (12-15 Semester Hours) The student must choose one of the following specialties: Electromechanical Technician (12 Semester Hours) This curriculum provides a specialized program of study to prepare an individual for entry level positions with the skills necessary to install, operate, troubleshoot and maintain electromechanical equipment and systems. ELMT 1305 - Basic Fluid Power ELMT 2341 - Electromechanical Systems MCHN 2307 - Millwright IV MCHN 2312 - Millwright V Heating, Air Conditioning, and Refrigeration (15 Semester Hours) This curriculum provides a specialized program of study to prepare an individual for entry level positions with the skills necessary to install, operate, troubleshoot and maintain commercial and industrial</p>	<p>Industrial Technology (A.A.S.)</p> <p>Program Advisor - Delane McUne, 335-4309 (delane.mcune@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)</p> <p>Associate In Applied Science Major Code – IMRT.AAS actx.edu/industrial This curriculum prepares students for positions requiring advanced technical training in several options of the Industrial Technology career field. Specialized areas include Electromechanical, HVAC, Instrumentation and Electronics or Renewable Energy. The Technical Core must be completed prior to other classes.</p> <p>General Education Requirements (15 Semester Hours) Communication – 3 Hours ENGL 1301 - Composition I Social/Behavioral Science* - 3 Hours Life & Physical Sciences* Or Mathematics* - 3 Hours MATH 1332 - Contemporary Mathematics 1 (or any college level Mathematics course) Language, Philosophy & Culture* Or Creative Arts* - 3 Hours Component Area Option – 3 Hours Speech (Communication foundational component area) Or EDUC 1300 – First Year Seminar * As specified in individual curricula or selected from the General Education Course List.</p> <p>Technical Core Requirements (12 Semester Hours) ELPT 1311 – Basic Electrical Theory ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing INMT 1305 – Introduction to Industrial Maintenance MCHN 1343 – Machine Shop Mathematics</p> <p>Major Course Requirements (15 Semester Hours) ELMT 1301 - Basic Programmable Logic Controllers IEIR 1306 - Electric Motors IEIR 1310 - Motor Controls IEIR 1312 - Distribution Systems WLDG 1307 - Introduction to Welding Using Multiple Processes</p> <p>Major Options (18 Semester Hours) The student must choose one of the following specialties: Electromechanical Technician (18 Semester Hours) ELMT 1305 - Basic Fluid Power ELMT 2333 – Industrial Electronics ELMT 2341 - Electromechanical Systems INMT 2301 - Machinery Installation MCHN 1332 – Bench Work and Layout MCHN 2312 - Millwright V Heating, Air Conditioning, and Refrigeration (18 Semester Hours) HART 1307 - Refrigeration Principles HART 1345 - Gas and Electric Heating</p>

refrigeration and air conditioning systems.

HART 1307 - Refrigeration Principles
HART 1345 - Gas and Electric Heating
HART 2336 - Air Conditioning Troubleshooting
HART 2342 - Commercial Refrigeration
HART 2345 - Residential Air Conditioning Systems Design

Optional Courses

ELMT 1391 - Special Topics in Electromechanical
—Technology/Technician
ELMT 2380 - Cooperative Education-Electromechanical
—Technology/Technician

Total (69-72 Semester Hours)

Deactivate:

Electronics Systems Technology (A.A.S.)
Major Code - CETT.AAS.ES

Instrument and Control Technology (A.A.S.)
Major Code - CETT.AAS

Renewable Energy (A.A.S.)
Major Code - RNEW.AAS

Robotics Technology (A.A.S.)
Major Code - CETT.AAS.RBTC

HART 2336 - Air Conditioning Troubleshooting
HART 2338 - Air Conditioning Installation and Startup
HART 2342 - Commercial Refrigeration
WLDG 1372 - Layout and Fabrication I

Instrument and Electronics Technician (18 Semester Hours)

EECT 2335 - Telecommunications
ELMT 2333 - Industrial Electronics
ELMT 2341 - Electromechanical Systems
INTC 1301 - Principles of Industrial Measurements I
INTC 1343 - Application of Industrial Automatic Controls
INTC 2310 - Principles of Industrial Measurements II

Solar Technician (18 Semester Hours)

EECT 2335 - Telecommunications
ELMT 1302 - Solar Photovoltaic Systems
ELMT 2333 - Industrial Electronics
ELMT 2341 - Electromechanical Systems
HART 1311 - Solar Fundamentals
WIND 2359 - Wind Power Delivery System

Wind Technician (18 Semester Hours)

EECT 2335 - Telecommunications
ELMT 1305 - Basic Fluid Power
ELMT 2333 - Industrial Electronics
ELMT 2341 - Electromechanical Systems
INMT 2301 - Machinery Installation
WIND 2359 - Wind Power Delivery System

Total (60 Semester Hours)

Industrial Maintenance Technology

Electromechanical Certificate

Program Advisor - Bob Johnson, 335-4263 (rjohnson@actx.edu) or
contact Melodie Graves, 335-4301 (mgraves24@actx.edu)

**Contact the Testing Center or the Program Advisor for testing
requirements. Testing requirements are based on the unique
needs of the certificate program.**

Certificate of Completion

Major Code - IMRT.CERT.ELMT
actx.edu/industrial

Prepares individuals with the necessary skills to install, operate,
troubleshoot and maintain electromechanical equipment and systems.

Manufacturing Core Requirements (12 Semester Hours)

DFTG 1325 - Blueprint Reading and Sketching
EPCT 1307 - Introduction to Environmental Safety and Health
QCTC 1341 - Statistical Process Control
TECM 1301 - Industrial Mathematics

Major Course Requirements (42 Semester Hours)

ELMT 1301 - Programmable Logic Controllers
ELMT 1305 - Basic Fluid Power
ELMT 2341 - Electromechanical Systems
CETT 1303 - DC Circuits
CETT 1305 - AC Circuits
IEIR 1306 - Electric Motors
IEIR 1310 - Motor Controls

Industrial Technology Advanced Certificates

Program Advisor - Delane McUne, 335-4309
(delane.mcune@actx.edu) or contact Melodie Graves, 335-4301
(mgraves24@actx.edu)

**Contact the Testing Center or the Program Advisor for testing
requirements. Testing requirements are based on the unique
needs of the certificate program.**

Certificates of Completion

Major Code - IMRT.CERT.ELMT
actx.edu/industrial

These certificates prepare students for entry positions in specific
technical trades. The Technical Core must be completed prior to other
classes.

Technical Core (12 Semester Hours)

ELPT 1311 - Basic Electrical Theory
ETWR 1391 - Special Topics in Professional, Technical, Business
and Scientific Writing
INMT 1305 - Introduction to Industrial Maintenance
MCHN 1343 - Machine Shop Mathematics

Major Course Requirements (15 Semester Hours)

ELMT 1301 - Basic Programmable Logic Controllers
IEIR 1306 - Electric Motors
IEIR 1310 - Motor Controls
IEIR 1312 - Distribution Systems
WLDG 1307 - Introduction to Welding Using Multiple Processes

<p>IEIR 1312 - Distribution Systems MCHN 2312 - Millwright V INMT 2301 - Machinery Installation MCHN 2307 - Millwright IV INMT 1305 - Introduction to Industrial Maintenance INMT 1375 - Maintenance Shop Practices WLDG 1307 - Introduction to Welding Using Multiple Processes Total (54 Semester Hours)</p> <p>Deactivate:</p> <p>Industrial Maintenance Technology Heating, Air Conditioning, and Refrigeration Certificate Major Code - IMRT.CERT.HART</p> <p>Electronics Systems Technology - Advanced Electronics Certificate Major Code - CETT.CERT.ADV</p> <p>Instrument and Control Technology - Advanced Instrumentation Technician Major Code - INTC.CERT.EICT</p> <p>Renewable Energy -Advanced Solar Technician Major Code - RNEW.CERT.ASLR</p> <p>Renewable Energy -Advanced Wind Technician Major Code - RNEW.CERT.AWND</p> <p>Robotics Technology Certificate Major Code - CETT.CERT.RBTC</p>	<p>Major Options (18 Semester Hours) The student must choose one of the following specialties:</p> <p>Electromechanical Technician (18 Semester Hours) ELMT 1305 - Basic Fluid Power ELMT 2333 - Industrial Electronics ELMT 2341 - Electromechanical Systems INMT 2301 - Machinery Installation MCHN 1332 - Bench Work and Layout MCHN 2312 - Millwright V</p> <p>Heating, Air Conditioning, and Refrigeration (18 Semester Hours) HART 1307 - Refrigeration Principles HART 1345 - Gas and Electric Heating HART 2336 - Air Conditioning Troubleshooting HART 2338 - Air Conditioning Installation and Startup HART 2342 - Commercial Refrigeration WLDG 1372 - Layout and Fabrication I</p> <p>Instrument and Electronics Technician (18 Semester Hours) EECT 2335 - Telecommunications ELMT 2333 - Industrial Electronics ELMT 2341 - Electromechanical Systems INTC 1301 - Principles of Industrial Measurements I INTC 1343 - Application of Industrial Automatic Controls INTC 2310 - Principles of Industrial Measurements II</p> <p>Solar Technician (18 Semester Hours) EECT 2335 - Telecommunications ELMT 1302 - Solar Photovoltaic Systems ELMT 2333 - Industrial Electronics ELMT 2341 - Electromechanical Systems HART 1311 - Solar Fundamentals WIND 2359 - Wind Power Delivery System</p> <p>Wind Technician (18 Semester Hours) EECT 2335 - Telecommunications ELMT 1305 - Basic Fluid Power ELMT 2333 - Industrial Electronics ELMT 2341 - Electromechanical Systems INMT 2301 - Machinery Installation WIND 2359 - Wind Power Delivery System</p> <p>Total (45 Semester Hours)</p>
<p>Industrial Maintenance Technology Industrial Maintenance Certificate Program Advisor - Bob Johnson, 335-4263 (rljohnson@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu) Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.</p> <p>Certificate of Completion Major Code - IMRT.CERT. actx.edu/industrial</p> <p>Prepares individuals with the basic skills necessary to assist the mechanical specialist in the installation, operation and maintenance of</p>	<p>Industrial Technology Basic Certificates Program Advisor - Delane McUne, 335-4309 (delane.mcune@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu) Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.</p> <p>Certificates of Completion Major Code - IMRT.CERT actx.edu/industrial</p> <p>These certificates prepare students for advanced training opportunities</p>

mechanical systems.

Manufacturing Core (12 Semester Hours)

DFTG 1325 – Blueprint Reading and Sketching
EPCT 1307 – Intro to Environmental Safety and Health
QCTC 1341 – Statistical Process Control
TECM 1301 – Industrial Mathematics

Major Course Requirements (30 Semester Hours)

CETT 1303 – DC Circuits
CETT 1305 – AC Circuits
ELMT 1301 - Programmable Logic Controllers
IEIR 1306 - Electric Motors
IEIR 1310 - Motor Controls
IEIR 1312 - Distribution Systems
INMT 1305 - Introduction to Industrial Maintenance
INMT 1375 – Maintenance Shop Practices
INMT 2301 - Machinery Installation
MCHN 2312 - Millwright V

Total (42 Semester Hours)

Deactivate:

Electronics Systems Technology -Basic Electronics Certificate
Major Code - CETT.CERT.GEN

Instrument and Control Technology -Basic Instrumentation Technician
Major Code - INTC.CERT.BICT

Renewable Energy -Basic Solar Technician
Major Code - RNEW.CERT.BSLR

Renewable Energy -Basic Wind Technician
Major Code - RNEW.CERT.BWND

in multiple trade areas. The Technical Core must be completed prior to other classes.

Technical Core Requirements (12 Semester Hours)

ELPT 1311 – Basic Electrical Theory
ETWR 1391 - Special Topics in Professional, Technical, Business and Scientific Writing
INMT 1305 – Introduction to Industrial Maintenance
MCHN 1343 – Machine Shop Mathematics

Major Course Requirements (9 Semester Hours)

IEIR 1310 - Motor Controls
IEIR 1312 - Distribution Systems
WLDG 1307 - Introduction to Welding Using Multiple Processes

Major Options (3-6 Semester Hours)

The student must choose one of the following specialties:

Electromechanical Technician (3 Semester Hours)

MCHN 1332 – Bench Work and Layout

Heating, Air Conditioning, and Refrigeration (6 Semester Hours)

HART 1307 - Refrigeration Principles
HART 2338 - Air Conditioning Installation and Startup

Instrument and Electronics Technician (3 Semester Hours)

EECT 2335 – Telecommunications

Solar Technician (3 Semester Hours)

EECT 2335 – Telecommunications

Wind Technician (3 Semester Hours)

EECT 2335 – Telecommunications

Total (24-27 Semester Hours)

Industrial Technology – Technical Core

Program Advisor - Delane McUne, 335-4309
(delane.mcune@actx.edu) or contact Melodie Graves, 335-4301
(mgraves24@actx.edu)

Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.

Certificate of Completion

Major Code – IMRT.MKT.CERT
actx.edu/industrial

This certificate creates the foundation for all Industrial Technology certificates and degrees.

Technical Core Requirements (12 Semester Hours)

ELPT 1311 – Basic Electrical Theory
ETWR 1391 - Special Topics in Professional, Technical, Business and Scientific Writing
INMT 1305 – Introduction to Industrial Maintenance
MCHN 1343 – Machine Shop Mathematics

Total (12 Semester Hours)

Machining Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies Department / Machining Technology (MCHN)
Prepared by:	Dr. Kim T. Hays
<ul style="list-style-type: none"> • Course additions must include student learning outcomes • Program changes/additions must include program goals 	
Request:	<p>a. Add the following courses to the course inventory:</p> <ul style="list-style-type: none"> • <u>MCHN 1332</u> – Bench Work and Layout Course Description: An introduction to bench work and layout. Application of the use and theory of tools such as hand tools, height gages, pedestal grinders, and layout tools. End-of-Course Outcomes: <ul style="list-style-type: none"> • Identify layout and hand tools. • Describe the proper use of layout and hand tools. • List the safety procedures in operating a pedestal grinder. • Demonstrate proper use of layout tools using precision and semi-precision procedures. • Adjust clearances on the tool rest and the spark arrestor on the pedestal grinder. • Perform grinding procedures on twist drills and tool blanks. • Perform grinding wheel replacement. Hours (3 sem hrs; 2 lec; 2 lab) • <u>MCHN 1338</u> – Basic Machine Shop I Course Description: A course that introduces the student to machining fundamentals. The Student begins by using basic machine tools including the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance. End-of-Course Outcomes: <ul style="list-style-type: none"> • Demonstrate set-up and use of the lathe, milling machine, drill press, power saw, and bench grinder applying good

housekeeping, proper safety, and preventative maintenance.

- Use precision instruments to perform bench work including part layout, drilling, reaming, tapping, press fitting, location of hole centers and surfaces.
- Set up power saws for cutoff operation.
- Demonstrate tooling maintenance, and hazardous material handling.
- Perform preventative maintenance.
- Interpret blueprints.

Hours (3 sem hrs; 2 lec; 2 lab)

- MCHN 1341 – Basic Machine Shop II

Course Description:

A continuation of Basic Machine Shop I

End-of-Course Outcomes:

- Identify machine parts and their functions.
- Select layout tools and techniques.
- Define machine shop terminology.
- Perform basic machine setups.
- Calculate common shop formulas.
- Perform semi-precision layout.
- Execute grinding techniques.
- Demonstrate basic machine operations.
- Apply proper measuring tools.

Hours (3 sem hrs; 2 lec; 2 lab)

- MCHN 1352 – Intermediate Machining I

Course Description:

Operation of drilling machines, milling machines, lathes, and power saws. Select and use appropriate precision measuring tools.

End-of-Course Outcomes:

- Setup and operate shop machinery and tools in a safe manner.
- Select and use precision measuring instruments to specified tolerances.

Hours (3 sem hrs; 2 lec; 2 lab)

- b. Add the Machining Technology Basic Certificate (24 Semester Hours) to consist of the following classes:

Technical Core (12 Semester Hours):

- ELPT 1311 – Basic Electrical Theory

	<ul style="list-style-type: none"> • ETWR 1391 – Special Topics in Professional, Technical, Business, and Scientific Writing • INMT 1305 – Introduction to Industrial Maintenance • MCHN 1343 – Machine Shop Mathematics <p><u>Major Course Requirements (12 Semester Hours):</u></p> <ul style="list-style-type: none"> • MCHN 1332 – Bench Work and Layout • MCHN 1338 – Basic Machine Shop I • MCHN 1341 – Basic Machine Shop II • WLDG 1372 – Layout and Fabrication I – existing course in
Rational:	<p>The Industrial Technology department requests the above changes to accomplish the following goals:</p> <p>a. This certificate is being added:</p> <ul style="list-style-type: none"> • As beginning knowledge to provide students with basic entry level skills to find employment in a shortened time period. • As a first level foundation for the students to build toward the more advanced certificate. • To fulfill requests by industry partners and requirements of the DOL Grant.
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Current	Proposed
<p>MACHINING TECHNOLOGY</p> <p>INMT 1305 - Introduction to Industrial Maintenance Prerequisite - TECM-1304. Basic mechanical skills and repair techniques common to most fields of industrial maintenance. Topics include application of precision measuring instruments and general safety rules common in industry, including lock-out/tag-out. Practice of basic layout and piece part measurement while using standard measuring tools is also emphasized. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>INMT 1375 - Maintenance Shop Practices Prerequisite - INMT 1305. An introductory course that assists the student in understanding the shop practices in industry. The student begins by using basic machine tools such as the lathe, milling machine, drill press, power saw, bench grinder, and hand tools. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>MCHN 1354 - Intermediate Machining II Prerequisite - INMT 1375. Development of job process plan to include operation of lathes, milling machines, drill presses, and power saws. Set-up, layout, and tool maintenance is included. Emphasis on shop safety and preventative maintenance. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>HN 1380 - Cooperative Education-Machine Tool Technology/Machinist Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college</p>	<p>MACHINING TECHNOLOGY</p> <p>INMT 1305 - Introduction to Industrial Maintenance Prerequisite - ETWR 1391 and MCHN 1343. Basic mechanical skills and repair techniques common to most fields of industrial maintenance. Topics include application of precision measuring instruments and general safety rules common in industry, including lock-out/tag-out. Practice of basic layout and piece part measurement while using standard measuring tools is also emphasized. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>MCHN 1332 - Bench Work and Layout Prerequisite - INMT 1305 and MCHN 1343. An introduction to bench work and layout. Application of the use and theory of tools such as hand tools, height gages, pedestal grinders, and layout tools. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>MCHN 1338 - Basic Machine Shop I Prerequisite - INMT 1332 MCHN A course that introduces the student to machining fundamentals. The student begins by using basic machine tools including the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>MCHN 1341 - Basic Machine Shop II Prerequisite - INMT 1332 MCHN A continuation of Basic Machine Shop I. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>MCHN 1343 - Machine Shop Mathematics Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses and all technical fields. Hour (3 Sem Hrs, 3 Lec)</p> <p>MCHN 1352 - Intermediate Machining I Prerequisite - INMT 1338 and MCHN 1341 MCHN Operation of drilling machines, milling machines, lathes, and power saws. Select and use appropriate precision measuring tools. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>MCHN 1354 - Intermediate Machining II Prerequisite - INMT 1338 and MCHN 1341 MCHN Development of job process plan to include operation of lathes, milling machines, drill presses, and power saws. Set-up, layout, and tool maintenance is included. Emphasis on shop safety and preventative maintenance. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>MCHN 1380 - Cooperative Education-Machine Tool Technology/Machinist Prerequisite - Instructor Consent Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the</p>

and the employer, the student combines classroom learning with work experience. Includes a lecture component.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

MCHN 1391 - Special Topics in Machining/Machine Technologist

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

Hours (3 Sem Hrs; 2 Lec, 2 Lab)

MCHN 2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls

Prerequisite - MCHN 2341.

An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines.

Hours (3 Sem Hrs; 2 Lec, 2 Lab)

MCHN 2341 - Advanced Machining I

Prerequisite - MCHN 1354.

A study of advanced lathe and milling operations. Emphasis on advanced cutting operations of the lathe and milling machines, including the use of special tooling, bench assembly, and materials identification.

Hours (3 Sem Hrs; 2 Lec, 2 Lab)

MCHN 2307 - Millwright IV

Prerequisite - MCHN 2307.

... study in the recognition and application of pumps. This course will focus on troubleshooting, repair, and installation of pumps.

Hours (3 Sem Hrs; 2 Lec, 2 Lab)

college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

MCHN 1391 - Special Topics in Machining/Machine Technologist

Prerequisite – Instructor Consent

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. **This course was designed to be repeated multiple times to improve student proficiency.**

Hours (3 Sem Hrs; 2 Lec, 2 Lab)

MCHN 2303 - Fundamentals of Computer Numerical Controlled (CNC) Machine Controls

Prerequisite - MCHN 2341.

Programming and operation of Computer Numerically Controlled (CNC) machine shop equipment. An introduction to G and M codes (RS274-D) necessary to program Computer Numerical Controlled (CNC) machines.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

MCHN 2341 - Advanced Machining I

Prerequisite - MCHN 1354.

A study of advanced lathe and milling operations. Emphasis on advanced cutting operations of the lathe and milling machines, including the use of special tooling, bench assembly, and materials identification.

Hours (3 Sem Hrs; 2 Lec, 2 Lab)

No replacement

Machining Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies Department / Machining Technology (MCHN)
Prepared by:	Dr. Kim T. Hays
<ul style="list-style-type: none"> • Course additions must include student learning outcomes • Program changes/additions must include program goals 	
Request:	<p>Revise the Machining Technology Certificate as follows:</p> <ol style="list-style-type: none"> Change the name from Machining Technology Certificate to Machining Technology Advanced Certificate Update certificate description Change the Manufacturing Core to the Technical Core Requirements (new marketable skills cert). Classes included in the Technical Core are as follows: <ul style="list-style-type: none"> • ELPT 1311 – Basic Electrical Theory • ETWR 1391 – Special Topics in Professional, Technical, Business, and Scientific Writing • INMT 1305 – Introduction to Industrial Maintenance • MCHN 1343 – Machine Shop Mathematics Revise Major Course Requirements as follows: <p>Replace: CETT 1303 – DC Circuits and CETT 1305 – AC Circuits with <u>ELPT 1311</u> – Basic Electrical Theory (in Technical Core)</p> <p>Move: INMT 1305 – Introduction to Industrial Maintenance to the Technical Core.</p> <p>Replace: INMT 1375 – Maintenance Shop Practices with <u>MCHN 1338</u> – Basic Machine Shop I</p> <p>Replace: MCHN 2307 – Millwright IV with <u>MCHN 1332</u> – Bench Work and Layout</p> <p>Add: MCHN 1341 – Basic Machine Shop II</p> <p>Add: MCHN 1352 – Intermediate Machining I</p> <p>Add: WLDG 1372 – Layout and Fabrication I</p>

Rational:	<p>The Industrial Technology department requests the above changes to accomplish the following goals:</p> <ul style="list-style-type: none"> a. The name of this certificate is being changed in order to also add a basic level one certificate. b. The certificate description has been modified to stress to students that they must complete the Technical Core prior to program classes. c. The Manufacturing Core is being changed to the Technical Core which is being added as a new marketable skills certificate. Students will complete the new core prior to starting major core requirements in order to gain math and writing skills. d. The new courses added will enhance the Machining Technology program and the machining skill set. The extra knowledge of and time spent on the machines has been requested by industry partners.
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Machining Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies Department / Machining Technology (MCHN)
Prepared by:	Dr. Kim T. Hays
	<ul style="list-style-type: none"> • Course additions must include student learning outcomes • Program changes/additions must include program goals
Request:	<p>Revise the Machining Technology Certificate as follows:</p> <ol style="list-style-type: none"> Change the name from Machining Technology Certificate to Machining Technology Advanced Certificate Update certificate description Change the Manufacturing Core to the Technical Core Requirements (new marketable skills cert). Classes included in the Technical Core are as follows: <u>ELPT 1311 – Basic Electrical Theory</u> Course Description: Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current. End-of-Course Outcomes: <ol style="list-style-type: none"> Explain atomic structure and basic values such as voltage, current, resistance, and power. Determine electrical values for combination circuits in direct current (DC) and alternating current (AC) containing resistance, inductance, and capacitance. Summarize the principles of magnetism. Calculate voltage drop based on conductor length, type of material, and size. Utilize electrical measuring instruments. Hours (3 sem hrs; 2 lec; 2 lab) <u>ETWR 1391 – Special Topics in Professional, Technical, Business, and Scientific Writing</u> Course Description: Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be

repeated multiple times to improve student proficiency.

End-of-Course Outcomes:

1. Interpret procedures and complete job related documentation.
2. Complete job applications.
3. Research job related requirements.
4. Communicate properly through speech, writing, reading and electronics.

Hours (3 sem hrs; 3 lec)

INMT 1305 – Introduction to Industrial Maintenance

Course Description:

Basic mechanical skills and repair techniques common to most fields of industrial maintenance. Topics include application of precision measuring instruments and general safety rules common in industry, including lock-out/tag-out. Practice of basic layout and piece part measurement while using standard measuring tools is also emphasized.

End-of-Course Outcomes:

1. Utilize measuring instruments.
2. Demonstrate lock-out/tag-out.
3. Identify types of fasteners.
4. Make use of hand and power tools.

Hours (3 sem hrs; 2 lec; 2 lab)

MCHN 1343 – Machine Shop Mathematics

Course Description:

Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses and all technical fields.

End-of-Course Outcomes:

1. Convert between decimals and fractions.
2. Use measuring tools.
3. Calculate ratios and proportions in a technical application.
4. Transpose linear equations to solve for unknowns.

Hours (3 sem hrs; 2 lec; 2 lab)

d. Revise Major Course Requirements as follows:

Replace: CETT 1303 – DC Circuits and CETT 1305 – AC Circuits with
ELPT 1311 – Basic Electrical Theory (in Technical Core)

Move: INMT 1305 – Introduction to Industrial Maintenance to the
Technical Core.

Replace: INMT 1375 – Maintenance Shop Practices with
MCHN 1338 – Basic Machine Shop I

Course Description:

A course that introduces the student to machining fundamentals. The Student begins by using basic machine tools including the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance.

End-of-Course Outcomes:

- Demonstrate set-up and use of the lathe, milling machine, drill press, power saw, and bench grinder applying good housekeeping, proper safety, and preventative maintenance.
- Use precision instruments to perform bench work including part layout, drilling, reaming, tapping, press fitting, location of hole centers and surfaces.
- Set up power saws for cutoff operation.
- Demonstrate tooling maintenance, and hazardous material handling.
- Perform preventative maintenance.
- Interpret blueprints.

Hours (3 sem hrs; 2 lec; 2 lab)

Replace: MCHN 2307 – Millwright IV with
MCHN 1332 – Bench Work and Layout

Course Description:

An introduction to bench work and layout. Application of the use and theory of tools such as hand tools, height gages, pedestal grinders, and layout tools.

End-of-Course Outcomes:

- Identify layout and hand tools.
- Describe the proper use of layout and hand tools.
- List the safety procedures in operating a pedestal grinder.
- Demonstrate proper use of layout tools using precision and semi-precision procedures.
- Adjust clearances on the tool rest and the spark arrestor on the pedestal grinder.
- Perform grinding procedures on twist drills and tool blanks.
- Perform grinding wheel replacement.

Hours (3 sem hrs; 2 lec; 2 lab)

Add: MCHN 1341 – Basic Machine Shop II

Course Description:

A continuation of Basic Machine Shop I

End-of-Course Outcomes:

- Identify machine parts and their functions.
- Select layout tools and techniques.

	<ul style="list-style-type: none"> • Define machine shop terminology. • Perform basic machine setups. • Calculate common shop formulas. • Perform semi-precision layout. • Execute grinding techniques. • Demonstrate basic machine operations. • Apply proper measuring tools. <p>Hours (3 sem hrs; 2 lec; 2 lab)</p> <p>Add: MCHN 1352 – Intermediate Machining I</p> <p>Course Description: Operation of drilling machines, milling machines, lathes, and power saws. Select and use appropriate precision measuring tools.</p> <p>End-of-Course Outcomes:</p> <ul style="list-style-type: none"> • Setup and operate shop machinery and tools in a safe manner. • Select and use precision measuring instruments to specified tolerances. <p>Hours (3 sem hrs; 2 lec; 2 lab)</p> <p>Add: WLDG 1372 – Layout and Fabrication I – existing course in Welding Technology</p> <p>Course Description: An introduction to layout as it is applied to development of patterns and drawings for the fabrication of sheet metal and structural shapes. Calculations involve joint/bend allowance and metal forming. Projects develop skills in print interpretation and the use of shears, breaks, and hand tools.</p> <p>End-of-Course Outcomes:</p> <ul style="list-style-type: none"> • Demonstrate proper use of tools used for pattern development, and sheet metal working. • Demonstrate knowledge of plan development. • Demonstrate project development from plan. • Develop pattern and build common piping angles and transitions. • Develop pattern and build common duct angles and transitions. <p>Hours (3 sem hrs; 2 lec; 2 lab)</p>
Rational:	<p>The Industrial Technology department requests the above changes to accomplish the following goals:</p> <ul style="list-style-type: none"> a. The name of this certificate is being changed in order to also add a basic level one certificate.

	<ul style="list-style-type: none"> b. The certificate description has been modified to stress to students that they must complete the Technical Core prior to program classes. c. The Manufacturing Core is being changed to the Technical Core which is being added as a new marketable skills certificate. Students will complete the new core prior to starting major core requirements in order to gain math and writing skills. d. The new courses added will enhance the Machining Technology program and the machining skill set. The extra knowledge of and time spent on the machines has been requested by industry partners.
Effects of	A. Faculty / Staff Requirements: No change.
Revisions:	B. Equipment / Facility Requirements: No change.
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Machining Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies Department / Machining Technology (MCHN)
Prepared by:	Dr. Kim T. Hays
<ul style="list-style-type: none"> Course additions must include student learning outcomes Program changes/additions must include program goals 	
Request:	<p>a. Add the Machining Technology Basic Certificate (24 Semester Hours) to consist of the following classes:</p> <p><u>Technical Core (12 Semester Hours):</u></p> <p style="padding-left: 40px;"><u>ELPT 1311 – Basic Electrical Theory</u></p> <p style="padding-left: 80px;">Course Description: Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.</p> <p style="padding-left: 80px;">End-of-Course Outcomes:</p> <ol style="list-style-type: none"> 1. Explain atomic structure and basic values such as voltage, current, resistance, and power. 2. Determine electrical values for combination circuits in direct current (DC) and alternating current (AC) containing resistance, inductance, and capacitance. 3. Summarize the principles of magnetism. 4. Calculate voltage drop based on conductor length, type of material, and size. 5. Utilize electrical measuring instruments. <p style="padding-left: 80px;">Hours (3 sem hrs; 2 lec; 2 lab)</p> <p style="padding-left: 40px;"><u>ETWR 1391 – Special Topics in Professional, Technical, Business, and Scientific Writing</u></p> <p style="padding-left: 80px;">Course Description: Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.</p> <p style="padding-left: 80px;">End-of-Course Outcomes:</p> <ol style="list-style-type: none"> 1. Interpret procedures and complete job related documentation.

2. Complete job applications.
3. Research job related requirements.
4. Communicate properly through speech, writing, reading and electronics.

Hours (3 sem hrs; 3 lec)

INMT 1305 – Introduction to Industrial Maintenance

Course Description:

Basic mechanical skills and repair techniques common to most fields of industrial maintenance. Topics include application of precision measuring instruments and general safety rules common in industry, including lock-out/tag-out. Practice of basic layout and piece part measurement while using standard measuring tools is also emphasized.

End-of-Course Outcomes:

1. Utilize measuring instruments.
2. Demonstrate lock-out/tag-out.
3. Identify types of fasteners.
4. Make use of hand and power tools.

Hours (3 sem hrs; 2 lec; 2 lab)

MCHN 1343 – Machine Shop Mathematics

Course Description:

Designed to prepare the student with technical, applied mathematics that will be necessary in future machine shop-related courses and all technical fields.

End-of-Course Outcomes:

1. Convert between decimals and fractions.
2. Use measuring tools.
3. Calculate ratios and proportions in a technical application.
4. Transpose linear equations to solve for unknowns.

Hours (3 sem hrs; 2 lec; 2 lab)

Major Course Requirements (12 Semester Hours):

MCHN 1332 – Bench Work and Layout

Course Description:

An introduction to bench work and layout. Application of the use and theory of tools such as hand tools, height gages, pedestal grinders, and layout tools.

End-of-Course Outcomes:

- Identify layout and hand tools.
- Describe the proper use of layout and hand tools.
- List the safety procedures in operating a pedestal grinder.
- Demonstrate proper use of layout tools using precision

and semi-precision procedures.

- Adjust clearances on the tool rest and the spark arrestor on the pedestal grinder.
- Perform grinding procedures on twist drills and tool blanks.
- Perform grinding wheel replacement.

Hours (3 sem hrs; 2 lec; 2 lab)

MCHN 1338 – Basic Machine Shop I

Course Description:

A course that introduces the student to machining fundamentals. The Student begins by using basic machine tools including the lathe, milling machine, drill press, power saw, and bench grinder. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis is placed on shop safety, housekeeping, and preventative maintenance.

End-of-Course Outcomes:

- Demonstrate set-up and use of the lathe, milling machine, drill press, power saw, and bench grinder applying good housekeeping, proper safety, and preventative maintenance.
- Use precision instruments to perform bench work including part layout, drilling, reaming, tapping, press fitting, location of hole centers and surfaces.
- Set up power saws for cutoff operation.
- Demonstrate tooling maintenance, and hazardous material handling.
- Perform preventative maintenance.
- Interpret blueprints.

Hours (3 sem hrs; 2 lec; 2 lab)

MCHN 1341 – Basic Machine Shop II

Course Description:

A continuation of Basic Machine Shop I

End-of-Course Outcomes:

- Identify machine parts and their functions.
- Select layout tools and techniques.
- Define machine shop terminology.
- Perform basic machine setups.
- Calculate common shop formulas.
- Perform semi-precision layout.
- Execute grinding techniques.
- Demonstrate basic machine operations.
- Apply proper measuring tools.

Current	Proposed
<p>Machining Technology Certificate</p> <p>Program Advisor - Robert Gustin, 335-4332, (rgustin@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu). Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.</p> <p>Certificate of Completion Major Code – MCHN.CERT Prepares students to enter the trades of production machinist or maintenance machinist with the skills to operate and maintain tolerances on manual and CNC equipment.</p> <p>Manufacturing Core Requirements (12 Semester Hours) DFTG 1325 – Blueprint Reading and Sketching EPCT 1307 – Introduction to Environmental Safety and Health QCTC 1341 – Statistical Process Control TECM 1301 – Industrial Mathematics</p> <p>Major Course Requirements (33 Semester Hours) CETT 1303 – DC Circuits CETT 1305 – AC Circuits ELMT 1305 – Basic Fluid Power INMT 1305 – Introduction to Industrial Maintenance INMT 1375 – Maintenance Shop Practices MCHN 1354 – Intermediate Machining II MCHN 2303 – Fundamentals of Computer Numerical Controlled (CNC) Machine Controls MCHN 2341 – Advanced Machining I MCHN 2307 – Millwright IV WLDG 1307 – Introduction to Welding Using Multiple Processes WLDG 1337 – Introduction to Welding Metallurgy TOTAL (45 Semester Hours)</p>	<p>Machining Technology Advanced Certificate</p> <p>Program Advisor - Robert Gustin, 335-4332, (rgustin@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu). Contact the Testing Center or the Program Advisor for testing requirements. Testing requirements are based on the unique needs of the certificate program.</p> <p>Certificate of Completion Major Code – MCHN.CERT.ADV Prepares students to enter the trades of production machinist or maintenance machinist with the skills to operate and maintain tolerances on manual and CNC equipment. The Technical Core must be completed prior to other classes.</p> <p>Marketable Skills Certificate Requirements (12 Semester Hours) ELPT 1311 – Basic Electrical Theory ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing INMT 1305 – Introduction to Industrial Maintenance MCHN 1343 – Machine Shop Mathematics</p> <p>Major Course Requirements (33 Semester Hours) ELMT 1305 – Basic Fluid Power MCHN 1332 – Bench Work and Layout MCHN 1338 – Basic Machine Shop I MCHN 1341 – Basic Machine Shop II MCHN 1352 – Intermediate Machining I MCHN 1354 – Intermediate Machining II MCHN 2303 – Fundamentals of Computer Numerical Controlled (CNC) Machine Controls MCHN 2341 – Advanced Machining I WLDG 1372 – Layout and Fabrication I WLDG 1307 – Introduction to Welding Using Multiple Processes WLDG 1337 – Introduction to Welding Metallurgy TOTAL (45 Semester Hours)</p>
	<p>Machining Technology Basic Certificate</p> <p>Program Advisor - Robert Gustin, 335-4332, (rgustin@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu).</p> <p>Certificate of Completion Major Code – MCHN.CERT.BAS Prepares students to enter the trades of production machinist or maintenance machinist with the skills to operate and maintain tolerances on manual equipment. The Technical Core must be completed prior to other classes.</p> <p>Technical Core Requirements (12 Semester Hours) ELPT 1311 – Basic Electrical Theory ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing INMT 1305 – Introduction to Industrial Maintenance MCHN 1343 – Machine Shop Mathematics</p> <p>Major Course Requirements (12 Semester Hours) MCHN 1332 – Bench Work and Layout MCHN 1338 – Basic Machine Shop I MCHN 1341 – Basic Machine Shop II WLDG 1372 – Layout and Fabrication I TOTAL (24 Semester Hours)</p>

UTILITY POWER WORKER CERTIFICATE

CURRICULUM REVISION REQUEST	
Division:	Technical Education
Department/Program:	Utility Power Worker
Prepared by:	Delane McUne
<ul style="list-style-type: none"> Course additions must include student learning outcomes Program changes/additions must include program goals 	
Request:	<p>Make the following changes to the Utility Power Worker Certificate - Groundsman. Certificate of Completion Major Code - (LINE.CERT.BAS):</p> <ol style="list-style-type: none"> a. Change the Program Advisor information to Marcus Hughes. b. Update the description for the certificate. c. Add the following courses to the course inventory: d. CVOP 1305 - Commercial Drivers License Written Skills Course Description: Overview of the State of Texas Class A Commercial Drivers License written test. In depth coverage of air brakes, combination vehicle, doubles and triples, tankers, and hazardous materials. Includes preparation for mastery of the Commercial Drivers License written examination. End-of-Course Outcomes: <ul style="list-style-type: none"> Explain all state and federal laws with respect to the Commercial Drivers License. Identify all components of the vehicle. Explain their application to the safe operation and compliance of a commercial vehicle. Hours (3 sem hrs; 2 lec; 2 lab) e. Replace the Manufacturing Core (9 hours) with the Technical Core Requirements (new 12 hour marketable skills cert). Classes included in the Technical Core are as follows: <ul style="list-style-type: none"> ELPT 1311 – Basic Electrical Theory ETWR 1391 – Special Topics in Professional, Technical, Business, and Scientific Writing INMT 1305 – Introduction to Industrial Maintenance MCHN 1343 – Machine Shop Mathematics f. Decrease the Major Course Requirements from 23 semester hours to 12 semester hours and revise as follows: <p>Replace: CVOP 1205 – Commercial Drivers License Written Skills With: CVOP 1305 – Commercial Drivers License Written Skills</p> <p>Replace: CETT 1303 – DC Circuits and CETT 1305 – AC Circuits With: ELPT 1311 – Basic Electrical Theory (in Technical Core)</p>

UTILITY POWER WORKER CERTIFICATE

	<p>Delete: ELPT 1371 – Overhead Distribution/Transmission Operations</p> <p>Delete: LNWK 1371 – Underground Distribution/Transmission Operations</p>	
Rationale/Justification:	<ul style="list-style-type: none"> a. Marcus Hughes is now the Program Advisor. b. Updating the description of the certificate will better reflect the certificate's purpose. c. The Manufacturing Core is being changed to the Technical Core which is being added as a new marketable skills certificate. Students will complete the new core prior to starting major core requirements in order to gain math and writing skills. d. Classes in the Major Course Requirements are being revised to better meet the needs of industry, and assist students in job/career placement. The course fee for CVOP 1305 will be the same as the course fee was for CVOP 1205. 	
Effects of Revisions	<p>This revision will better align the program requirements with industry needs. As a result of this revision, the student will be more prepared for employment in the utility power industry.</p>	
Faculty & Staff Requirements:	No changes at this time.	
Equipment/Facility Requirements:	No changes at this time.	
Location:	No changes at this time.	
Income Projections:	No changes at this time	
Effective Date:	08/01/2014 (Fall 2014)	

UTILITY POWER WORKER CERTIFICATE

CURRICULUM REVISION REQUEST	
Division:	Technical Education
Department/Program:	Utility Power Worker
Prepared by:	Delane McUne
<ul style="list-style-type: none"> Course additions must include student learning outcomes Program changes/additions must include program goals 	
Request:	<p>Make the following changes to the Utility Power Worker Certificate (LINE.CERT):</p> <ol style="list-style-type: none"> a. Change the Program Advisor information to Marcus Hughes. b. Update the description for the certificate. c. Add the following course to the course inventory: <ul style="list-style-type: none"> LNWK 2321 – Live Line Safety <p style="margin-left: 40px;">Course Description: Study of cover-up procedures and safety requirements for work on energized electrical circuits. Includes use, care, and inspection of cover-up material, recognizing nominal voltages and energized parts, approach distances, and safety.</p> <p style="margin-left: 40px;">End-of-Course Outcomes:</p> <ol style="list-style-type: none"> 1. Demonstrate safe cover-up and equipment grounding. 2. Define all relevant safety rules and procedures. 3. Inspect rubber gloves and cover-up material. 4. Demonstrate the use of “ground to ground” rubber gloves and cover-up. <p style="margin-left: 40px;">Hours (3 sem hrs; 2 lec; 2 lab)</p> d. Replace the Manufacturing Core (9 hours) with the Technical Core Requirements (new 12 hour marketable skills cert). Classes included in the Technical Core are as follows: <ul style="list-style-type: none"> ELPT 1311 – Basic Electrical Theory ETWR 1391 – Special Topics in Professional, Technical, Business, and Scientific Writing INMT 1305 – Introduction to Industrial Maintenance MCHN 1343 – Machine Shop Mathematics e. Change the Major Course Requirements from 42 semester hours to 39 semester hours and revise as follows: <p style="margin-left: 20px;">Change: CVOP 1301 – Commercial Drivers License Driving Skills</p> <p style="margin-left: 40px;">Contact Hours –</p> <p style="margin-left: 40px;">From: 3 Sem Hrs; 1 Lec, 4 Lab</p> <p style="margin-left: 40px;">To: 3 Sem Hrs; 2 Lec, 2 Lab</p>

UTILITY POWER WORKER CERTIFICATE

	<p>Replace: CVOP 1205 – Commercial Drivers License Written Skills With: CVOP 1305 – Commercial Drivers License Written Skills</p> <p>Replace: CETT 1303 – DC Circuits and CETT 1305 – AC Circuits With: ELPT 1311 – Basic Electrical Theory (in Technical Core)</p> <p>Replace: ELPT 2323 – Transformers With: IEIR 1306 - Electric Motors – existing course in Industrial Technology</p> <p>Delete: ELPT 2464 – Practicum – Electrical and Power Transmission Installation / Installer - (delete from descriptions)</p> <p>Delete: LNWK 1472 – Hot Sticks</p> <p>Delete: LNWK 2324 – Troubleshooting Distribution Systems</p> <p>Add: LNWK 2321 – Live Line Safety</p> <p>Add: WIND 2359 – Wind Power Delivery Systems</p>
Rationale/Justification:	<ul style="list-style-type: none"> a. Marcus Hughes is now the Program Advisor. b. Updating the description of the certificate will better reflect the certificate's purpose. c. The Manufacturing Core is being changed to the Technical Core which is being added as a new marketable skills certificate. Students will complete the new core prior to starting major core requirements in order to gain math and writing skills. d. Classes in the Major Course Requirements are being revised to better meet the needs of industry, and assist students in job/career placement. The course fee for CVOP 1305 will be the same as the course fee was for CVOP 1205.
Effects of Revisions	<p>This revision will better align the program requirements with industry needs. As a result of this revision, the student will be more prepared for employment in the utility power industry.</p>
Faculty & Staff Requirements:	No changes at this time.
Equipment/Facility Requirements:	No changes at this time.
Location:	No changes at this time.
Income Projections:	No changes at this time
Effective Date:	08/01/2014 (Fall 2014)

Current	Proposed
<p>UTILITY POWER WORKER</p> <p>QP-1205:- Commercial Driver's License Written Skills Overview of the State of Texas Class A Commercial Driver's License written test. In-depth coverage of air brakes, combination vehicle, doubles and triples, tankers, and hazardous materials. Includes preparation for mastery of the Commercial Driver's License written examination. Hours (2 Sem Hrs; 1 Lec; 2 Lab)</p> <p>CVOP 1301: Commercial Driver's License Driving Skills Overview of the State of Texas Class A Commercial Driver's License driving test. In-depth coverage of in-cab air brake test, proper shifting, right and left-hand turns, movement and control. Hours (3 Sem Hrs; 1 Lec; 4 Lab)</p> <p>ELPT 1321: Introduction to Electrical Safety and Tools Safety rules and regulations. Includes the selection, inspection, use and maintenance of common tools for electricians. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>ELPT 1371: Overhead Distribution/Transmission Operations Examination of overhead distribution and transmission practices and operations. Topics include installation of suspension insulators from structures, rescue and install phases with hot sticks and work with hand line from pole or ground. Principles of transformers, meter loops, capacitors, regulators, reclosures and sectionalizers are covered. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>ELPT 1391: Special Topics in Electrical and Power Transmission Installer - General Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>ELPT 2323: Transformers Transformer types, construction, connections, protection, grounding, and associated safety procedures. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>ELPT 2380: Cooperative Education - Electrical and Power Transmission Installation/Installer Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Hours (3 Sem Hrs; 1 Lec, 40 hrs work/week)</p>	<p>UTILITY POWER WORKER</p> <p>CVOP 1305: Commercial Driver's License Written Skills Overview of the State of Texas Class A Commercial Driver's License written test. In-depth coverage of air brakes, combination vehicle, doubles and triples, tankers, and hazardous materials. Includes preparation for mastery of the Commercial Driver's License written examination. Hours (3 Sem Hrs; 2 Lec; 2 Lab)</p> <p>CVOP 1301: Commercial Driver's License Driving Skills Overview of the State of Texas Class A Commercial Driver's License driving test. In-depth coverage of in-cab air brake test, proper shifting, right and left-hand turns, movement and control Hours (3 Sem Hrs; 2 Lec; 2 Lab)</p> <p>ELPT 1321: Introduction to Electrical Safety and Tools Prerequisite: INMT 1305, ELPT 1311 Safety rules and regulations. Includes the selection, inspection, use and maintenance of common tools for electricians. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>ELPT 1371: Overhead Distribution/Transmission Operations Prerequisite: LNWK 1301. Examination of overhead distribution and transmission practices and operations. Topics include installation of suspension insulators from structures, rescue and install phases with hot sticks and work with hand line from pole or ground. Principles of transformers, meter loops, capacitors, regulators, reclosures and sectionalizers are covered. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>ELPT 1391: Special Topics in Electrical and Power Transmission Installer - General Prerequisite: Instructor Consent. Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. Hours (3 Sem Hrs; 2 Lec, 2 Lab)</p> <p>No Replacement for this course.</p> <p>ELPT 2380: Cooperative Education - Electrical and Power Transmission Installation/Installer Prerequisite: ELPT 1371, LNWK 2321, Instructor Consent. Final Semester. Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component. Hours (3 Sem Hrs; 1 Lec, 40 hrs work/week)</p>

ELPT 2464: Practicum – Electrical and Power Transmission Installation/Installer

Practical, general workplace training supported by an individualized training plan developed by the employer, college, and student.
Hours (4 Sem Hrs; 40 hrs work/week)

LNWK 1301: Orientation & Line Skills Fundamentals

Examination of utility company operations. Topics include company structure, safety and distribution standards handbook, lineman's tools, vocabulary, and work procedures. Discussion of basic electrical systems including the history of power generation and distribution with emphasis on generating plants and substations.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

LNWK 1371: Underground Distribution/Transmission Operations

Examination of underground electrical system layout and construction with emphasis on safety problems inherent with underground distribution. Topics include the proper use of special tools and equipment specific to underground distribution. Students will perform terminations and splices; test equipment and tools, and perform various replacement and testing functions.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

LNWK 1391: Special Topics in Lineworker

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

LNWK 1472: Hot-Sticks

Practical field experience and training in the use of hot-sticks for overhead distribution/transmission structures from both pole and bucket trucks. The student will gain experience and proficiency in the use of various hot-stick operations including davit and standoff insulator changeouts, bakerboards, aluminum wire ties, and live-line protective gear and plastics.
Hours (4 Sem Hrs; 3 Lec, 2 Lab)

LNWK 2322: Distribution Line Construction

Study of electric distribution line construction. Includes reading staking sheets and framing specifications, tailboard discussions, pole framing and setting, installing conductors, transformers and other line equipment, and OSHA and NESC regulations.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

No Replacement for this course

LNWK 1301: Orientation & Line Skills Fundamentals

Prerequisite: ELPT 1321.

Examination of utility company operations. Topics include company structure, safety and distribution standards handbook, lineman's tools, vocabulary, and work procedures. Discussion of basic electrical systems including the history of power generation and distribution with emphasis on generating plants and substations.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

LNWK 1371: Underground Distribution/Transmission Operations

Prerequisite: LNWK 1301.

Examination of underground electrical system layout and construction with emphasis on safety problems inherent with underground distribution. Topics include the proper use of special tools and equipment specific to underground distribution. Students will perform terminations and splices; test equipment and tools, and perform various replacement and testing functions.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

LNWK 1391: Special Topics in Lineworker

Prerequisite: Instructor Consent.

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

LNWK 2321: Live Line Safety

Prerequisite: LNWK 1301.

Study of cover-up procedures and safety requirements for work on energized electrical circuits. Includes use, care, and inspection of cover-up material, recognizing nominal voltages and energized parts, approach distances, and safety.
Hours (3 sem Hrs; 2 Lec, 2 Lab)

No Replacement for this course.

LNWK 2322: Distribution Line Construction

Prerequisite: LNWK 1301

Study of electric distribution line construction. Includes reading staking sheets and framing specifications, tailboard discussions, pole framing and setting, installing conductors, transformers and other line equipment, and OSHA and NESC regulations.
Hours (3 Sem Hrs; 2 Lec, 2 Lab)

LNWK 2324: Troubleshooting Distribution Systems

Study of power outages and voltage complaints on distribution systems. Includes lockout-tagout procedures, safety grounds, backfeed, induced voltage, causes of outages, and analyzing voltage complaints.

Hours (3 Sem Hrs; 2 Lec, 2 Lab)

No Replacement for this course.

Current	Proposed
<p>UTILITY POWER WORKER CERTIFICATE Program Advisor: Terry Tucker, 335-4216(tptucker@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)</p> <p>Certificate of Completion Major Code - LINE.CERT</p> <p>Prepares individuals with the basic skills necessary to enter the electrical field as a Lineman, Meterman, or Industrial Electrician.</p> <p>Manufacturing Core Requirements (9 Semester Hours) DFTG 1325—Blueprint Reading and Sketching EPCT 1307—Introduction to Environmental Safety and Health TECM 1301—Industrial Mathematics</p> <p>Major Course Requirements (42 Semester Hours) CVOP 1205—Commercial Drivers License Written Skills CVOP 1301—Commercial Drivers License Driving Skills CETT 1303—DC Circuits CETT 1305—AC Circuits ELPT 1321—Introduction to Electrical Safety and Tools ELPT 1371—Overhead Distribution/Transmission Operations ELPT 2323—Transformers ELPT 2380—Cooperative Education—Electrical and Power Transmission Installation/Installer or IEIR 1312—Distribution Systems IEIR 1310—Motor Controls LNWK 1301—Orientation and Line Skills Fundamentals LNWK 1371—Underground Distribution/Transmission Operations LNWK 1472—Hot sticks LNWK 2322—Distribution Line Construction LNWK 2324—Troubleshooting Distribution Systems Total (51 Semester Hours)</p>	<p>UTILITY POWER WORKER CERTIFICATE Program Advisor: Marcus Hughes, 335-4205 (j0526937@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)</p> <p>Certificate of Completion Major Code - LINE.CERT</p> <p>Prepares individuals with the basic skills necessary to enter the electrical field as a Lineman, Meterman, or Industrial Electrician. The Technical Core must be completed prior to other classes.</p> <p>Technical Core Requirements (12 Semester Hours) ELPT 1311—Basic Electrical Theory ETWR 1391—Special Topics in Professional, Technical, Business, and Scientific Writing INMT 1305—Introduction to Industrial Maintenance MCHN 1343—Machine Shop Mathematics</p> <p>Major Course Requirements (39 Semester Hours) CVOP 1305—Commercial Drivers License Written Skills CVOP 1301—Commercial Drivers License Driving Skills ELPT 1321—Introduction to Electrical Safety and Tools ELPT 1371—Overhead Distribution/Transmission Operations ELPT 2380—Cooperative Education—Electrical and Power Transmission Installation/Installer IEIR 1306—Electric Motors IEIR 1312—Distribution Systems IEIR 1310—Motor Controls LNWK 1301—Orientation and Line Skills Fundamentals LNWK 1371—Underground Distribution/Transmission Operations LNWK 2321—Live Line Safety LNWK 2322—Distribution Line Construction WIND 2359—Wind Power Delivery Systems Total (51 Semester Hours)</p>
<p>UTILITY POWER WORKER CERTIFICATE-GROUNDSMAN Program Advisor: Terry Tucker, 335-4217(tptucker@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)</p> <p>Certificate of Completion Major Code - Line.CERT.BAS</p> <p>Prepares individuals with the basic skills necessary to enter the electrical field as a Groundsman/helper.</p> <p>Manufacturing Core Requirements (9 Semester Hours) DFTG 1325—Blueprint Reading and Sketching EPCT 1307—Introduction to Environmental Safety and Health TECM 1301—Industrial Mathematics</p> <p>Major Course Requirements (23 Semester Hours) CVOP 1205—Commercial Drivers License Written Skills CVOP 1301—Commercial Drivers License Driving Skills CETT 1303—DC Circuits CETT 1305—AC Circuits ELPT 1321—Introduction to Electrical Safety and Tools ELPT 1371—Overhead Distribution/Transmission Operations LNWK 1301—Orientation and Line Skill Fundamentals LNWK 1371—Underground Distribution/Transmission Operations Total (32 Semester Hours)</p>	<p>UTILITY POWER WORKER CERTIFICATE-GROUNDSMAN Program Advisor: Marcus Hughes (j0526937@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu)</p> <p>Certificate of Completion Major Code - LINE.CERT.BAS</p> <p>Prepares individuals with basic skills necessary to enter the electrical field as a Groundsman/helper. The Technical Core must be completed prior to other classes.</p> <p>Technical Core Requirements (12 Semester Hours) ELPT 1311—Basic Electrical Theory ETWR 1391—Special Topics in Professional, Technical, Business, and Scientific Writing INMT 1305—Introduction to Industrial Maintenance MCHN 1343—Machine Shop Mathematics</p> <p>Major Course Requirements (12 Semester Hours) CVOP 1301—Commercial Drivers License Driving Skills CVOP 1305—Commercial Drivers License Written Skills ELPT 1321—Introduction to Electrical Safety and Tools LNWK 1301—Orientation and Line Skills Fundamentals Total (24 Semester Hours)</p>

Welding Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies / Welding Technology (WLDG)
Prepared by:	Dr. Kim T. Hays
<ul style="list-style-type: none"> Course additions must include student learning outcomes Program changes/additions must include program goals 	
Request:	<p>Revise the Welding Technology Certificate of Completion as follows:</p> <p>a. Revise the certificate description.</p> <p>b. Delete the following courses from the Welding Course Inventory:</p> <p style="padding-left: 40px;">DFTG 1325 – Blueprint Reading and Sketching WLDG 1170 – Safety in Welding, Cutting and Allied Processes WLDG 2373 – Flux Cored Arc Welding I (FCAW) WLDG 2374 – Flux Cored Arc Welding II (FCAW-S) (Self Shielded) WLDG 2377 – Gas Metal Arc Welding II (GMAW) (Spray Transfer) WLDG 2378 – Gas Tungsten Arc Welding II (GTAW)</p> <p>c. Add the following courses from Local Needs Requests</p> <p style="padding-left: 40px;">WLDG 1370 – Intro to Arc Welding</p> <p style="padding-left: 80px;">Course Description:</p> <p style="padding-left: 120px;">This course covers the theory and introduction to arc welding processes. Skill in the welding process and the selection of materials and equipment will be stressed.</p> <p style="padding-left: 80px;">End-of-Course Outcomes:</p> <ol style="list-style-type: none"> 1. Define the principles of arc welding. 2. Interpret electrode classifications. 3. Perform welding operations in various positions using different joint designs. 4. Select electrodes and amperage settings for various thicknesses of materials and welding positions. <p style="padding-left: 80px;">Hours (3 sem hrs, 2 lec, 2 lab)</p> <p style="padding-left: 40px;">WLDG 2372 – Layout and Fabrication II</p> <p style="padding-left: 80px;">Course Description:</p> <p style="padding-left: 120px;">An intermediate course in layout and fabrication. Includes design and production of shop layout and fabrication. Emphasis placed on symbols, blueprints, written</p>

	<p>specifications, and pattern development.</p> <p>End-of-Course Outcomes:</p> <ol style="list-style-type: none"> 1. Interpret orthographic and isometric drawings. 2. Identify fittings, weldments and tools. 3. Perform layout methods on structural steel and pipe using layout tools and templates. 4. Apply mathematical concepts in the construction of projects. <p>Hours (3 sem hrs, 2 lec, 2 lab)</p> <ol style="list-style-type: none"> d. Replace the Manufacturing Core Requirements with new marketable skills certificate named as the Welding Core. e. Add new courses to Major Course Requirements. f. Decrease the Major Course Requirements from 46 semester hours to 33 semester hours. g. Decrease Total certificate hours from 55 semester hours to 45 semester hours.
Rational:	<p>The Welding Technology department requests the above changes to accomplish the following goals:</p> <ol style="list-style-type: none"> a. The description has been revised to better describe the certificate purpose. b. These classes have been deleted to shorten the program and concentrate on the areas which reflect local industry. Content of some basic skills will be moved to other classes. c. Local needs courses have been written to add a more basic introductory arc class and an advanced layout class. d. A new marketable skills certificate is being added that will allow students to gain math and writing skills prior to beginning major course requirements. e. Two local needs classes have been added to enhance student skills and a second class from the Machining Technology program (MCHN 1332 – Bench Work and Layout) has been added to strengthen student understanding of project development. f. and g. The certificate has been shortened allowing students to focus on the industry skills most wanted in the local workforce area.
Effects of	A. Faculty / Staff Requirements: No change
Revisions:	B. Equipment / Facility Requirements: No change
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014

Current	Proposed
<p>WELDING TECHNOLOGY</p> <p>TG 1325 - Blueprint Reading and Sketching An introduction to reading and interpreting working drawings for fabrication processes and associated trades. Use of sketching techniques to create pictorial and multiple-view drawings. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p>WLDG 1170 - Safety in Welding, Cutting and Allied Processes A study of guidelines for the safe set up and use of welding and cutting equipment and the safe performance of welding and cutting operations. Hours (1 sem hr; 1 lec)</p> <p>WLDG 1307 - Introduction to Welding Using Multiple Processes An overview of the basic welding processes, including oxy-fuel welding and cutting, shielded metal arc (SMAW), gas metal arc (GMAW), and gas tungsten arc welding (GTAW). Hours (3 sem hrs; 2 lec, 2 lab)</p> <p>WLDG 1371 - Welding Fundamentals An introduction to procedures, qualifications, and certifications. Emphasis will be on welding terminology, welding symbols and drawings; applications of welding and personal protective equipment; the application of codes to inspection, safety, and quality control; and orientation and practice of records, reports, and documentation. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p>WLDG 1372 - Layout and Fabrication I Prerequisite - WLDG 1170 An introduction to layout as it is applied to development of patterns and drawings for the fabrication of sheet metal and structural shapes. Calculations involve joint/bend allowance and metal forming. Projects develop skills in print interpretation and the use of shears, breaks, and hand tools. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p>WLDG 1373 - Thermal Cutting I Corequisite - WLDG 1170 Instruction and practice of equipment inspection, maintenance, repair, and set up for manual and mechanized oxyfuel gas cutting (OFC). Instruction and practice in production cuts on carbon steel using manual and mechanical oxyfuel systems. Instruction and practice soldering and brazing carbon steel, stainless steel and copper using oxyfuel equipment. Practice and production of assembly cuts to be examined and tested according to Section 8 AWS SENSE QC10. Hours (3 sem hrs; 2 lec, 3 lab)</p> <p>WLDG 1374 - Thermal Cutting II Prerequisite - WLDG 1373 Instruction and practice of equipment inspection, maintenance, repair, and set up for manual plasma arc cutting (PAC) and manual air carbon arc cutting (CAC-A). Instruction and practice in the production of cuts on carbon steel, stainless steel and aluminum using PAC equipment. Instruction and practice cutting, scarfing and gouging carbon steel using CAC-A equipment. Instruction and practice welding carbon steel using oxyfuel equipment. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10. Hours (3 sem hrs; 2 lec, 3 lab)</p>	<p>WELDING TECHNOLOGY</p> <p>No replacement</p> <p>No replacement</p> <p>WLDG 1307 - Introduction to Welding Using Multiple Processes An overview of the basic welding processes, including oxy-fuel welding and cutting, shielded metal arc (SMAW), gas metal arc (GMAW), and gas tungsten arc welding (GTAW). Hours (3 sem hrs; 2 lec, 2 lab)</p> <p>WLDG 1371 - Welding Fundamentals Prerequisite - WLDG 1373 An introduction to procedures, qualifications, and certifications. Emphasis will be on welding terminology, welding symbols and drawings; applications of welding and personal protective equipment; the application of codes to inspection, safety, and quality control; and orientation and practice of records, reports, and documentation. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p>WLDG 1372 - Layout and Fabrication I An introduction to layout as it is applied to development of patterns and drawings for the fabrication of sheet metal and structural shapes. Calculations involve joint/bend allowance and metal forming. Projects develop skills in print interpretation and the use of shears, breaks, and hand tools. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p>WLDG 1373 - Thermal Cutting I Prerequisite - ETWR 1391 and MCHN 1343 Instruction and practice of equipment inspection, maintenance, repair, and set up for manual and mechanized oxyfuel gas cutting (OFC). Instruction and practice in production cuts on carbon steel using manual and mechanical oxyfuel systems. Instruction and practice soldering and brazing carbon steel, stainless steel and copper using oxyfuel equipment. Practice and production of assembly cuts to be examined and tested according to Section 8 AWS SENSE QC10. Hours (3 sem hrs; 2 lec, 2 lab)</p> <p>WLDG 1374 - Thermal Cutting II Prerequisite - WLDG 1373 Instruction and practice of equipment inspection, maintenance, repair, and set up for manual plasma arc cutting (PAC) and manual air carbon arc cutting (CAC-A). Instruction and practice in the production of cuts on carbon steel, stainless steel and aluminum using PAC equipment. Instruction and practice cutting, scarfing and gouging carbon steel using CAC-A equipment. Instruction and practice welding carbon steel using oxyfuel equipment. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10. Hours (3 sem hrs; 2 lec, 2 lab)</p>

WLDG 1375 - Shielded Metal Arc Welding I (SMAW)

Prerequisite - WLDG 1373

Instruction and practice of equipment inspection, maintenance, repair, and set up for shielded metal arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel using 6010 and 7018 electrodes. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.

Hours (3 sem hrs; 2 lec, 3 lab)

WLDG 1376 - Shielded Metal Arc Welding II (SMAW)

Prerequisite - WLDG 1375

Continuation of WLDG 1375. Instruction and practice of equipment inspection, maintenance, repair, and set up for shielded metal arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel using 6010 and 7018 electrodes. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.

Hours (3 sem hrs; 2 lec, 3 lab)

WLDG 1377 - Gas Metal Arc Welding I (GMAW-S) (Short Circuit Transfer)

Prerequisite - WLDG 1373 and WLDG 1376

Instruction and practice of equipment inspection, maintenance, repair, and set up for gas metal arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel using short circuit transfer. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.

Hours (3 sem hrs; 2 lec, 3 lab)

WLDG 1378 - Gas Tungsten Arc Welding I (GTAW)

Prerequisite - WLDG 1374 and WLDG 1376

Instruction and practice of equipment inspection, maintenance, repair, and set up for gas tungsten arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel, stainless steel and aluminum. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.

Hours (3 sem hrs; 2 lec, 3 lab)

WLDG 1391 - Special Topics in Welder/Welding Technologist

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Hours (3 sem hrs; 2 lec, 3 lab)

WLDG 2373 - Flux Cored Arc Welding I (FCAW)

Prerequisite - WLDG 1377

Instruction and practice of equipment inspection, maintenance, repair, and set up for flux cored arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel using gas shield, mixed gas shield, and dual shield flux cored electrode. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.

Hours (3 sem hrs; 2 lec, 3 lab)

WLDG 2374 - Flux Cored Arc Welding II (FCAW-S) (Self shielded)

Prerequisite - WLDG 2373

Instruction and practice of equipment inspection, maintenance, repair,

WLDG 1375 - Shielded Metal Arc Welding I (SMAW)

Prerequisite - WLDG 1370

Instruction and practice of equipment inspection, maintenance, repair, and set up for shielded metal arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel using 6010 and 7018 electrodes. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.

Hours (3 sem hrs; 2 lec, 2 lab)

WLDG 1376 - Shielded Metal Arc Welding II (SMAW)

Prerequisite - WLDG 1375

Continuation of WLDG 1375. Instruction and practice of equipment inspection, maintenance, repair, and set up for shielded metal arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel using 6010 and 7018 electrodes. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.

Hours (3 sem hrs; 2 lec, 2 lab)

WLDG 1377 - Gas Metal Arc Welding I (GMAW)

Prerequisite - WLDG 1376

Instruction and practice of equipment inspection, maintenance, repair, and set up for gas metal arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel using short circuit transfer. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.

Hours (3 sem hrs; 2 lec, 2 lab)

WLDG 1378 - Gas Tungsten Arc Welding I (GTAW)

Prerequisite - WLDG 1376

Instruction and practice of equipment inspection, maintenance, repair, and set up for gas tungsten arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel, stainless steel and aluminum. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.

Hours (3 sem hrs; 2 lec, 2 lab)

WLDG 1391 - Special Topics in Welder/Welding Technologist

Prerequisite - Instructor Consent

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

Hours (3 sem hrs; 2 lec, 2 lab)

No replacement

No replacement

and set up for flux cored arc welding—S (self-shielded). Instruction and practice in the production of fillet and groove welds in all positions on carbon steel using self-shielded flux cored electrode. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.
Hours (3 sem hrs; 2 lec, 3 lab)

WLDG 2377 – Gas Metal Arc Welding II (GMAW) (Spray Transfer)

Prerequisite – WLDG 1377

Continuation of WLDG 1377. Instruction and practice of equipment inspection, maintenance, repair, and set up for gas metal arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel using spray transfer. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.
Hours (3 sem hrs; 2 lec, 3 lab)

WLDG 2378 – Gas Tungsten Arc Welding II (GTAW)

Prerequisite – WLDG 1378

Continuation of WLDG 1378. Instruction and practice of equipment inspection, maintenance, repair, and set up for gas tungsten arc welding. Instruction and practice in the production of fillet and groove welds in all positions on carbon steel, stainless steel and aluminum. Practice and production of assemblies and coupons to be examined and tested according to Section 8 AWS SENSE QC10.
Hours (3 sem hrs; 2 lec, 3 lab)

WLDG 2379 - Shielded Metal Arc Welding III–Pipe (SMAW)

Prerequisite - WLDG 1376

An introduction to the welding of pipe using the shielded metal arc welding process. To include the selection of equipment, electrodes, and base materials. Emphasis will be placed on fit up, equipment set up, operation, and qualifications. Position of welds will be 1G, 2G, and 5G
Hours (3 sem hrs; 2 lec, 3 lab)

WLDG 2380 - Cooperative Education – Welding Technology/Welder

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.
Hours (3 sem hrs; 1 lec, 20 lab)

No replacement

No replacement

WLDG 2379 - Shielded Metal Arc Welding III–Pipe (SMAW)

Prerequisite - WLDG 1376

An introduction to the welding of pipe using the shielded metal arc welding process. To include the selection of equipment, electrodes, and base materials. Emphasis will be placed on fit up, equipment set up, operation, and qualifications. Position of welds will be 1G, 2G, and 5G
Hours (3 sem hrs; 2 lec, 2 lab)

WLDG 2380 - Cooperative Education – Welding Technology/Welder

Prerequisite - Instructor Consent

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.
Hours (3 sem hrs; 1 lec, 20 lab)

WLDG 1370 –Intro to Arc Welding

Prerequisite - INMT 1305 and WLDG 1373

This course covers the theory and introduction to arc welding processes. Skill in the welding process and the selection of materials and equipment will be stressed.
Hours (3 sem hrs; 2 lec, 2 lab)

WLDG 2372 – Layout and Fabrication II

Prerequisite - WLDG 1372

An intermediate course in layout and fabrication. Includes design and production of shop layout and fabrication. Emphasis placed on symbols, blueprints, written specifications, and pattern development.
Hours (3 sem hrs; 2 lec, 2 lab)

WECM Local Need Course Form

(Please use one form per course)
Requests must be submitted 30 days in advance of instruction

(Please check one only)

SCH ☒

CEU ☐

College:

FICE:

6-Digit CIP (Course):

Rubric:

Number (XX7X):

Course Title:

Justification for Local Need Course Required: Please refer to GIPWE Ch. 4 for limitations.

Local needs course required to align Amarillo College curriculum with American Welding Society Level I – Entry Welder program as described in AWS EG-2.0, Guide for the Training of Welding Personnel: Level I Entry Welder. This course of study is partial completion of the American Welding Society AWS SENSE QC 10, Specification for Qualification and Certification of Level I Entry Welder.

Type of Instruction ☒ Lec/Lab ☐ Lab Only ☐ Clinical ☐ Co-op ☐ Internship ☐ Practicum

Implementation Date:

(The implementation date for SCH courses is the date on which instruction begins, e.g. 9/1, 1/1 or 6/1 and for CEU courses is the quarter in which the course will be taught, e.g. 3/1, 6/1 9/1, or 12/1.)

Actual Contact Hours
course will be taught:

Number of SCH
or CEU:

Licensing, accrediting, or certification body (if applicable):

Level of Instruction:

☒

Introductory

☐

Intermediate

☐

Advanced

Course Description: This should be a brief statement that describes the overall goal(s), content, and major topics of the course. Generally, course descriptions should contain no more than **100** words but not less than **25** words. Please do not use abbreviations.

This course covers the theory and introduction to arc welding processes. Skill in the welding process and the selection of materials and equipment will be stressed.

Hours (3 sem hrs, 2 lec, 2 lab)

Learning Outcomes: Write one or more broad objectives in each of the two categories specified below, as applicable to this course. Please number each learning outcome. An action verb must be the first word in a learning outcome.

1. Discipline-specific KNOWLEDGE in (theory and concepts; materials, tools, equipment, other resources, processes, procedures, regulations, laws, interactions within and among systems—political, economic, environmental, legal)
2. Discipline-specific SKILLS in (technical competencies, tasks, capabilities; applied academic skills; technical communication—speaking, writing, and computation; information research and computer utilization)

Upon successful completion of the course, the student will:

1. Define the principles of arc welding.
2. Interpret electrode classifications.
3. Perform welding operations in various positions using different joint designs.
4. Select electrodes and amperage settings for various thicknesses of materials and welding positions.

Lab Recommended:

☒

Yes

☐

No

Suggested Prerequisite (if any):
(Actual WECM or ACGM course)

INMT 1305 and WLDG 1373

Does the course description match a
description in the *Lower Division General
Academic Course Guide Manual*?

Yes

☐

No

☒

If yes, give course approval number.

CIP Descriptor:

Welder/Welding
Technologist

Authorized College Signature (Required):

Print name of authorized college official

Telephone:

Enter the area code and phone number in this format: ###-###-####

FAX:

Enter the area code and FAX number in this format: ###-###-####

E-Mail

Contact Person:
(Please print)

Telephone:

Enter the area code and phone number in this format: ###-###-####

FAX:

Enter the area code and FAX number in this format: ###-###-####

E-Mail

WECM Local Need Course Form

(Please use one form per course)
Requests must be submitted 30 days in advance of instruction

(Please check one only)

SCH

☒

CEU

☐

College:

Amarillo College

FICE:

003540

6-Digit CIP (Course):

48.0508

Rubric:

WLDG

Number (XX7X):

2

3

7

2

Course Title:

Layout & Fabrication II

Justification for Local Need Course Required: Please refer to GIPWE Ch. 4 for limitations.

Local needs course required to align Amarillo College curriculum with American Welding Society Level I – Entry Welder program as described in AWS EG-2.0, Guide for the Training of Welding Personnel: Level I Entry Welder. This course of study is partial completion of the American Welding Society AWS SENSE QC 10, Specification for Qualification and Certification of Level I Entry Welder.

Type of Instruction

☒

Lec/Lab

☐

Lab Only

☐

Clinical

☐

Co-op

☐

Internship

☐

Practicum

Implementation Date:

09/01/2014

(The implementation date for SCH courses is the date on which instruction begins, e.g. 9/1, 1/1 or 6/1 and for CEU courses is the quarter in which the course will be taught, e.g. 3/1, 6/1 9/1, or 12/1.)

Actual Contact Hours
course will be taught:

64

Number of SCH
or CEU:

SCH = 3

Licensing, accrediting, or certification body (if applicable):

American Welding Society

Level of Instruction:

☐

Introductory

☒

Intermediate

☐

Advanced

Course Description: This should be a brief statement that describes the overall goal(s), content, and major topics of the course. Generally, course descriptions should contain no more than **100** words but not less than **25** words. Please do not use abbreviations.

An intermediate course in layout and fabrication. Includes design and production of shop layout and fabrication. Emphasis placed on symbols, blueprints, written specifications, and pattern development.

Hours (3 sem hrs; 2 lec; 2 lab)

Learning Outcomes: Write one or more broad objectives in each of the two categories specified below, as applicable to this course. Please number each learning outcome. An action verb must be the first word in a learning outcome.

1. Discipline-specific KNOWLEDGE in (theory and concepts; materials, tools, equipment, other resources, processes, procedures, regulations, laws, interactions within and among systems—political, economic, environmental, legal)
2. Discipline-specific SKILLS in (technical competencies, tasks, capabilities; applied academic skills; technical communication—speaking, writing, and computation; information research and computer utilization)

Upon successful completion of the course, the student will:

1. Interpret orthographic and isometric drawings.
2. Identify fittings, weldments and tools.
3. Perform layout methods on structural steel and pipe using layout tools and templates.
4. Apply mathematical concepts in the construction of projects.

Lab Recommended:

☒

Yes

☐

No

Suggested Prerequisite (if any):
(Actual WECM or ACGM course)

WLDG 1372

Does the course description match a
description in the *Lower Division General
Academic Course Guide Manual*?

Yes

☐

No

☒

If yes, give course approval number.

CIP Descriptor:

Welder/Welding
Technologist

Authorized College Signature (Required):

Print name of authorized college official

Telephone:

Enter the area code and phone number in this format: ###-###-####

FAX:

Enter the area code and FAX number in this format: ###-###-####

E-Mail

Contact Person:
(Please print)

Telephone:

Enter the area code and phone number in this format: ###-###-####

FAX:

Enter the area code and FAX number in this format: ###-###-####

E-Mail

Current	Proposed
<p>WELDING TECHNOLOGY Program advisor - Dr. Kim Hays, 335-4366 (kthays@actx.edu), Jimmy Bradshaw, 335-4398, (jbradshaw@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu).</p> <p>Certificate of Completion Major Code –WELD.CERT actx.edu/welding</p> <p>American Welding Society (AWS) SENSE curriculum prepares students for Level 1-Entry Welder positions. Upon successful completion, certificate holders will be registered with AWS.</p> <p>Manufacturing Core Requirements (9 Semester Hours) DFTG 1325 –Blueprint Reading and Sketching EPCT 1307 –Intro to Environmental Safety and Health TECM 1343 –Technical Algebra and Trigonometry</p> <p>Major Course Requirements (46 Semester Hours) MCHN 1320 –Precision Tools & Measurement MCHN 1338 –Basic Machine Shop I WLDG 1170 –Safety in Welding, Cutting and Allied Processes WLDG 1371 - Welding Fundamentals WLDG 1372 - Layout and Fabrication I WLDG 1373 - Thermal Cutting I WLDG 1374 - Thermal Cutting II WLDG 1375 - Shielded Metal Arc Welding I (SMAW) WLDG 1376 - Shielded Metal Arc Welding II (SMAW) WLDG 1377 - Gas Metal Arc Welding I (GMAW-S) (Short Circuit Transfer) WLDG 1378 - Gas Tungsten Arc Welding I (GTAW) WLDG 2373 –Flux Cored Arc Welding I (FCAW) WLDG 2374 –Flux Cored Arc Welding II (FCAW-S) (Self Shielded) WLDG 2377 –Gas Metal Arc Welding II (GMAW) (Spray Transfer) WLDG 2378 –Gas Tungsten Arc Welding II (GTAW) WLDG 2379 - Shielded Metal Arc Welding III Pipe (SMAW) Total (55 Semester Hours)</p>	<p>WELDING TECHNOLOGY Program advisor - Dr. Kim Hays, 335-4366 (kthays@actx.edu), Jimmy Bradshaw, 335-4398, (jbradshaw@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu).</p> <p>Certificate of Completion Major Code –WELD.CERT actx.edu/welding</p> <p>Prepares students for entry level welding positions using American Welding Society (AWS) recognized standards. Upon successful completion, certificate holders will be ready to perform testing to D1.1 welding codes. Welding Core must be completed prior to other classes.</p> <p>Welding Core Requirements (12 Semester Hours) ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing INMT 1305 – Introduction to Industrial Maintenance MCHN 1343 – Machine Shop Mathematics WLDG 1373 – Thermal Cutting I</p> <p>Major Course Requirements (33 Semester Hours) MCHN 1332 – Bench Work and Layout WLDG 1370 – Introduction to Arc Welding WLDG 1371 - Welding Fundamentals WLDG 1372 - Layout and Fabrication I WLDG 2372 – Layout and Fabrication II WLDG 1374 - Thermal Cutting II WLDG 1375 - Shielded Metal Arc Welding I (SMAW) WLDG 1376 - Shielded Metal Arc Welding II (SMAW) WLDG 1377 - Gas Metal Arc Welding I (GMAW) WLDG 1378 - Gas Tungsten Arc Welding I (GTAW) WLDG 2379 - Shielded Metal Arc Welding III Pipe (SMAW) Total (45 Semester Hours)</p>
	<p>Welding Technology – Welding Core Program advisor - Dr. Kim Hays, 335-4366 (kthays@actx.edu), Jimmy Bradshaw, 335-4398, (jbradshaw@actx.edu) or contact Melodie Graves, 335-4301 (mgraves24@actx.edu).</p> <p>Certificate of Completion Major Code –WELD.MKT.CERT actx.edu/welding</p> <p>This certificate creates the foundation for the higher level Welding certificate.</p> <p>Welding Core Requirements (12 Semester Hours) ETWR 1391 – Special Topics in Professional, Technical, Business and Scientific Writing INMT 1305 – Introduction to Industrial Maintenance MCHN 1343 – Machine Shop Mathematics WLDG 1373 – Thermal Cutting I Total (12 Semester Hours)</p>

Welding Technology

Curriculum Revision Request Form

Division:	Technical Education
Department/ Program:	Manufacturing Technologies / Welding Technology (WLDG)
Prepared by:	Dr. Kim T. Hays
	<ul style="list-style-type: none"> • Course additions must include student learning outcomes • Program changes/additions must include program goals
Request:	<p>Add the Welding Core Marketable Skills Certificate as follows:</p> <p>a. The following courses will be combined to make the certificate:</p> <ul style="list-style-type: none"> • ETWR 1391 – Special Topics in Professional, Technical, Business, and Scientific Writing • INMT 1305 – Introduction to Industrial Maintenance • MCHN 1343 – Machine Shop Mathematics • WLDG 1373 – Thermal Cutting I
Rational:	<p>The Welding Technology department requests the above changes to accomplish the following goals:</p> <p>a. The combination of these four classes will give the student math and writing skills as well as industry shop practices and beginning welding skills. Students will complete this certificate prior to beginning any major requirements. This certificate will also allow students to achieve entry level skills that will make them employable.</p> <p>Welding Core Classes are:</p> <ul style="list-style-type: none"> • ETWR 1391 – Special Topics in Professional, Technical, Business, and Scientific Writing • INMT 1305 – Introduction to Industrial Maintenance • MCHN 1343 – Machine Shop Mathematics • WLDG 1373 – Thermal Cutting I
Effects of	A. Faculty / Staff Requirements: No change
Revisions:	B. Equipment / Facility Requirements: No change
	C. Location: No change
	D. Income Projections: No change
Effective Date:	Fall 2014