

CLOs: Course Learning Outcomes

Honolulu Community College

Date: 02-15-2022

Arts and Humanities
Accounting
CLO
ACC201 - Intro to Financial Accounting <ul style="list-style-type: none">• Acquire a general understanding of Accounting and the many different types of related occupations.• Analyze the financial strength of a company via financial ratios.• Demonstrate an understanding of various basic accounting transactions formats.• Interpret financial data and record such transactions in a journal entry format.• Organize and summarize financial transactions into meaningful information for the external users.• Perform basic accounting functions and analysis including journal entries, bank reconciliation and the compilation of financial statements.• Read and understand financial statements including income statements and balance sheet.
ACC202 - Intro to Managerial Accounting <ul style="list-style-type: none">• Calculate break-even analysis, ratio analysis and the use of funds.• Demonstrate an understanding in the cost accounting systems that operate in manufacturing, merchandising and service industries.• Demonstrate an understanding of the methods used to analyze the financial health of an organization for internal users.• Develop a working knowledge of the cost and management accounting concepts and techniques (including activity-based costing, process costing, planning and decision making.).• Develop an understanding in the relationship between revenue and cost management concepts and techniques to particular service delivery forms and structures.• Distinguish between the characteristics of product and service delivery.• Explain the nature of cost accounting and accounting for product costs.• Use cost and management accounting information for planning, decision-making and control, given the appropriate context.
American Studies
CLO
AMST150 - America and the World <ul style="list-style-type: none">• Demonstrate knowledge of how the United States has developed in comparison to other societies in historical and contemporary times.• Demonstrate knowledge of political, economic, and sociocultural connections between the United States and societies in Europe, Africa, the Americas, Asia, and the Pacific, since 1492.• Effectively use writing and/or oral communication to argue and/or respond.• Use critical thinking to assess and evaluate a variety of cultural artifacts (literature, primary documents, film, music, etc.), as well as secondary sources concerning historical and present-day sociopolitical issues.
AMST201 - American Exp:Inst&Movements <ul style="list-style-type: none">• Demonstrate knowledge of how diverse social movements have challenged and changed American institutions.• Demonstrate knowledge of the diversity of America's people and their values and experiences.• Effectively use writing and/or oral communication to argue and/or respond.• Identify different scholarly approaches to American Studies.• Use critical thinking to assess and evaluate a variety of cultural artifacts (literature, primary documents, film, music, etc.), as well as secondary sources concerning historical and present-day sociopolitical issues.
AMST202 - Amer Exp:Culture & the Arts

- Demonstrate knowledge of how American culture and the arts provide diverse perspectives about American history.
- Demonstrate knowledge of how American culture and the arts reflect and advance changing American values and identities.
- Effectively use writing and/or oral communication to argue and/or respond.
- Identify different scholarly approaches to American Studies.
- Use critical thinking to assess and evaluate a variety of cultural artifacts (literature, primary documents, film, music, etc.) as well as secondary sources concerning historical and present-day sociopolitical issues.

Art

CLO

ART101 - Introduction to Visual Arts

- Appreciate the visual arts' influences on the quality of life.
- Demonstrate a familiarity with major historical and contemporary movements in art, and be able to understand how art reflects its time.
- Demonstrate a knowledge and understanding of the elements of art, principles of design, and the creative process.
- Demonstrate an understanding of the various art media.
- Incorporate writing as a tool for analyzing art forms.

ART107D - Intro to Digital Photography

- Create a variety of visual statements through digital photography.
- Demonstrate knowledge of digital photography often required at entry-level positions.
- Demonstrate knowledge of software required for manipulation of digital images.
- Demonstrate knowledge of the basic history of digital photography.
- Know how to operate most other SLR and Point-and-Shoot digital cameras
- Successfully operate his/her own digital camera.
- Understand and apply the principles of basic photographic composition.
- Understand and apply the principles of basic photographic lighting.

ART111 - Intro to Watercolor Painting

- Complete the creative problem-solving process from discovery and planning to implementation and evaluation.
- Demonstrate a basic understanding of watercolor painting materials, techniques and terminology.
- Demonstrate an understanding of the use of the physical properties of watercolor paints.
- Develop a painting from observation using a viewfinder and thumbnail sketches.
- Select and use watercolor materials.

ART112 - Intro to Digital Art

- Apply the visual elements of line, shape, value, color, texture, space, time and motion as well as the design principles of balance, rhythm, emphasis, contrast, variation and unity in the creation of digital art works.
- Complete the creative problem-solving process from the preliminary planning stage and exploration through revisions to the final product.
- Demonstrate how digital graphics are used as a contemporary art tool.
- Understand basic animation concepts and demonstrate basic animation skills.
- Use appropriate software based on industry applications.
- Use digital graphics to generate personal visual images.
- Use several digital graphic systems, graphic software packages, and input/output devices.
- Use the vocabulary and technological processes of digital graphics.
- Work effectively as a team member as well as achieving individual creative decisions.

ART113 - Introduction to Drawing

- Demonstrate a skillful use of a variety of drawing materials and techniques.
- Demonstrate an ability to articulate a qualitative evaluation of one's own and others' work.
- Demonstrate hand-eye coordination.
- Develop an awareness of the interaction of seeing, imagining, and drawing.
- Use the basic elements of the visual arts (line, value, shape, texture, modeling, pattern, composition) to arrive at an illusion of space, image and form.

ART115 - Introduction to 2D Design

- Appreciate and understand the role of design in the contemporary world.
- Complete the creative problem-solving process from the preliminary planning state and exploration through revisions to the final product.
- Comprehend and apply to specific assignments the visual elements of line, shape, value, color, texture, space, time and motion, and the design principles of balance, rhythm, dominance, contrast, variation and unity.
- Demonstrate awareness of structure in design, and employ design theory in relation to practical applications.
- Learn to skillfully use traditional and contemporary design media.

ART123 - Introduction to Painting

- Complete the creative problem-solving process from planning and discovery to implementation and evaluation.
- Comprehend and apply to specific assignments the visual elements of line, shape, light and shadow, color, texture, space and motion, the design principles of balance, rhythm, dominance, contrast, variation and unity.
- Demonstrate an understanding of painting materials, procedures and terminology.
- Demonstrate an understanding of the painting process from thumbnail sketches and canvas preparation to the completion of a painting.

ART196 - Sustainable Art and Design

- Evaluate their ethical choices in terms of the products they purchase and use everyday.
- Exhibit improved communication skills through the process of giving a presentation and writing a paper on an artist or designer of their choice.
- Explain how one's choices of works of art influences nature, one's community, and culture.
- Identify key artists and designers who use sustainability practices or who have a sustainability message, both past and present.
- Identify, articulate, and evaluate the ethical perspectives of others and themselves regarding sustainability.
- Interpret a work of sustainable art or design in terms of its effectiveness in contributing to our sustainable world, as well as in terms of subject matter, medium, form and content.

ART213 - Intermediate Drawing

- Demonstrate an ability to focus on the "process" of drawing through the various developmental states of observation, analysis, construction, reorganization and transformation.
- Demonstrate an ability to integrate the dynamic nature of the picture plane with the representational aspects of drawing.
- Demonstrate an increased familiarity with the language of art, the basic vocabulary of drawing: line, shape, value, color, form and space; to organize these elements and their relationships.
- Develop skills in drawing as a descriptive language for greater personal expression.
- Experience drawing as a way of "seeing" involving all the faculties of the mind: perception (observation, sensation), intellect (analysis, organization, synthesis), intuition and emotion.

ART214 - Life Drawing

- Apply the visual elements of line, shape, volume, mass, value, color and space, and the design elements of balance, proportion, rhythm, movement and dominance to the drawing process.
- Demonstrate a knowledge of the structural anatomy of the human figure.
- Develop proficiency in the use of a variety of drawing materials and techniques.
- Draw the human figure expressively.
- Draw the human figure with some accuracy.

ART223 - Intermediate Painting

- Acquire a working knowledge of recent developments in the pictorial structure of painting.
- Begin to develop original and personal concepts and techniques.

- Demonstrate an understanding of the painting technical process.
- Develop language skills in critical evaluation of paintings.
- Perceive and paint shape, edges, color relationships and space with increased sensitivity and personal confidence.
- Understand the dynamic organization of pattern, two and three dimensional space and rhythmic demands of the flat picture plane.

Asian Studies

CLO

ASAN100 - Asian Perspectives

- Analyze and describe contemporary issues and perspectives of Asia.
- Contrast and compare current trends of change in Asia and their relevance for the region and the world in the 21st century.
- Discuss the geography of Asia and interrelationships with the rest of the world.
- Express in writing or speaking, components of traditional and contemporary Asian political, social, economic and cultural patterns and institutions.
- List and describe Asian cultural traditions, lifestyles, aesthetic expressions and their contemporary relevance.

ASAN201 - Introduction to East Asia

- Describe basic family structures within East Asian societies and be able to describe the differences and similarities in family structure across cultures.
- Describe geographical, demographic, political, and cultural structures of various Asian societies.
- Describe the state of international relations in contemporary East Asia and relate that to current events.
- Identify the basic precepts of various East Asian religions and be able to make comparisons regarding the social impact of those religions in different times and contexts.
- Make informed comparisons between East Asian societies in terms of modern cultural, political, and economic developments.
- Relate global, regional, and local events and issues to regional and local developments in various East Asian societies.

ASAN202 - Intro to South/Southeast Asia

- Describe basic family structures within East Asian societies and be able to describe the differences and similarities in family structure across cultures.
- Describe geographical, demographic, political, and cultural structures of various Asian societies.
- Describe the state of international relations in contemporary East Asia and relate that to current events.
- Identify the basic precepts of various East Asian religions and be able to make comparisons regarding the social impact of those religions in different times and contexts.
- Make informed comparisons between East Asian societies in terms of modern cultural, political, and economic developments.
- Relate global, regional, and local events and issues to regional and local developments in various East Asian societies.

ASAN241 - Civilizations of Asia I

- Construct a written argument on a historical topic, including presentation of the main points of the argument, and an organized structure that analyzes evidence in order to discover whether the main point is supported, and use of proper style and citation of evidence.
- Demonstrate the ability to use cause and effect reasoning to analyze Asian history.
- Frame and investigate basic questions of historical causality and change, using primary and secondary sources and basic research and analysis techniques.
- Identify and discuss the primary cultures and actors in Asian history between 1500 CE and the present at a level of knowledge appropriate for second year history students.
- Interpret the meaning of events within the context of the history and interaction of Asian states and relate them to contemporary realities. differentiate and compare the historical processes of the various states of Asia both individually and as an Asian unit, and pose relevant questions about the place of Asia in the world context of history.
- Review and assess some of the major historical issues current in the study of Asian history.

ASAN242 - Asian Civilizations II

- Construct a written argument on a historical topic, including presentation of the main points of the argument, and an organized structure that analyzes evidence in order to discover whether the main point is supported, and use of proper style and citation of evidence.

- Differentiate and compare the historical processes of the various states of Asia both individually and as an Asian unit, and pose relevant questions about the place of Asia in the world context of history.
- Frame and investigate basic questions of historical causality and change, using primary and secondary sources and basic research and analysis techniques.
- Identify and discuss the primary cultures and actors in Asian history between 1500 CE and the present at a level of knowledge appropriate for second year history students.
- Interpret the meaning of events within the context of the history and interaction of Asian states and relate them to contemporary realities.
- Review and assess some of the major historical issues current in the study of Asian history

ASAN250 - Asian Politics Since 1900

- Describe major political, economic, and social processes since 1900 of ten Asian countries.
- Describe the political and economic policies that these countries used to develop their societies.
- Describe the political structures and processes that produced these policies.

ASAN296C - Asian Popular Culture

- Analyze what popular culture products can tell us about the values, goals, political and social views and economic status of the target market at which they are aimed.
- Apply communication theories to popular culture products by identifying the elements of the product and analyzing the way it communicates to its target and ancillary markets.
- Describe the characteristics of Asian popular culture fans and market structures.
- Describe theories of communication which apply to popular media and culture studies.
- Identify target markets and market segments for which specific popular culture products are intended.

Communication

CLO

No CLOs

History

CLO

HIST151 - World History to 1500

- Demonstrate an ability to compare and contrast historical experiences across cultures and time.
- Demonstrate the ability to analyze and explain cause and effect relationships in history.
- Demonstrate their understanding of the historical roots of current events.
- Describe and define major historical events, ideas, places, people and other items of historical import.
- Identify and analyze the interplay between historical experiences and the environment, including how societal developments were influenced by natural environments and cases where human activities negatively impacted their surrounding environments.
- Summarize key ideas in history including major world philosophies, religions, and political theories and systems.

HIST152 - World History since 1500

- Demonstrate an ability to compare and contrast historical experiences across cultures and time.
- Demonstrate the ability to analyze and explain cause and effect relationships in history.
- Demonstrate their understanding of the historical roots of current events.
- Describe and define major historical events, ideas, places, people and other items of historical import.
- Identify and analyze the interplay between historical experiences and the environment, including how societal developments were influenced by natural environments and cases where human activities negatively impacted their surrounding environments.
- Summarize key ideas in history including major world philosophies, religions, and political theories and systems.

HIST231 - Modern European Civilization I

- Communicate in written form to present clearly argued and supported analysis.
- Compare and contrast diverse societal responses to common human issues.
- Demonstrate ability to analyze and integrate primary source materials into a more developed historical understanding.

- Demonstrate ability to assess and evaluate historical material on the Internet.
- Demonstrate understanding of the experiences and effects of regional and global transformations in political, social, economic and technological systems.
- Describe and compare unique developments and contributions of diverse European cultures/societies.
- Identify and comprehend the historical roots of current issues and controversies.
- Identify patterns in cause and effect relationships and human experiences, and relate this knowledge to current events and issues.
- Synthesize complex material presented in written and verbal format.

HIST232 - Modern European Civilization II

- Communicate in written form to present clearly argued and supported analysis.
- Compare and contrast diverse societal responses to common human issues.
- Demonstrate ability to analyze and integrate primary source materials into a more developed historical understanding.
- Demonstrate assessment and evaluation of historical material on the Internet.
- Demonstrate understanding of the experiences and effects of regional and global transformations in political, social, economic and technological systems.
- Describe and compare unique developments and contributions of diverse European cultures/societies.
- Identify and comprehend the historical roots of current issues and controversies.
- Identify patterns in cause and effect relationships and human experiences, and study the relationship of this knowledge to current events and issues.
- Synthesize complex material presented in written and verbal format.

HIST241 - Civilizations of Asia I

- Demonstrate an understanding of historical foundation and its role in the current movement of change in Asia and its global impact on the rest of the world.
- Demonstrate the ability to synchronically and diachronically (cause and effect) analyze historical and current issues of Asia.
- Describe and explain major historical events, ideas, places, people, and its impact and transformation upon history.
- Express an ability to compare and contrast historical events that affect and change traditional cultures.
- Summarize key ideas in history that influenced and shaped a culture, such as major philosophies, religions, political theories and government systems.

HIST242 - Civilizations of Asia II

- Demonstrate an understanding of historical foundation and its role in the current movement of change in Asia and its global impact on the rest of the world.
- Demonstrate the ability to synchronically and diachronically (cause and effect) analyze historical and current issues of Asia.
- Describe and explain major historical events, ideas, places, people, and its impact and transformation upon history.
- Express an ability to compare and contrast historical events that affect and change traditional cultures.
- Summarize key ideas in history that influenced and shaped a culture, such as major philosophies, religions, political theories and government systems.

HIST246 - The Vietnam War

- Demonstrate a knowledge of the historical impact of the Vietnam War.
- Demonstrate an ability to analyze and explain cause and effect relationships in the Vietnam War.
- Demonstrate an understanding of the historical causes of current events.
- Demonstrate the ability to compare and contrast the historical experiences of the participants in the War.
- Describe significant people involved in the War.
- Summarize key events that occurred during the War.

HIST250 - World History & Film

- Create and sustain a critical written argument about the relationship of a filmic artifact to history and to its own time.
- Demonstrate an ability to compare and contrast historical experiences across cultures and time.
- Demonstrate critical thinking skills including historical reasoning skills, precision in expressing ideas, accuracy, breadth and depth in understanding ideas, and fairness in expressing new thoughts.

- Demonstrate recognition of, and ability to think critically about, the contrast between history and historiography (historical interpretation).
- Demonstrate understanding of the historical roots of current events.
- Describe the way in which key ideas and events in history as portrayed in film and literature are metaphors for contemporary problems and questions.
- Describe the ways in which history is used as a way to understand contemporary society.

HIST281 - Intro to American History I

- Apply historiographical developments and theories to analyses of American history.
- Demonstrate an understanding of the historical roots of current events.
- Describe and define major historical events, ideas, places, people and other items related to American history.
- Describe causes and consequences of various social, religious, political, economic, scientific, and technological developments in American history.
- Describe regional differences in the development of the American colonies and states.
- Describe the significance of race, class and ethnicity in shaping historical experiences.

HIST282 - Intro to American History II

- Apply historiographical developments and theories to analyses of U.S. history.
- Demonstrate an understanding of the historical roots of current events.
- Describe and define major historical events, ideas, places, people and other items related to U.S. history.
- Describe causes and consequences of various social, religious, political, economic, scientific, and technological developments in U.S. history.
- Describe regional differences in the history of the United States.
- Describe the significance of race, class and ethnicity in shaping historical experiences.

HIST284 - History of Hawaiian Islands

- Analyze past events in Hawaiian history by using multiple sources, understanding historical context, and evaluating impact over time.
- Analyze the role and importance of individuals in Hawaiian History.
- Describe the social, religious, political, and economic changes in Hawai'i from the late 18th century through the 20th century.
- Examine the values and cultural traditions of Native Hawaiians in relation to one's own values and culture.
- Trace the development of Hawai'i's multi-cultural society and explain its enduring influences in our modern times.

HIST288 - Survey of Pacific Islands Hist

- Demonstrate an understanding of how key historical processes affect the present state of the Pacific Islands region from a multi-cultural perspective.
- Demonstrate the intersection of Asian and Pacific Island cultures with Native Hawaiian culture regarding a number of key historical processes.
- Discuss key historical processes using a multi-disciplinary approach that comes from the cultural perspectives, values and world views rooted in the experience of peoples indigenous to Hawai'i, the Pacific, and Asia.
- Explain historical change and continuity in the Pacific Islands by emphasizing key processes (i.e. migrations, cross-cultural encounters and exchange, religion, imperialism, nationalism, decolonization, global war etc.)

HIST296E - World Environmental History

- Analyze how historical experiences and societal developments have been influenced by the natural environment.
- Communicate in written form to present clearly argued and supported analyses.
- Compare and contrast regional examples of human societies and their usage and impact on the natural world.
- Demonstrate an ability to research, assess and evaluate historical resources.
- Explain how historical events and developments impacted the environment, such as the agricultural revolution, urbanization, industrialization, and colonization.
- Understand and engage in historical and contemporary debates related to humans' relationships with the environment.

HIST296M - Intro to Asian American

- Analyze the formation and development of Asian communities in the Americas and Hawai'i.
- Demonstrate an ability to analyze and explain cause/effect relationships.

- Demonstrate an understanding of the historical roots of current events.
- Describe global processes and events (e.g. agricultural advancements, imperialism, world wars, ecological and environmental changes) and evaluate their impact on Asian migrations.
- Develop original written and oral arguments based on historical research and analysis.
- Evaluate the historiography of the field of Asian American history.

Music

CLO

MUS106 - Intro to Music Literature

- Discuss musical works using musical terms and expressions.
- Identify aurally major musical elements, forms and styles covered in lectures and texts.
- Know relevant facts and figures about musical works, composers, and poetry as relevant in understanding musical styles.

MUS107 - Music in World Cultures

- Compare and contrast one's own music within the broader context of other music traditions.
- Demonstrate a broader understanding of the role of music in different cultures.
- Describe and analyze the validity of other music traditions.
- Describe the distinctive aural features and music aesthetics of a music culture.
- Describe the historical, religious, social and political aspects of a society that contribute to the development of a music culture.

MUS114 - College Chorus

- Give examples of basic vocal technique through solo and ensemble vocal performances.
- Identify and solve problems of and experience performance in a variety of physical settings.
- Identify the importance of ensemble singing in terms of musicianship and performance practice.
- Identify the origin and musical elements of the repertoire presented.
- Identify, list and demonstrate the attributes of performance etiquette.

MUS121B - Voice 1

- Identify and distinguish between different basic notational concepts.
- Identify, define and distinguish between the differences in tone production, the breathing apparatus, interpretation and the qualities of an artist.
- Identify, demonstrate and define a wide variety of singing styles.
- Sing a series of vocal solos with close attention to techniques demonstrated in class.

MUS121D - Guitar 1

- Apply the basic principles in accompanying and arranging a composition.
- Demonstrate knowledge of tone production, scales, arpeggios, harmonic progressions and music forms.
- Perform elementary solo and ensemble literature.
- Recognize and analyze a variety of techniques and guitar styles.
- Recognize and demonstrate an understanding of basic music notation concepts.

MUS121Z - Ukulele 1

- Clap, write, and count aloud various rhythmic progressions.
- Demonstrate knowledge of the 'ukulele in Hawaiian music culture and history.
- Identify and perform basic strumming patterns and techniques.
- Identify and perform standard Hawaiian repertoire written specifically for the 'ukulele.
- Locate and name the notes on the fretboard.
- Play major and minor scales and basic chord progressions.

- Read and perform from three types of notations for the 'ukulele (modern staff notation, chord notation, and tablature).
- Select, modify, and perform music of other genres on the 'ukulele.
- Tune the instrument properly using the tuning-by-ear method.

MUS122D - Guitar 2

- Demonstrate an understanding of more advanced notation and style interpretation.
- Demonstrate basic playing skills (major and minor scales, arpeggios, etudes, tremolos, and other exercises on an intermediate level).
- Demonstrate the ability to play accompaniments and solo works.
- Perform solo and ensemble literature in public recitals/concerts.

MUS122Z - Ukulele 2

- Examine the importance of the 'ukulele in Hawaiian music, culture, and island history.
- Identify and demonstrate various rhythmic patterns.
- Identify and perform picking and strumming techniques.
- Identify and perform standard Hawaiian repertoire specifically written for the 'ukulele.
- Identify and play intermediate chord progressions.
- Identify, harmonize, and perform chord progressions from major and/or minor scales.
- Intelligently discern/critique various genres, techniques, and 'ukulele playing styles that demonstrate the function and role of the 'ukulele in various music situations.
- Make an instrumental chord-solo style arrangement: arrange and write out a selected music composition in standard notation, chord box, and tablature.
- Read, perform, and write from three forms of notation for 'ukulele in all fretboard positions (popular chord notation, standard notation, and tablature).

MUS253 - Elementary Music in Action

- Apply the basic principles of music theory to create song arrangements and compose a music composition.
- Demonstrate an understanding of music structure and performance.
- Explain and demonstrate basic terminology and concepts from Western music theory and notation.

Philosophy

CLO

PHIL100 - Intro Philosophy

- Clarify their values and philosophical perspectives, and the practice of ethical deliberation through writing.
- Understand the basic fields of philosophy and the philosophy of major philosophical figures.
- Understand the relevance of philosophical discussion for one's daily and major life decisions.

PHIL101 - Morals and Society

- Apply the methods of various philosophical ethical theories and their own moral theory to deliberation on a variety of moral dilemmas and ethical controversies.
- Articulate their own personal moral theory and the reasoning they used to develop and support that theory.
- Define and describe the elements of major ethical theories.
- Demonstrate an understanding of the diversity of moral reasoning through the above applications, assessments and analyses as well as through respectful participation in class discussions and deliberations.
- Demonstrate knowledge of the reasoning used to support these theories as well as the flaws inherent in each theory.

PHIL102 - Intro to Phil: Asian Tradition

- Articulate a unifying theme in Asian Philosophy, that is, "man's false sense of self leads to suffering and bondage."
- Critically examine some modern attempts to integrate Asian Philosophy with Western philosophical/psychological concerns and with science.
- Describe (and perhaps to experience in limited form, optional) four traditional paths of liberation.

- Explain the causes of this bondage.
- Recognize traditional themes, problems and suggested solutions in three major Asian traditions: Hinduism, Buddhism, Chinese Philosophy (Confucianism, Taoism). B) State how some of these themes are synthesized in Japanese Philosophy and experience.
- Show how some of the themes of Asian Philosophy would affect ethical and social issues, especially the problem of the individual and the community.

PHIL109 - Reasoning & Critical Thinking

- Assess the strengths and weaknesses of arguments, recognizing the weight of evidence in reasoning about what is factually true or well supported by evidence.
- Demonstrate an understanding of the philosophical, epistemological, and historical foundations of critical thinking by examination and integration with a capstone project.
- Demonstrate gathering of information relevant to assessing factual claims and generalizations, and communicate the essential logical elements in scientific reasoning.
- Examine and present evidence for conclusions.
- Identify and analyze fallacious reasoning and "truthiness".
- Pay careful attention to detail by identifying the meaning of statements, and the structure (premises and conclusions) and different types (deductive and inductive) of logical argument.

PHIL110 - Intro to Deductive Logic

- Demonstrate an ability to use symbolic techniques and formal rules in the context of problem solving by applying symbolic analysis techniques (translating, formal proof techniques, truth tables, argument pattern recognition) both to informal (fallacies) and formal reasoning.
- Demonstrate an understanding of the beauty and power of symbolic systems, as well as their clarity and precision, through use of techniques of logical analysis, with the intention of enhancing the student's reasoning skills and appreciation of abstraction, pattern recognition, and formal systems of analysis.
- Demonstrate an understanding of the concept of logical proof as a chain of inferences by producing symbolic chains of inferences of their own.
- Demonstrate skill in hypothetical reasoning, and gain experience in the presentation and critical evaluation of evidence.

PHIL111 - Intro to Inductive Logic

- Demonstrate a working familiarity with basic concepts in logic, inductive inference, probability, and decision theory by successfully learning and applying key definitions with a particular focus on creating models for learning from experience.
- Demonstrate an ability to set up simple probability models, including diagrams and basic decision tables .
- Demonstrate an understanding through examination of some of the shortcomings and strengths of employing quantification models in making knowledge claims.
- Demonstrate the capacity to engage in and evaluate "risky" inferences, with the ability to critically assess the implications of modeling behavior as quantifiable, rational action.

PHIL120 - HCC-E-Science, Tech, & Values

- Explain why ethics plays an important role in science and technology.
- Recognize the difference between matters of fact and matters of value, while understanding the important ways in which facts influence value assessments and how value judgments shape our vision of "the facts".
- Understand at a basic level the scientific method, its modern results (astronomy, evolution, biotechnology), and its historical development.
- Understand ethical methodologies and competency in ethical deliberation on rationally applying these methodologies to contemporary ethical questions related to scientific progress and technological power.
- Understand the role of cognitive and moral values in world views, by discussing and writing about the ethical implications of modern scientific and technological results.

PHIL204 - Philosophy and Film

- Demonstrate an understanding of movies as philosophical enterprises and the possibilities of critical engagement with, rather than passive acceptance of, the philosophical viewpoints depicted or assumed.
- Develop and articulate his or her own reasoned arguments in response to the above.
- Identify and describe the key philosophical themes, positions and ideas presented in movies.
- Utilize the methods of philosophical inquiry: Critical Thinking, Critical Reading, Critical Writing and Discourse to analysis and evaluate these themes, positions and ideas.

PHIL211 - Ancient Philosophy

- Demonstrate the ability to write clear, well-organized, well-reasoned, communicative philosophical arguments and analyses.
- Develop and articulate his or her own philosophical arguments.

- Employ the methods of philosophical inquiry: Critical Thinking, Critical Reading, Critical Writing and various epistemological criteria to test belief.
- Identify and articulate the ideas and reasoning of some of the major figures in the Western philosophical tradition and the historical context in which these ideas were developed and accepted.
- Utilize the above methods to evaluate philosophical arguments and to examine their own beliefs.

PHIL213 - Modern Philosophy

- Demonstrate the ability to write clear, well-organized, well-reasoned, communicative philosophical arguments and analyses.
- Develop and articulate his or her own philosophical arguments.
- Employ the methods of philosophical inquiry: Critical Thinking, Critical Reading, Critical Writing and various epistemological criteria to test belief.
- Identify and articulate the ideas and reasoning of some of the major figures in the Western philosophical tradition and the historical context in which these ideas were developed and accepted, as well as some postmodern critiques of those ideas and that reasoning.
- Utilize the above methods to evaluate philosophical arguments and to examine their own beliefs.

PHIL255 - Cosmology

- Demonstrate an understanding of historical and philosophical perspectives on the human relationship to the Universe.
- Demonstrate an understanding of the basic issues of philosophy of science, including the central philosophical problem of cosmology -- the problem of understanding the world, and our knowledge, as part of the world.
- Demonstrate an understanding of the different cosmologies of Western culture, i.e., the Aristotelian-Ptolemaic, Copernican-Newtonian, 20th century.
- Demonstrate an understanding of the scientific method by surveying its modern results and studying its historical development.

Religion

CLO

REL150 - Intro to World Major Religion

- Accurately identify important names, dates, and events in the world's major religions.
- Analyze the contemporary status of each of the world's major religions within a global perspective.
- Critically explain contemporary challenges in understanding the historical origins of the world's major religions.
- Speak and write objectively about Religion as an academic topic.
- Succinctly and objectively explain the major beliefs and practices of the world's major religions.

REL151 - HCC-E-Religion & Meaning Exist

- Analyze universal questions and problems in application to specific religious tradition responses.
- Apply rational thinking to beliefs driven by emotional relevance.
- Demonstrate an ability to convey "subjective" ideas, views and opinions without "personalizing" the material by referencing one's own experiences.
- Identify differences between religious and secular (e.g., philosophical) values and ethical traditions.
- Through written interpretive analysis, extrapolate religious stories (myths) into explanations of religious teachings and meanings.
- Write on a sufficiently abstract level so as to be able to integrate outside material (e.g., other classes, cultural) into the course content.

REL201 - Understand the New Testament

- Be familiar with the different approaches, major problems, various interpretations, and present applications of the New Testament and its teachings in today's world.
- Know the major theological themes found in selected books of the Christian Scriptures.
- Understand and to be able to articulate the history, composition, intent, and central teachings of the Christian Scripture
- Understand the literary forms, principles of interpretation, and technical terminology used in the study of Scripture.
- Understand the political, religious, and historical settings in which the Christian Scripture were formed, developed, finalized, and lived.

REL203 - Understanding Chinese Religion

- Acquire direct experiences of various religious, philosophical, or 'popular' answers to the question of the meaning of existence where possible. Secondary means of acquiring experiences will also be offered, such as films, speakers, lectures, and reading materials.

- Demonstrate an understanding of selected points and emphasis which religion, philosophy and culture offer to the question of the meaning and existence.
- Demonstrate his ability to discuss analytically the various proposals or solutions offered for those problems by the various religions and cultures under study.
- Demonstrate his ability to recognize and identify perennial problems concerning the inter-relationships between the individual and society.
- Demonstrate his or her ability to recognize and to identify important terms as used and described by: Theology, Philosophy, Sociology, Anthropology, Psychology.
- Demonstrate his or her ability to understand the major Chinese religions in terms of: Theological and Philosophical concepts, Tenets and Doctrines, Founders and its movements, Disciples and its subsequent expansion, Historical and culture milieu, Geographical location, Linguistic problems, Symbols and its meanings.
- Develop his or her own philosophy and the meaning of existence and through the process of understanding eastern and western religion and to change or clarify his or her beliefs and values.
- Identify terms and relate them to its founder and historical milieu.
- Identify terms and relate them to its geographical location.
- Identify terms and relate them to the religion or philosophical concepts.
- Share in the teaching/learning process by offering opinions, information, and beliefs in class interaction, and by evaluating and suggesting learning activities.
- Show an awareness that there is no single "right" answer to the question, and that he must choose alternatives which seem to fulfill the needs of one moment and place, but which may change in the next moment and place and for the next person.

REL204 - Understand Japanese Religion

- Confront intellectually the central questions of human existence raised by the Japanese religions.
- Demonstrate knowledge of the basic components of Japanese religious tradition, such as its concept of the divine, moral code, value system, rituals, and artistic expression.
- Develop an appreciative understanding of Japanese religions.
- Explore the origins of Japanese religion and how it operates in human society.
- Express ideas and opinions clearly in writing.
- Learn the basic facts about the beginnings, history, teachings, practices, and present-day status of Japanese religions.
- Recognize the essential characteristics which distinguish the religious traditions of Japan.

REL207 - Understanding Buddhism

- Each student will demonstrate his ability to understand major Buddhism in terms of its: A. Theological and Philosophical concepts; B. Tenets and Doctrines; C. Founder and Its Movements; D. Disciples and Its Subsequent Expansion; E. Historical and Culture Milieu; F. Geographical location; G. Its linguistic Problems; H. It Symbols and Its Meanings.
- The students will demonstrate their ability to identify different "Terms" as used and ascribed by the major Buddhist sects. A. Identify "terms" that correspond to its religious or philosophical concepts; B. Identify "terms" that correspond to its founder and historical milieu; C. Identify "terms" that correspond it to its geographical location.
- The students will demonstrate their ability to recognize and identify perennial problems concerning the interrelationships between the individual and society.
- The students will demonstrate their ability to recognize and to identify important "terms" as used and described by: A. Theology; B. Philosophy; C. Sociology; D. Psychology

REL210 - Understanding Christianity

- Accurately identify important names, dates, and events in the history of Christianity.
- Compare and contrast contemporary liberal and conservative Christian responses to Church/State, ethical, and scientific issues.
- Critically explain contemporary scholarly challenges in understanding the origins of the Christian religion.
- Identify patterns of cause and effect to explain the changing and evolving teachings of Christianity.
- Identify similarities and especially differences within the major branches of Christianity.

Speech

CLO

SP151 - Personal & Public Speech

- Demonstrate an understanding of effective interpersonal and small group communication.

- Demonstrate an understanding of the basic principles and elements of human communication.
- Demonstrate an understanding of the principles of effective verbal and nonverbal communication needed for various public presentations.
- Demonstrate the effective use of visual aids.
- Develop and support a persuasive argument.
- Research and organize supporting material for various types of public presentations.

SP170 - Nonverbal Communication

- Analyze the effectiveness of nonverbal communication skills.
- Demonstrate an understanding of the research on nonverbal communication in various settings.
- Describe and explain the different types of quantitative methods used in conducting nonverbal communication research.
- Identify the basic codes of nonverbal communication.

SP181 - Interpersonal Communication

- Demonstrate an understanding of how verbal and nonverbal behaviors affect interpersonal communication.
- Demonstrate an understanding of the quantitative and qualitative social science research techniques used to study interpersonal communication.
- Explain and demonstrate conflict management and assertive communication strategies.
- Explain how self-concept, perception, culture, and gender can influence interpersonal communication.
- Explain how the behavior and the interactions of people can be described by interpersonal communication concepts and theories.
- Use models and theories to describe how humans interact during the various stages of relationships.

SP251 - Principles Eff Public Spkg

- Demonstrate the effective use of visual aids.
- Develop and support a persuasive argument.
- Listen critically and provide constructive feedback to other public speakers.
- Research and organize supporting material for various types of public presentations.
- Understand relevant concepts, theories, and ethical implications of effective public communication.
- Understand the skills necessary for confident and effective physical and vocal delivery.

SP253 - Argumentation and Debate

- Construct and effectively organize logical and powerful arguments with authoritative evidence to support or oppose a proposition.
- Demonstrate an increased self-awareness of their own critical thinking and reasoning processes including their biases and inferences.
- Differentiate between propositions of fact, value, and policy.
- Employ effective listening techniques in order to respond effectively and appropriately to arguments.
- Engage in ethical oral argumentation and debate for the purpose of influencing decision makers.
- Use powerful and appropriate physical and vocal delivery techniques during each phase of a debate.

SP290 - Interviewing

- Demonstrate ability to produce an employment cover letter and resume, and complete an employment application.
- Demonstrate an understanding of laws and ethics related to interviewing.
- Demonstrate an understanding of the different types of interviews and probing techniques.
- Demonstrate an understanding of the roles and processes involved in interviewing.
- Demonstrate methods of preparing for interviews.
- Evaluate the performance of interviewers and interviewees.

Theatre

CLO

THEA101 - Intro to Drama and Theatre

- Become familiar with the different approaches, major problems, and various interpretations of selected plays.
- Identify major plots and themes in selected plays.
- Understand and be able to articulate the different kinds of drama and literature.
- Understand the forms and structures of drama and theatre as well as the technical terminology associated with it.
- Understand the historical and intellectual influences and effects of the various types of drama and theatre.

Communication and Services**Administration of Justice****CLO****AJ101 - Intro to Admin of Justice**

- Appreciate the basic purposes of policing in democratic societies.
- Articulate a basic understanding of the processes of American criminal justice, including the stages of criminal case development.
- Demonstrate a basic understanding of the nature and guarantees of due process as well as legal aspects of policing, including the law of arrest, and search and seizure.
- Demonstrate a basic understanding of the nature of the rule of law, and describe its purpose in Western democratic societies.
- Describe the five goals of contemporary criminal sentencing as well as the different sentencing practices that have been linked to each goal; and.
- Discuss the major characteristics and purposes of today's prisons and jails.
- Express a developing awareness and deeper appreciation for the human aspects and complexities of police work.
- Identify and describe the adjudication process, including the role of the courts, the typical stages in a criminal trial as well as the nature and purpose of the criminal trial.

AJ103 - Criminal Investigation

- Cite important legal aspects applicable to arrest, search and seizure procedures.
- Cite important legal aspects applicable to crime scene evidence collection, preservation and supplemental assistance.
- Compare and contrast various types of criminal investigations.
- Correlate the scientific and human methodologies of criminal investigation.
- Discuss issues related to testifying in court.
- Identify the major steps involved in organizing the investigation of a crime (case preparation and report writing).
- Understand and identify the elements of a crime (law).

AJ137 - Patrol Procedures

- Analyze a patrol problem.
- Assess manpower expenditures of a department.
- Define patrol methods such as "team policing," "basic car plan," and "unit beat policing."
- Describe the various duties of uniformed police officers.
- Differentiate the role of the uniformed officer in each type of patrol unit.
- Discuss the Kansas City Experiment and its findings.

AJ138 - Criminal Just Repts & Comm

- Demonstrate the ability to write quality criminal justice reports utilizing the four C's of report writing.
- Gather and record pertinent information through observations and interviews. Understand and apply viable communication techniques.
- Organize information into an understandable and chronological format.
- Understand and apply the four steps of proofreading.
- Understand the importance of ethics in criminal justice report writing.

AJ139 - Computer App in Crim Justice

- Apply computer knowledge to hands-on software simulations in the computer lab.
- Describe computer uses in law enforcement.
- Explain the basic concepts of computer theory and operation.

AJ150 - Correctional Process

- Appreciate the complexities and challenges of correctional staff members within the ideal framework of their four main goals.
- Articulate an understanding of the most controversial debates in contemporary corrections that include overcrowding, security, privatization, technology, and accreditation.
- Define diversion, probation, intermediate sanctions, and parole and understand their respective functions in the criminal justice system.
- Define the term corrections, and explain the American Correctional Association's (ACA) five fundamental purposes of corrections.
- Describe sentencing philosophy and identify the central purposes of criminal punishment.
- Describe the nine eras of prison development within the context of its societal environment.
- Explain the importance of professionalism in the corrections field, and describe the characteristics of a true professional.
- List and explain the sentencing options in general use today.
- Understand the importance of the inmate subculture and the theoretical explanations that attempt to explain its development.

AJ180 - Intro to Homeland Security

- Define terrorism from a political, legal, and military perspective.
- Describe the ideological motivations for terrorism in regard to religious extremism, ethnic cleansing, narco-terrorism, hate crimes, and genocide.
- Describe various weapons of mass destruction, improvised explosive devices, suicide bombers, and cyber warfare used in terrorist attacks.
- Discuss the legal perspectives of and responses to terrorism.
- Examine the role of the Internet and mass media in regard to terrorism.
- Examine the use of the Internet to gather intelligence on terrorist targets, recruit and radicalize terrorist members, and generate funding to execute terrorist attacks.
- Identify both domestic and international terrorist groups.

AJ200 - Principles of HI Justice System

- Articulate a basic understanding of the law governing vehicle stops, searches and inventories including the scope of such procedures, and the role of reasonable suspicion.
- Define the exclusionary rule and describe its purpose, procedures for invoking the rule, and certain major exceptions to the rule.
- Define the law of arrest, the role of probable cause, the necessity of a warrant, permissible procedures before and following an arrest, and the reasonable use of force.
- Demonstrate a basic understanding of the concepts of probable cause and reasonable suspicion and its effect on the legality of arrests and admissibility of evidence.
- Demonstrate a basic understanding of the impact that *Miranda v. Arizona* has on the admissibility of confessions, the concepts of custodial interrogation, and when the *Miranda* warnings are and are not required.
- Demonstrate a basic understanding of the law of stop and frisk and stationhouse detention, the role of reasonable suspicion, its distinction from an arrest, and its application in various contexts.
- Describe the fundamental concepts of the law of search and seizure of things, the requirement of probable cause and necessity of a warrant, and exceptions to the warrant requirement.
- List and describe the three procedures used in pretrial identification lineups, showups and photographic identification, and the four constitutional rights invoked during these procedures.

AJ208 - Criminology

- Describe the criminal/victim relationship.
- Describe the impact of crime on society.
- Describe the various biological, sociological, and psychological theories of criminality.

AJ210 - Juvenile Justice

- Apply juvenile case law to community and institutional settings.

- Define the patterns of effective juvenile crime prevention efforts.
- Differentiate key groups that consolidate information about juvenile crime.
- Explain the contributions of information and research to juvenile crime solutions in America.
- Explain the process for handling juvenile offenders in various correctional settings.
- Interpret local, state, and national juvenile crime data.

AJ220 - Constitutional Law

- Appreciate the tension that exists between national security and civil liberties in today's times.
- Articulate a basic understanding of the how various Supreme Court interpretations of the Commerce Clause as greatly affected the interaction between the federal and state governments.
- Comprehend the enormous and far-reaching effect the United States Supreme Court has on American jurisprudence whenever it renders decisions reflecting its interpretation of the various tenets of the Constitution.
- Demonstrate a basic understanding of the authority and jurisdiction of the Supreme Court and the tremendous power it possess through the process of judicial review and Certiorari.
- Demonstrate a basic understanding of the equal protection clause and its complex and three-tier interpretive model used by the Court in its interpretations of such issues as: what is equality, what constitutes forbidden discrimination, and the like.
- Describe the basic freedoms guaranteed by the First Amendment, including but not limited to, freedom of expression and religion and have an elemental understanding of the Supreme Court's efforts to balance these individual rights with the collective needs of society.
- Describe the organizational make up of the American court system and define such terms as: jurisdiction; appeal; standing; nonjusticiable; and the Ashwander rules.
- Explain the concepts of constitutionalism; federalism; separation of powers; and political question doctrine.
- Explain the various provisions of the constitutional amendments (i.e. the Fourth, Fifth, Sixth and Eighth) that influence the criminal justice system, including conducting constitutional searches and seizures, right against self-incrimination, right to counsel and a fair trial, and bail, fines and punishment.
- Understand from a historical perspective, the social and political context within which the framers crafted the U.S. Constitution.
- Understand the Court's use of the due process clause of the Fourteenth Amendment to selectively apply provisions of the Bill of Rights to the states.

AJ221 - Criminal Law

- Define criminal law and identify the purposes served by the criminal law.
- Define what a criminal defense is, the two types (factual and legal), and describe the difference between a justification and an excuse.
- Demonstrate a basic understanding of the concept of inchoate crimes (uncompleted crimes) which traditionally include (1) attempt, (2) solicitation, and (3) conspiracy.
- Demonstrate a basic understanding of the legal and social dimensions of personal crimes (or crimes against the person) as well property crimes.
- Describe and identify the three types of criminal homicide and to distinguish them from noncriminal homicide.
- Describe the elements of specific crimes selected from the Hawai'i Penal Code.
- Identify and describe the three fundamental aspects of criminal liability: (actus reus, mens rea, and causation).
- Identify and describe the various offenses against public order, administration of government, and public morality.

AJ224 - Rules of Evidence

- Articulate a fundamental understanding of the rules relating to the burden of the prosecution in proving guilt, and the procedures used in introducing evidence.
- Define the concept of documentary evidence and describe its attendant foundational requirements of authentication and best evidence rule.
- Define the evidentiary concepts of relevancy and materiality.
- Describe the concept of hearsay evidence, the hearsay rule and the major exceptions to the hearsay rule with its attendant requirements.
- Describe the historical development of the rules of evidence and explain the effect of that history on the rules finally adopted by the United States courts and legislative bodies.
- Identify and describe the concept of real evidence and its foundational requirements for admission into evidence.
- Identify and explain the underlying rationale for the various privileged communications.

AJ230 - Prin of Police Supervision

- Describe a supervisor's role in guiding a subordinate through phases of a police career.

- Describe the qualities a supervisor must possess.
- Explain the relationship between supervisor and subordinate.
- Recognize the critical nature of first-level supervision in a police organization.
- Recognize the key role of a line supervisor in an organization.

AJ233 - Police Org & Management

- Discuss several management theories and their principal authors.
- Explain the organization of police agencies.
- Explain the role of various divisions in overall police operations.

AJ234 - Police and Community Relations

- Define community and police agency.
- Define the key stages of the police agency's unique functions in Hawai'i.
- Describe the attributes of a successful police-community relations program.
- Discuss the development of relationships between the police agency and the community.
- Explain the community's response to various police actions and practices.

AJ235 - Ethics in Crim Justice System

- Appreciate the significance of metaphysics and moral psychology (free will and determinism, relativism, self-interest, moral motivation and its development) and its impact on and importance for crime, law, and justice.
- Describe the ethical issues involved in the various aspects of the criminal justice system.
- Describe the three primary categories of ethical inquiry (meta-, normative, and applied), as well as the domains of normative ethical inquiry (character, intentions, actions, and consequences).
- Explain the definitions and relationship between moral values, ethical judgments, justice, and law.
- Identify and describe the three basic frameworks of normative ethics: consequentialism; deontology; and virtue-based ethic.
- Understand the theoretical and foundations of ethics that constitute the basis of ethical thinking and the value of ethical inquiry.

AJ280 - Issues in Admin of Justice

- Collect data.
- Construct an effective questionnaire.
- Gather appropriate research materials on a selected topic.
- Write a properly annotated research paper based on data obtained by the class.

AJ283 - Substance Abuse in Society

- Describe the manufacture, production, and distribution of these drugs.
- Discuss law enforcement concerns regarding these categories of substances.
- Explain the effects of these drugs on society.
- Identify the following illegal drugs: Opiates; Stimulants; Depressants; Alcohol; Marijuana.

Communication Arts

CLO

CA100 - Survey of Graphic Styles

- Classify the basic concepts and vocabulary of graphic art by period and artist.
- Describe the development of electronic media.
- Describe the development of print media.
- Discuss the impact of major design theory on communication arts since the industrial revolution.
- Discuss the impact of political influences on communication arts since the industrial revolution.
- Discuss the influences of technology on graphic design and society.

- Discuss the influences of the work of contemporary visual designers.

CA101 - Power of Advertising

- Describe the development of electronic media.
- Describe the development of print media.
- Discuss media issues such as controls, concerns, and consequences.
- Discuss the influences of international communication and culture.
- Discuss the influences of the media shapers and manipulators.
- Explain the interaction of culture and mass communication.
- Recognize the basic concepts and vocabulary of culture and communication.

CA121 - Art and Media Preparation I

- Demonstrate a functional knowledge of basic operations of a graphics generating program (commands/ codes/menus/tools and procedures for their uses).
- Demonstrate appropriate scanner/program operations for line artwork and continuous tone copy.
- Demonstrate the ability to do basic 2-D animation: frame-by-frame and tweened animations and integration of sound.
- Demonstrate the ability to import/export various file formats.
- Identify and use basic hardware components.
- Identify basic graphic software uses and limitations.
- Understand graphics software in terms of: tints, fills and paint; manipulated type (rotated, circled, extended, etc.); tracing; drawing; template; photographic image editing; various forms of electronic art; image acquisition methods.

CA122 - Copy Preparation

- Identify fundamentals of type and its uses.
- Measure copy/text and demonstrate copyfitting.
- Select an appropriate word processing software and prepare text for exporting.
- Understand: x-height, mean-line, base-line, ascenders, descenders, and caps, lowercase, uppercase, small caps and ligatures; dingbats, bullets, rules, and symbols and their uses in publications. display (headline) type and body (text) type differences basic type styles and their uses. "weight" and "posture" of type. serif and sans serif type styles; letterspacing and kerning of type characters; wordspacing and the relation of em and en in paragraph spacing; linespacing and the measurement principles for leading.

CA123 - Color Theory and Issues

- Demonstrate the following skills safely and accurately in a non-patient care situation: cardiopulmonary resuscitation, basic patient history and physical examination, assessment and monitoring of vital signs, establish and maintain patent airway (basic and advanced), administer free-flow 100% oxygen safely, ventilate with bag-mask, correctly apply and use mechanical automatic heart/lung resuscitators, control hemorrhage, apply bandages, immobilize or splint fractures, dislocations | sprains, immobilize | extricate motor vehicle accident victims, perform light rescue and triage, perform emergency delivery of baby, and provide newborn care, initiate intervention with behavioral disorders, apply pneumatic anti-shock garment, correctly operate medical communication systems, operate emergency vehicle, perform 12-lead electrocardiogram, interpret 3-lead electrocardiogram, provide necessary pharmacological interventions, and perform intravenous cannulation.
- Describe the practical application of color in the field of graphic design.

CA125 - Beginning Graphic Design

- Demonstrate skill in writing technical specifications, project objectives and reports, and doing oral presentations.
- Demonstrate the ability to meet deadlines, organize time and maintain schedules.
- Demonstrate the ability to select appropriately from various technical alternatives to start to achieve effective design solutions.
- Perform on a beginning level, the various steps of the design process: investigate client needs; do marketing research, define the design problem, problem solve, develop an idea/concept, thumbnails, roughs, comps and presentation art.
- Recognize the principles of design to assigned projects using typography and/or images to communicate.
- Understand and use the vocabulary and tools for design, printing, and related fields.
- Understand the design process as related to the various formats to include the web as a medium.
- Understand the three basic types of design: Information Design; Editorial Design; and Promotional Design.

CA131 - Art and Media Preparation II

- Demonstrate a functional knowledge of basic video editing.

- Demonstrate a functional knowledge of color correction and color separation.
- Demonstrate a functional knowledge of compression techniques.
- Demonstrate a functional knowledge of exporting.
- Demonstrate a functional knowledge of image manipulation.
- Demonstrate a functional knowledge of spot, full color; duotone, tritone and quadtone for print.
- Understand and utilize various methods of image acquisition.
- Understand calibration.
- Understand color and color issues (for print and multimedia).
- Understand still and motion capture.

CA132 - Page Composition

- Demonstrate an understanding and the ability to color proof:.
- Demonstrate an understanding and the ability to preflight and package files for output.
- Demonstrate an understanding of appropriate usage of fonts for print as well as the web that includes postscript's screen and printer fonts true type, and open type fonts.
- Demonstrate and apply design and color theory vocabulary to compositions.
- Demonstrate and apply the appropriate techniques and rules of page design for: text alignment; element positioning; cropping graphics electronically; scaling; trapping.
- Demonstrate and apply the appropriate techniques to proof edit and make corrections/adjustment to respective files.
- Demonstrate the ability to "set-up: column grids; pagination; margins. gutters, leading headings, etc. according to job specifications/ticket.
- Demonstrate the ability to import: 1) text/copy from word processing. 2) scanned graphics/photos and 3) graphics from an existing file into a publication according to job specifications.
- Identify and understand composition as it applies to the various print and web formats.

CA134 - Digital Photography

- Assemble a portfolio that demonstrates an ability to use photographic materials.
- Know how both types of images are prepared for use, know how to prepare photographic images for use by a graphic designer; and know how to choose which process-chemical or electronic image-will best meet a client's needs.
- Relate photography to other image making processes used in graphic design so the student can better determine when to use traditional photo, electronic imaging, illustration, multimedia, or other image making processes as appropriate to client needs.
- Understand current photographic business practices, copyright and other laws that apply to the use of images for commercial purposes in the graphic design and commercial photography industries.
- Understand the history of commercial photography.

CA135 - Typographic Design

- Critique type selection and layout relative to message, client need and appropriate use of type and design.
- Demonstrate attention to detail, to quality organization, to problem solving and flexibility in use of both verbal and visual language.
- Demonstrate awareness of quality and skill in verbal and visual language by successfully designing solutions to assigned projects.
- Design typographic assignments with consideration of meaning, organization and quality.
- Exhibit improvement in electronic typesetting and other computer related tools, as well as skill with traditional hands-on media, useful in making sketches and preliminary planning.
- Recognize and use the typographic qualities of legibility and readability.
- Recognize the fundamental design and classification systems of typography, related to historical and contemporary qualities.
- Understand and follow the steps necessary for quality typographic output; measure text, do copyfitting, proofreading and mark-up, and correct copy, use appropriate OCR and word-processing and page layout software, prepare for output at service bureau.
- Understand and use type vocabulary the typographic lexicon, including computer application and hardware specific language.
- Understand the type style conventions and font limitations of the web.

CA142 - Page and Web Layout

- Demonstrate understanding of files and formats and the appropriate conversion and use.
- Demonstrate understanding of internet technologies, services and web design.

- Demonstrate understanding of maintenance and management of a print production workflow.
- Demonstrate understanding of storage.. transfer; and conversion of content and media assets for print and web.
- Demonstrate understanding of the Postscript page description language as applicable to print.
- Demonstrate understanding of web and design issues.
- Produce a complex multicolor mechanicals that include scans, text and spot and full color artwork.
- Produce page layout files containing graphic images for remote output.
- Produce, modify, and output files for multiple deliveries.

CA143 - Prepress and Digital Printing

- Produce digital proofs.
- Produce files that have been preflight and packaged.
- Produce scanned files.
- Produce special effects: mezzotint, posterization, etc.
- Translate files from DOS to Mac formats, DOS to UNIX, etc.).
- Understand basic halftone theory.
- Understand color management policies, settings, and profiles.
- Understand color proofing systems: advantages, disadvantages, and differences.
- Understand color theory as it applies to color separations, proofing, and printing inks.
- Understand direct imaging technologies.
- Understand dot gain and dot loss; duotone copy and basic production procedures; spreads & chokes; and trapping.
- Understand electronic imposition.
- Understand finishing and binding.
- Understand imagesetter technology.
- Understand safety issues and concerns as well as safe work habits in workflow operations.
- Understand the full color process.

CA145 - Graphic Design

- Demonstrate skill and experience in writing technical specifications, project objectives and reports, and doing oral presentations.
- Demonstrate skill in the use of tools, equipment and services to implement ideas for production. Techniques to include use of computers, pre press production houses and service bureaus, designate printing and paper specs, oversee printing and production bids, do quality control, and billing.
- Demonstrate the ability to meet deadlines, organize time and maintain schedules.
- Demonstrate the ability to select appropriately from various technical alternatives to achieve effective design solutions..
- Perform on an advanced level the various steps of the design process: investigate client needs, do marketing research, define the design problem, problem solve, develop an idea/concept, thumbnails, roughs, comps and presentation art, produce mechanicals if applicable and prepare final art.
- Produce graphic design samples appropriate for the final graphic design portfolio.
- Recognize and apply the principles of design to assigned projects using typography and/or images to communicate.
- Understand and explain the role of the graphic designer as project director; including art direction, to include the collaborative process of utilizing illustrators, photographers, copy writers and other creative and technical services.
- Understand and use the vocabulary of graphic design, printing, and web design.
- Understand historical and contemporary design styles as it applies to creating contemporary design.
- Understand the concept of experimental play and risk-taking as an important aspect to creative innovation in design:.
- Understand the investigative requirements of the various design applications related to print: design systems, symbol and identity systems; information design (diagrams, graphs, charts); publication and print design; and book, poster, and package design.

CA146 - Advertising Design

- Demonstrate professional ability and growth with completion of advertising design samples appropriate for the final graphic design portfolio.

- Demonstrate skill and experience in listening to clients, peers, and supervisors, in writing technical specifications, project objectives and reports, in delivery of convincing oral presentations.
- Demonstrate skill and experience with tools and equipment and services to integrate ideas and production techniques, including computers and design electronics, paper sources, pre press production and service bureaus, video and film production services, and printers.
- Meet deadlines, organize time, maintain schedules and demonstrate flexibility.
- Perform on an advanced level the various steps of the advertising design process; investigate client needs, do marketing research, define the advertising design problem, problem solve, develop an idea / concept, do thumbnails, roughs, comps and presentation art, finish production of mechanicals and final art, designate printing and paper specs, oversee printing and production bids, do quality control, and billing.
- Recognize and apply the principles of quality advertising design to assigned projects, developing concept, writing the script, designing layout, typography, and visual images. Communicate a client's message to an audience. Select media. Position a product or service to fit the client's campaign or project.
- Regularly experience the experimental play and risk taking important to creative innovation in advertising design.
- Select appropriately from various technical alternatives to achieve professional design solutions.
- Understand and use the vocabulary of advertising, design, printing, and related fields.
- Understand the impact of the computer in multimedia, the internet, and telecommunications in creating a new direction and market for contemporary advertising design.
- Understand the requirements to investigate projects in the various advertising Design applications; print (includes publications, books, newspapers , etc.), collateral (includes packaging, point of purchase, exhibits, specialty advertising materials), radio, television, campaigns, national and local markets. (Advance understanding of film and video graphics, computer graphics, environmental signage and graphics; exhibition and display design requires study outside the contents of this course.).

CA150 - Special Projects

- Build constructive interpersonal relationships with peers and supervisors.
- Demonstrate competence in using the following means of production: computers; design software; pre press production; service bureaus.
- Demonstrate effective listening skills.
- Designate printing and paper specs.
- Do quality control.
- Follow billing practices.
- Give oral presentations.
- Organize time and maintain schedules to meet deadlines.
- Oversee printing and production bids.
- Perform the following steps of the design process at an advanced level: investigate client needs; do research; define the design problem; problem solve; develop an idea or concept; do thumbnails; do roughs; do comps; do presentation art; finish production of mechanicals; finish production of final art.
- Produce jobs with the following specifications: half tones; special effects; single and multi-color; screen tints; line and half tone combination; 4-page signature; 8-page signature; duotone; tritone; full-color.
- Produce layout, measure, and rule relevant guidelines.
- Select appropriately from various technical alternatives to achieve design solutions.
- Write technical specifications, project objectives, and reports.

CA152 - The Business of Advertising

- Apply the principles of quality advertising to selected projects.
- Complete advertising design samples for the final Communication Arts Program portfolio.
- Demonstrate flexibility in time management.
- Describe the impact of computer and telecommunications on the advertising design market.
- Discuss advertising theory and its relationship to American business.
- Discuss the following advertising applications: publications; books; newspapers; packaging; point of purchase; exhibits; specialty advertising materials; radio; television; ad campaigns for local markets; ad campaigns for national markets.
- Do a job search.
- Give oral presentations utilizing persuasive selling techniques.

- Identify career paths.
- Organize time and maintain schedules to meet deadlines.
- Perform the following steps in the advertising design process: investigate client needs; do marketing research; define the advertising problem; do a media plan; do a marketing plan; develop a campaign concept; do copy writing; do production; do art direction; do a campaign budget plan.
- Provide advertising campaigns for positioning in local and national media based on the following factors: marketing; client information; demographics; research methods; media buys.
- Recognize the personal commitment and skills required by the advertising business.
- Use vocabulary specific to the field of advertising.
- Write technical specifications, project objectives, and reports.

CA155 - Portfolio Presentation and Rev

- Apply objective analytical skills in selecting the best art samples for inclusion in the portfolio.
- Communicate personal abilities and skills in interviews and resumes.
- Define realistic personal employment goals.
- Describe the process and skills needed to prepare a Communication Arts portfolio.
- Display the following skills necessary to apply for a Communications Arts position: portfolio; interview; resume.
- Prepare Communication Arts samples in a professional presentation format appropriate for an entry-level applicant.
- Prepare professional artwork that demonstrates the following types of skills: aesthetic; artistic; mechanical; technical.
- Present a high quality final portfolio in a formal presentation to the course instructor, members of the Communications Arts Advisory Board, and other professionals in the community.
- Present Communication Arts samples in an exhibition on campus.

Computing, Security, and Network Technology

CLO

CSNT110 - Intro to Information Systems

1. Write simple programs that use input, output, selection statements, and repetition statements.
2. Explain the steps involved in the programming process.
3. Solve simple problems and express those solutions as algorithms.
4. Understand web technologies and develop programs to interact with them.
5. Describe how programming relates to their careers.

CSNT112 - Fundamentals of Electronics

- Describe the operation and use of semiconductor devices.
- Explain the basic principals of electricity.
- Explain the operation of a variable power supply and an AM/FM radio.
- Operate and use basic electronic components.
- Perform circuit analysis computations for the following circuits: serial; parallel; combination.
- Take measurements with a multimeter and oscilloscope.

CSNT116 - Security Aware Concepts & Prin

- Describe authentication and identification systems.
- Describe information security access-control models.
- Describe risk management and methods used to address risk.
- Develop a security policy.
- Explain basic IT security concepts and models.
- Explain personal responsibilities and liabilities for working with confidential information.

- Explain the need for security and the CIA triad.
- Explain threats and risks to modern data and information systems.
- Identify legislation related to data confidentiality, integrity and availability.
- Identify threats and countermeasures.

CSNT132 - ICT Support

- Assemble components based on customer requirements.
- Install, configure and maintain devices, PCs and software for end users.
- Properly and safely diagnose, resolve and document common hardware and software issues while applying troubleshooting skills.
- Understand the basics of networking and security/forensics.
- Understand the basics of virtualization, desktop imaging, and deployment.

CSNT140 - Computer Networking I

- 01. Describe the basic requirements for a reliable network.
- 02. Describe the purpose, functions, characteristics, network devices, and protocols associated with each layer of the OSI and TCP/IP reference models and explain how the TCP/IP and OSI models are used to facilitate standardization in the communication process.
- 03. Describe the characteristics and identify industry standards for copper cabling, fiber-optic cabling, and wireless network media and construct copper network cables.
- 04. Identify and describe the purpose and characteristics of Ethernet framing, MAC addresses, and ARP.
- 05. Describe the characteristics, purpose, and use of IPv4 addresses and subnet masks; public and private addresses; and unicast, multicast, and broadcast addresses.
- 06. Describe the representation, characteristics, purpose, and use of IPv6 addresses and network prefixes and IPv6 global unicast, link-local, and multicast addresses. Linked Program Outcome
- 07. Design and implement fixed and variable length IPv4 addressing schemes including: Determine the subnet mask to support a specified number of hosts to be assigned to each subnet; Determine the subnet addresses and range of host addresses for each subnet for the final addressing scheme.
- 08. Describe commonly used Application Layer protocols that provide IP addressing and network services.
- 09. Use the output of ping, tracer, ipconfig, and show commands to establish network baselines and perform troubleshooting within a network.
- 10. Explain how frames are forwarded in a switched network and how packets are forwarded in a routed network.
- 11. Describe WLAN components and design concepts, threats, and security considerations, and configure wireless LANs.
- 12. Describe the purpose and use of static and default routes and dynamic routing protocols to interconnect devices in different networks.
- 13. Describe the characteristics, benefits, drawbacks, and operation of DHCP in IPv4 and IPv6 networks.
- 14. Identify basic security threats and vulnerabilities and describe device hardening and mitigation techniques and security best practices.
- 15. Configure and troubleshoot routers and switches for IPv4 and IPv6, including basic configuration, ethernet and serial interfaces, static and default routes, VLANs, inter-VLAN routing, security best practices, and DHCP.

CSNT197A - Intro to Data Analytics

- Describe the characteristics of Big Data and key traits and skills for data literacy.
- Identify examples of data analytics use cases and the phases of a data analytics project.
- Use spreadsheets, analytics systems, or other online resources to obtain, explore, model, and visualize data.

CSNT197B - Machine Learning

- Describe advantages and shortcomings of widely used machine learning algorithms.
- Explain fundamental concepts and applications of machine learning.
- Explain how to handle and represent data processed by machine learning algorithms.
- Use basic and advanced methods for model evaluation and parameter tuning.
- Use visualization tools to explore and understand data and determine which aspects of data to emphasize.

CSNT227 - Networking TCP/IP & UNIX

- Decode a TCP/IP application packet down to the bit level.

- Describe the ISO Layers associated with the TCP/IP protocol.
- Describe the operation of the TCP stack within a host computer.
- Describe/explain the tasks performed by the IP stack within a host computer.
- Predict packets that would be sent over a local area network, given a scenario of attached network devices and commands entered at workstations.
- Use a packet analyzer program to view and analyze packets on a local area network.

CSNT228 - Sys Adm & TCP/IP Ntwkg w/ Unix

- 1. Install a Linux operating system with a custom partitioning scheme and log into and out of a UNIX/Linux computer system using graphical and command line environments.
- 2. Use UNIX/Linux command line (shell) commands to navigate and manage UNIX/Linux file systems, customize the user shell environment, back up files using archiving and compression, find files and text in the system using file name globbing and regular expressions, manage user and group accounts and permissions, manage processes and jobs, redirect command input and output, install and update software packages, locate and identify hardware devices in the UNIX/Linux system, create and manage partitions, manage system initialization and boot processes, configure networking, use network services and applications, and write simple shell scripts to automate tasks including decision and repetition structures using a text editor such as vi.
- 3. Describe the history of UNIX/Linux, related licensing models, and security practices for a UNIX/Linux system related to performing common system tasks, managing user and group accounts, and access to system files and processes.
- 4. Describe the functions and tasks performed by the TCP, UDP, IP, ICMP, ARP, and DNS protocols and describe the functions associated with the layers of the TCP/IP networking model.

CSNT231 - Telecommunications

- 2. Gain knowledge of telecommunications technology and tools.
- 3. Learn how to configure, design and build communication devices.
- 4. Review and explain standard development initiatives and reference architectures.
- 5. Troubleshoot telecommunications circuits and systems.
- 1. Identify and build a sound understanding of core concepts, background technologies, and the different features of the telecommunications landscape.

CSNT240 - Computer Networking II

- Configure and troubleshoot basic and advanced operations of routers in IPv4 and IPv6 routed networks and implement OSPF and EIGRP routing protocols for IPv4 and IPv6.
- Configure and troubleshoot extended IPv4 and IPv6 ACLs, and end-to-end connectivity in small to medium-sized network using a systematic approach.
- Configure and troubleshoot STP, VTP, DTP, and RSTP, inter-VLAN routing, EtherChannel and HSRP.
- Configure PPPoE, GRE, and single-homed eBGP.
- Describe the operations and benefits of Spanning Tree Protocol (STP) and link aggregation.
- Describe WAN technologies and their benefits; QoS operation; evolving network technologies including cloud, virtualization, SDN, and the Internet of Things; and how to mitigate common LAN security attacks.

CSNT253 - System Admin. w/ Unix/Linux I

- 1. Install a Linux operating system with a custom partitioning scheme and log into and out of a UNIX/Linux computer system using graphical and command line environments.
- 2. Use UNIX/Linux command line (shell) commands to navigate and manage the UNIX/Linux file system, customize the user shell environment, use archiving and compression to back up files, use file name globbing and regular expressions to find files and text in the system, manage user and group accounts and permissions, manage processes and jobs, redirect command input and output, schedule processes for execution using cron and at, install and update software packages using graphical and command line utilities, locate and identify hardware device files in the UNIX/Linux system, configure and manage hardware devices connected to UNIX/Linux system, and write shell scripts to automate tasks including decision and repetition structures using a text editor such as vi.
- 3. Describe the history of UNIX/Linux, related licensing models, and security practices for a UNIX/Linux system related to automating system tasks, managing user and group accounts, and access to system files and processes.

CSNT270 - Network Operating Systems I

- 01) Install a Windows Server operating system.
- 02) Deploy a Virtualized Server environment.
- 03) Administer and monitor a server.
- 04) Configure auditing and log analysis for a server.
- 05) Backup and maintain a server.

- 06) Develop a disaster recovery plan.
- 07) Create and configure local and network users and groups.
- 08) Install and configure a Directory Services Infrastructure.
- 09) Configure a file server.
- 10) Configure different types of storage for a server.
- 11) Install and configure DHCP on the server.
- 12) Install and configure Name Resolution on the server.
- 13) Implement Remote Access Service.
- 14) Deploy group policies to configure and secure a server.
- 15) Describe best practices for hardening a server.
- 16) Describe best practices for network security.
- 17) Create a document identifying best practices for securing a server.

CSNT275 - Security Essentials

- 01. Explain the security function and basic cybersecurity concepts.
- 02. Explain risk related concepts.
- 03. Describe the characteristics and motivation of malicious players.
- 04. Describe different types of attacks along with different types of mitigation and deterrence techniques.
- 05. Utilize assessment tools and techniques to security threats and vulnerabilities.
- 06. Describe application, data and host security concerns.
- 07. Explain the function, purpose and best practices of authentication services.
- 08. Describe cryptography and cryptographic algorithms and products.
- 09. Describe appropriate usage of cryptography.
- 10. Describe disaster recovery plans and procedures.
- 11. Describe network security components and methods.
- 12. Describe appropriate security design methodology.
- 13. Describe incident response procedures.
- 14. Describe issues with laws, policy and compliance as related to cybersecurity.

CSNT280 - Database Systems I

- 1. Explain the concepts of different database models.
- 2. Identify and explain the differences between different database models.
- 3. Define the steps required in the analysis for the development of a new database.
- 4. Design and implement relational databases involving at least three underlying tables.
- 5. Design and implement SQL queries for both Data Manipulation and Data Definition tasks.
- 6. Create an Entity-Relationship diagram based upon a fixed set of requirements.
- 7. Explain the purposes of and differences between conceptual, logical and physical database design.

CSNT281 - Introduction to Data Analytics and Machine Learning

- Describe the characteristics of Big Data and key traits and skills for data literacy, various data analytics use cases, and the phases of a data analytics project, and advantages and shortcomings of widely used machine learning algorithms.
- Explain fundamental concepts and applications of machine learning, and how to handle and represent data processed by machine learning algorithms.
- Use various tools and methods to perform data collection, exploration, and preparation and basic methods for evaluating models and tuning model parameters.
- Use visualization tools to explore and understand data and determine which aspects of data to emphasize.

CSNT282 - Analytics Systems

- Describe the capabilities of various industry developed data analytics solutions.
- Perform typical functions of a data practitioner using data analytics solutions including: collect and import data; prepare and clean data for analysis; perform data searches; analyze and split data using transformation utilities; create dashboards, reports and charts using data visualization.

CSNT285 - Intro. To Internet Application

- Develop dynamic web pages that are based upon data stored in databases.
- Develop simple n-tiered Internet and Web-based applications.
- Develop web pages based upon the principles of good web design.
- Identify and explain the differences between Internet application technologies.
- Plan an n-tiered Internet/Web application.
- Understand and implement solutions for basic security considerations.

CSNT305 - Information Systems Security

- Design networks that comply with commonly accepted security standards.
- Explain fundamental concepts of information system security.
- Implement security mechanisms such as firewalls and packet filtering.
- Use various software tools to detect and analyze network and host vulnerabilities.

CSNT310 - Network Security

- Apply security technologies, products and solutions.
- Configure Intrusion Detection and Response software.
- Describe ethics related issued in network security.
- Describe various threats to information and network systems.
- Design, install, configure and maintain firewalls and secure routing.
- Install and configure a Virtual Private Network.
- Perform methods to secure a wireless, voice and video systems.
- Perform methods to secure and protect data in storage, transit and processing.
- Perform methods to secure Internet and collaboration applications.

CSNT315 - Network Management

- Configure management tools to use standard network management protocols.
- Describe ethical issues related to network management.
- Describe the role of network management protocols and network management tools within the framework of the network manager's role.
- Describe the role of the network manager in the development and continued operation of a computing network.
- Understand the use of standard IT management frameworks and their relation to the Network manager's role.

CSNT330 - Ethical Hacking

- Describe and perform basic reconnaissance exercises.
- Describe and perform various methods for evading security controls.
- Describe and perform vulnerability and pen testing assessments and exercises.
- Describe the concepts of ethical hacking.
- Describe various types of malware and cyber attack vectors and players.
- Execute basic attacks against network and computer systems.
- Explain the stages of a cyber attack.
- Scan and enumerate a network and a computer system.

CSNT331 - Telecommunications II

- Describe the basic concepts of an ATM network.

- Describe the basic concepts of an MPLS network.
- Describe the basic concepts of SONET.
- Describe the fundamental concepts of a connection-oriented network.
- Describe the purpose of Transition Technologies as it relates to networks.
- Explain the basic concepts of Traffic Engineering.
- Explain the basics of Carrier Ethernet.

CSNT336 - Malware Analysis

- Define and functionally use common low-level computer architecture terms such as instructions, stacks, heaps, registers, virtual memory, address space layer randomization, data execution prevention, and canaries.
- Describe the functionality of various industry and open source developed malware analysis tools; and add to this body of knowledge through automation and script development.
- Employ individual skills and teamwork to effectively analyze large code bases and unknown artifacts; and present findings in clear and concise reports and briefings.
- Perform typical functions of a malware analyst using dynamic and static analysis of artifacts to determine persistence; determine command and control infrastructure; determine communication protocols; provide signatures and countermeasures; develop automated analysis solutions; and discover malware presence.

CSNT340 - Advanced Routing

- Configure secure routing solutions to support branch offices and mobile workers.
- Implement IPv6, RIP, EIGRP, BGP, and OSPF in an enterprise network.
- Implement, monitor, and maintain routing services in an enterprise campus network.
- Plan, configure, and verify the implementation of complex enterprise LAN and WAN routing solutions.

CSNT345 - Multilayer Switching

- Analyze an enterprise campus architecture.
- Describe practices on securing the campus infrastructure.
- Implement high availability and redundancy in a campus network.
- Implement interVLAN routing.
- Implement the Spanning Tree Protocol.
- Implement VLANs.

CSNT350 - Junos Routing

- Configure and monitor basic routing protocols such as OSPF and BGP.
- Configure basic routing features such as, routing policies, static routing, routing instances, firewall filters, and class of service.
- Describe IP tunneling concepts.
- Describe the basic design of the Junos OS.
- Navigate within the Junos CLI.

CSNT370 - Integrated Network Application

- Describe the process of installing, configuring, and administering various network applications.
- Install and configure a messaging system.
- Install and configure domain name service.
- Install and configure dynamic host configuration protocol.
- Install and configure network information service.

CSNT372 - Network Operating Systems II

- Describe a Windows virtualized environment.
- Describe the process of monitoring, managing, maintaining, and securing a Windows network infrastructure.
- Implement and manage DHCP, DNS, Active Directory, and other infrastructure services in a Windows network.
- Install, configure, and maintain various server applications.

CSNT375 - Virtualization

- Describe ethical issues as related to the use of virtualization technology.
- Describe the architecture of a managed virtual environment.
- Describe the different components and platforms for data center storage.
- Describe the fundamental concepts of hardware virtualization.
- Describe the fundamental concepts of server and client virtualization.
- Describe the management of a virtual environment including live motion, resource management, monitoring, data recovery, high availability and fault tolerance.
- Install and configure a virtual server environment.

CSNT377 - Cloud Infrastructure

- Describe a traditional data center environment.
- Describe a virtualized data center environment.
- Describe ethical concerns as related to the use of cloud infrastructures.
- Describe the cloud infrastructure components and cloud service creation processes.
- Describe the configuration and management of cloud services.
- Describe the desktop and application services provided in a virtualized data center environment.
- Describe the procedure and concerns in migrating to a cloud environment.
- Describe the security concerns and countermeasures in a virtualized data center and a cloud services environment.
- Describe the storage and networking technologies used in a virtualized data center environment.

CSNT390 - Special Topics in CSNT

- Create or respond to an RFP utilizing this technology.
- Describe a method for updating or deploying this technology.
- Describe ethical issues as related to the use of this studied technology.
- Describe methods for managing, monitoring and securing this technology.
- Describe scenarios for utilizing this technology.
- Develop skills in a specialized field of Information and Communication Technology.
- Work in a group to analyze a project utilizing this technology.

CSNT397B - Big Data Analytics

- Apply the data analytics lifecycle to a simple business challenge
- Describe advanced data analytic methods
- Describe the basics of big data analytics
- Gain experience working with big data analytic technology and tools.
- Utilize basic data analytic methods with a scripting language

Cosmetology

CLO

COSM20 - Elem Cosmetology Theory

- Compare and recognize the art principals and elements in found in nature, manmade objects and hair.
- Explain and follow the Hawai'i Revised Statutes, Hawai'i 438 and 439, Hawai'i Administrative Rules; Title 16; Chapter 78; and Title 11; Department of Health Chapter 11.
- Explain and identify the structure of the nail, its disorders and diseases.
- Explain and illustrate the law of color.
- Explain the relationship between microbiology, infection control safety and first-aid.

- Explain the structure of the hair, its disorders and diseases.
- Explain the structure of the skin, its disorders and diseases.
- Explain what are the different types of hygiene and which one is the government responsible for?

COSM21 - Elem. Natural Hair Services

- Compare the changes in volume and expansion which occurs when using wet vs thermal styling techniques.
- Explain and follow the Hawai'i Revised Statutes 438 and 439, Hawai'i Administrative Rules; Title 16; Chapter 78; Title 11; Board of Health Chapter 11.
- Explain the importance of following guidelines for safety, sanitation, and infection control for the industry, the client and the designer.
- Interpret the art principles and elements using the medium of hair.
- Translate protractor measurements in hair sculpting and the results each elevation will achieve.

COSM22 - Elem. Chemical Hair Services

- Analyze any technical weakness in a chemical service.
- Apply and compare the four basic hair color application techniques used in cosmetology.
- Demonstrate and compare the change in the hair with different texture services.
- Explain and rephrase the safety precautions used in most chemical hair services.
- Illustrate the law of color and discover how to use it in color formulas.

COSM23 - Basic Hair, Skin & Nail Skills

- Compare the basic skin types and the product used for each type.
- Explain and demonstrate the basic manicure and pedicure services.
- Explain and demonstrate the hair removal services used in cosmetology and the safety precautions.
- Explain the effects of massage on the body as it relates to cosmetology services.
- Summarize the decision of using one hair care product over another to achieve the desired care hair service.

COSM30 - Inter Cosmetology Theory

- Acquire the theoretical knowledge of electricity to perform safe, efficient salon services.
- Develop the theoretical knowledge of anatomy to perform salon services.
- Expound how reviewing previous information will improve on success for the cosmetology licensing exam.
- Interpret the Hawai'i Revised Statutes, CH 438 and 439; Hawai'i Administrative rules, Title 16, Chapter 78; and Title 11, Department of Health as it relates to the school and salon.

COSM31 - Inter. Cosmetology Clinic

- Define and execute thermal and wet hair design techniques.
- Describe and design hair texture techniques for permanent wave and hair relaxing.
- Explain and implement various hair coloring techniques.
- List hair sculpture tools and procedures, and perform hair sculpture techniques.
- Outline and practice safety and infection control for all services performed.
- Specify skin care products and techniques used, and execute skin care services.
- Summarize the details of, and perform nail care services.

COSM32 - Intermediate COSM Skills

- Demonstrate the knowledge and ability to create individualized texture designs using advanced chemical texturizing techniques.
- Demonstrate the knowledge and ability to perform color designs that are specifically designed with the male client in mind.
- Describe the tools and techniques, and follow the fundamental guidelines used to create a variety of men's hair sculptures.
- Elaborate and demonstrate the fundamentals of day and evening makeup application.
- Establish the knowledge and proficiency to perform spa nail services.
- Interpret and create various advanced wet and thermal hair design techniques and patterns on a variety of sculpted forms.

- List the procedures of and follow fundamental guidelines for a European type of skincare treatment.

COSM33 - Life Skills for Cosmetology

- Affirm personal strengths and use them to the best advantage in building a successful career.
- Approach communication problems constructively.
- Explain the importance of self-esteem in relating positively to yourself and others.
- Identify aspects of personal identity worthy of self-respect.
- Identify the benefits and the significance of goal-setting and personal organization.
- Recognize, monitor and use forms of nonverbal communication to your advantage.
- Use professional etiquette to express respect, demonstrate integrity and communicate a commitment to personal excellence.

COSM40 - Advanced Cosmetology Theory

- Clarify and practice the safety precautions used in skin care services.
- Compare and classify the different types of ownership in the cosmetology industry.
- Define the relationship between chemistry and salon services.
- Describe the safety precautions when using chemicals and performing chemical services.
- Explain and follow the Hawai'i Revised Statutes 438 and 439, Hawai'i Administrative Rules; Title 16; Chapter 78; and Title 11 Department of Health Chapter 11 as it relates to the school and salon.
- Illustrate the safety precautions used in nail care services.

COSM41 - Advanced Cosmetology Clinic

- Define and integrate nail care services.
- Describe and carry out skin care services.
- Execute hair sculpture techniques.
- Explain and perform the hair texture techniques for permanent wave and hair relaxing.
- Expound and utilize safety and infection control for all services performed.
- Fulfill the thermal and wet hair design techniques.
- Specify and complete hair color techniques.

COSM42 - Advanced Cosmetology Skills

- Analyze the different types of hair enhancements and types of fibers used.
- Clarify how combining the four basic sculpture techniques will produce a variety of haircuts used to create looks for the consumer in the salon.
- Compare and distinguish the difference between the nail enhancement services.
- Differentiate the changes in the hair when applying special effects hair coloring in the form, texture and interest.
- Explain and apply the steps of a thermal recondition treatment in hair texture.
- Interpret and utilize the steps to achieve balance in a long hair design.
- List the procedures of and demonstrate the acupuncture facial.

COSM43 - Salon Management

- Characterize the client factor.
- Describe the best practices for building a clientele.
- Express the meaning of success.
- List the five areas needed to create an exceptional guest experience.
- Show how to measure progress.

COSM50V - Cosmetology Theory & Practice

- Meet the prerequisite to qualify for the State Board Licensing Examination.

COSM80V - Cosmetology Instructor Training

- Define teaching, learning, and teaching methods.
- Define what is meant by barriers of learning.
- Describe the challenges for the four learning styles.
- Describe the purpose of grading.
- Describe various difficult learner behaviors and explain methods for managing them.
- Employ methods to strengthen the body or major content of a lesson.
- Explain the four critical principles used when correcting a learner's performance.
- Explain the importance of facilitating learning for all students regardless of their abilities.
- Explain the personal role of every school-team member.
- Explain the qualities for satisfactory performance within each area of performance.
- Explain the ten methods used for inspiring learner motivation.
- Explain what each component of a lesson plan is.
- Identify six of the basic needs common to learners of today.
- Identify the characteristics of the different types of learners.
- Identify the four categories of instructional materials.
- Identify the specific technical skills needed for entry-level practitioners in hair care, skin care, nail care electrology and massage therapy.
- List the advantages of lesson planning.
- List the characteristics of nine different types of grading styles.
- List the ten advantages for using educational aids.
- Name the ten steps that an educator can take to cultivate a positive relationship with superiors.
- Understand the three elements of zone teaching.

Early Childhood Education

CLO

ECED105 - Intro to Early Childhood Ed

- Describe the partnership between early childhood professionals and families.
- Discuss the foundations, issues and trends of early childhood care and education.
- Identify roles and career opportunities in early childhood education.
- Recognize and practice observation and documentation strategies.

ECED110 - Developmentally Appr Prac

- Express appropriate ways to relate to and guide every young child.
- Identify and analyze the components of environments for children that promote health, safety and learning.
- Select and demonstrate age and individually appropriate play-based activities for every child.

ECED115 - Hlth Sfty & Nutri Young Childr

- Apply current health and safety principles to environments and practices for young children.
- Develop appropriate learning opportunities in health, safety, and nutrition.

ECED127 - Issues in Diversity

- Begin to plan culturally appropriate curricula and activities and communicate that information clearly to parents and families.
- Build upon collaborative and communication abilities in working with others as part of a diverse teaching team.
- Develop professionalism using personal strategies that provide for respectful experiences and relationships with children and families.
- Increase self-awareness sensitivity and knowledge of cultural differences.

ECED131 - Early Child Dev Theory Prac

- Apply child development knowledge to guide practice.
- Articulate how multiple factors affect development.
- Articulate key developmental theories and principles focused on prenatal to 8 years.
- Describe young children's developmental characteristics and needs in the developmental domains of physical, social/emotional, and cognitive.

ECED140 - Guid Young Child in Grp Set

- Communicate respectfully and effectively with children and families.
- Identify a broad range of positive guidance strategies to build respectful relationships with children.
- Use guidance strategies to promote the development of self-control and prosocial behaviors.

ECED151F - Field Exp Prac 1 in ECED

- Demonstrate an emerging ability to plan, implement, and assess all learning experiences.
- Demonstrate professionalism through reflection.
- Observe, document and assess individual children's development and learning.
- Practice positive relationships and interactions with diverse children and families.

ECED151S - Field Exp Prac I ECED Seminar

- Demonstrate an emerging ability to plan, implement, and assess all learning experiences.
- Demonstrate professionalism through reflection.
- Observe, document and assess individual children's development and learning.
- Practice positive relationships and interactions with diverse children and families.

ECED152 - Early Literacy Development

- Demonstrate competence in: identifying quality children's literature, reading aloud to young children, promoting children's development of writing, and evaluating children's acquisition of early literacy concepts and skills.
- Demonstrate the practices that support children in learning the predictors of success in reading and writing: oral language competence, background knowledge, phonological awareness, graphic awareness, and concepts of print.
- Summarize the historical context and the contemporary perspective on how children become literate, and the research relevant to how children learn to read and write.

ECED155 - Creative Art for Young Child

- Use knowledge of the discipline of visual art to design appropriate visual art programs for young children.
- Use knowledge of young children's characteristics (developmental, individual, and cultural) to design appropriate visual art experiences.

ECED156 - Music&Movement for Young Child

- Use knowledge of the disciplines of music and dance to design appropriate music and movement programs for young children.
- Use knowledge of young children's characteristics (developmental, individual, and cultural) to design appropriate music and movement experiences.

ECED157 - Puppetry for Young Children

- Create and use puppets for curriculum enhancement to promote children's skills in language and literacy, reasoning, problem solving, and expression of feelings.
- Demonstrate how to puppetell fingerplays, poems, songs, and stories using a variety of puppets.
- Design and implement meaningful puppettelling and puppetizing activities for young children and to evaluate those activities when implemented.
- Evaluate puppettelling and puppetizing (children use puppets under the supervision of an adult) techniques which promote and guide prosocial and cooperative behaviors.
- Implement appropriate puppetmaking activities in which children use their imagination and make their own decisions concerning which materials they want to use to create a puppet.

ECED158 - Hawa Culture for Young Childre

- Communicate respectfully and clearly with families using diverse means and help them understand children's development and learning.
- Demonstrate an awareness of the Hawaiian culture.

- Evaluate, select, and implement appropriate and effective teaching practices that promote a young child's awareness and understanding of the Hawaiian culture and practices that are consistent with Hawai'i 0-5 practice standards (ASK).

ECED170 - Intro to Work w/Inf & Toddlers

- Apply infant-toddler developmental theory to work with infants, toddlers and families.
- Build respectful relationships with children and families through a responsive caregiving environment.
- Demonstrate sensitivity to family diversity and cultural child rearing practices through respectful communication and curriculum.

ECED234 - Observation and Assessment

- Assess environments for young children using available tools and instruments.
- Differentiate between the appropriate and inappropriate uses of assessment instruments.
- Identify a range of screening and assessment instruments for young children.
- Interpret observations appropriately in assessing children's development.
- Use at least five different observation techniques beyond the "running record."

ECED245 - Child Family and Community

- Demonstrate a variety of approaches and communication styles to build respectful partnerships with children, families and their communities.
- Describe significant characteristics of diverse families and communities to develop strategies that help empower families.
- Identify appropriate community resources that support diverse families and children.

ECED257 - Early Mathematical Development

- Develop a variety of teaching strategies that include the design of indoor and outdoor learning environments as a foundation for a mathematics curriculum.
- Plan mathematics curriculum activities consistent with recognized early childhood education content and process standards.
- Use a variety of techniques to assess children's mathematical learning.
- Use observation and assessment as a basis for planning mathematical experiences for individual children, as well as for groups of children.

ECED263 - Lang & Creative Exprs'n Curr

- Collect authentic information about individual children in order to design and assess creative and language curriculum.
- Support children's learning in creative and language curriculum through a planned environment and interactions.
- Use content knowledge and appropriate pedagogy to write clear, useful creative/language plans that are then implemented and assessed.

ECED264 - Inquiry & Phys Curriculum

- Collect authentic information about individual children to design and assess inquiry/physical development curriculum.
- Design integrated curriculum around science or social studies topics meaningful to children.
- Support children's learning in inquiry and physical development curriculum through a planned environment and interactions.
- Use content knowledge and appropriate pedagogy to write clear, useful inquiry/physical development plans that are then implemented and assessed.

ECED265 - Child. Lit. for EC Teachers

- Present literature to children in a positive and appropriate manner through a variety of methods.
- Select books appropriate to a child's development and characteristics as individuals and members of a community and culture.
- Support families in appreciating and using literature with their young children.
- Use knowledge of the discipline of literature to identify, select, and describe high quality literature for young children.

ECED269 - Integrated Curriculum

- Assess children's acquisition of concepts and skills related to an integrated unit of study.
- Design an environment and materials that support an integrated unit of study.
- Design an integrated unit of study appropriate for young children based on social studies and science topics.
- Integrate all curriculum areas related to a social studies or science unit of study.
- Select integrated study topics that are meaningful to a particular group of children and their families and community.

ECED274 - Infant-Toddler Env Rel

- Articulate knowledge of issues or trends central to infant-toddler care.
- Create a safe, healthy and engaging learning environment and curriculum for infants, toddlers and their families.
- Generate principles of respectful relationships, teaching practices and care giving practices that support early development and learning.

ECED275 - Includ Child w Spec Needs

- Analyze how exceptionalities may interact with development and learning in young children.
- Create meaningful and challenging learning experiences for children with exceptionalities.
- Explain the special education model, including the spectrum of inclusion services and settings.
- Identify strategies used to collaborate with families, other educators, related service providers, and personnel from community agencies in culturally responsive ways to address the needs of children with exceptionalities across a range of learning experiences.

ECED296B - Infant-Todd Sem: FLD EX ECE II

- Assess children's progress using formal and informal observation and assessment tools and methods.
- Communicate and build relationships respectfully, effectively and appropriately with children and adults.
- Create curriculum and learning environments based on knowledge of child development, understanding of individual children, and reflective of the particular community of children and families.
- Participate actively in planning and decision-making concerning the educational, physical, fiscal and human resources in classrooms and programs for children.
- Reflect on practice professionally and base decisions and actions on ethical and other professional standards.
- Use appropriate and respectful guidance practices with children.

ECED296C - Presch Sem: Fld Exp ECED II

- Assess children's progress using formal and informal observation and assessment tools and methods.
- Communicate and build relationships respectfully, effectively and appropriately with children and adults.
- Create curriculum and learning environments based on knowledge of child development, understanding of individual children, and reflective of the particular community of children and families.
- Participate actively in planning and decision-making concerning the educational, physical, fiscal and human resources in classrooms and programs for children.
- Reflect on practice professionally and base decisions and actions on ethical and other professional standards.
- Use appropriate and respectful guidance practices with children.

ECED296I - Inf-Todd Lab: Fld Exp ECE II

- Assess children's progress using formal and informal observation and assessment tools and methods.
- Communicate and build relationships respectfully, effectively and appropriately with children and adults.
- Create curriculum and learning environments based on knowledge of child development, understanding of individual children, and reflective of the particular community of children and families.
- Participate actively in planning and decision-making concerning the educational, physical, fiscal and human resources in classrooms and programs for children.
- Reflect on practice professionally and base decisions and actions on ethical and other professional standards.
- Use appropriate and respectful guidance practices with children.

ECED296P - Presch Lab: Fld Exp ECED II

- Assess children's progress using formal and informal observation and assessment tools and methods.
- Communicate and build relationships respectfully, effectively and appropriately with children and adults.
- Create curriculum and learning environments based on knowledge of child development, understanding of individual children, and reflective of the particular community of children and families.
- Participate actively in planning and decision-making concerning the educational, physical, fiscal and human resources in classrooms and programs for children.
- Reflect on practice professionally and base decisions and actions on ethical and other professional standards.
- Use appropriate and respectful guidance practices with children.

ECED297 - Observation, Doc, Assessment

- Identify a range of approaches to utilizing observations, as well as family and teaching team input, to develop responsive curriculums
- Interpret observations appropriately in assessing children's development.

Fashion Technology

CLO

FT100 - Fashion Modeling

- Convey the moods appropriate for modeling different types of garments.
- Discuss the importance of stage make-up and hairstyles.
- Sell the garments from the runway.
- Show garments during an informal fashion show setting.
- Use correct walking techniques for ramp modeling.

FT111 - Art & Design In Fashion

- Analyze clothing styles and details which reflect the various personality types.
- Identify features and figure types that can be enhanced by design principles.
- Identify silhouettes, body types, coordinated, and complimentary wardrobing selections.
- Plan a well-coordinated wardrobe utilizing the following information: lifestyle; wardrobe inventory; design elements; design principles; quality; fit; value; cost plan.
- Select clothing styles which are flattering to each figure type by applying optical illusion techniques.

FT125 - Fashion Show Production

- Develop a sequential, detailed plan and implement toward the production of a fashion show.
- Evaluate the fashion show production completed for improvements.
- Examine logical, detailed plans, and procedures for other fashion promotions.
- Explore theories and concepts behind successful fashion show promotions.

FT129 - Textile Art

- Apply the principles of design to translate abstract ideas into visual and salable format.
- Demonstrate progression of innovative development in textile design.
- Utilize various textile design techniques featured in artisan craftwork and the garment industry.

FT197 - Introduction to 3D Printing

- Demonstrate knowledge of key historical factors that have shaped manufacturing over the centuries
- Describe the advantages and limitations of each 3D printing technology
- Design and print objects containing moving parts without assembly
- Identify opportunities to apply 3D printing technology for time and cost savings

FT198 - Embellishments

- Appraise and apply the elements and principles of design to the creation of original projects with embellishment.
- Examine various selected embellishing processes which require handcrafting and sewing machine techniques.
- Perform artisan embellishment techniques to create unique, value, and quality fashion adornments.
- Validate the quality standards required to meet professional levels of various embellishment applications.

FT200 - Culture, Gender and Appearance

- Collaborate with peers to develop an appearance-related project and presentation.
- Discuss current appearance-related issues, including body rituals, cultural ideals, fashion experiments, images of pregnancy, beauty photos, parts of self-model, film critique and intersectionality theories.
- Identify and articulate an ethical situation pertaining to appearance in the fashion industry.
- Report on appearance-related issues regarding Modern, Post-modern, and Post-post modern era contexts within the fashion evolution.

- Synthesize theories about individual's choice in appearance, such as the role appearance plays in gender development and expressions of identity.

FT205 - Basic Apparel Construction

- Apply stitching and sewing techniques to various parts of a garment.
- Construct, adjust, and fit basic dress to create a sloper.
- Discuss and evaluate quality of garment construction through fashion industry terms and processes.
- Perform and record body measurements on mannequins.

FT215 - Flat Pattern Making I

- Apply flat pattern techniques to create design details.
- Execute drafts for women's apparel using a basic block pattern.
- Manipulate darts through the pivot as well as slash and spread methods.
- Transfer a design flat sketch into a completed pattern.

FT216 - Fashion Illustration

- Apply color, values, and visual elements to develop fashion formats for designer layouts.
- Assemble techniques and ideas in a professional fashion illustration.
- Create garment flat sketches with corresponding specifications and detailed drawings.
- Develop skills for sketching fashion details, including silhouettes, textile surfaces, and special construction features.
- Illustrate basic and posed figures in proportion, such as women's, men's, and children's croquis sketches.

FT217 - Flat Pattern Making II

- Application of required professional pattern-making techniques.
- Appraise basic, intermediate, and advanced pattern-making terms and processes.
- Assess and perform professional construction, and fabric handling techniques.
- Compare, proof, and solve the fit of the muslin sample to standard dress form.
- Discover advanced skills by formulating pattern-making and construction concepts to a final garment.

FT221 - Textiles 1

- Analyze worded labels and advertisements that meet the guidelines of the Label Acts.
- Compare the physical, mechanical, and chemical properties for fibers, yarns, and fabrics.
- Describe the basic methods of producing and identifying fibers, yarns, and fabrics.
- Discuss the general provisions of the Label Acts, related to fiber content and care.
- Examine methods of applying color, routine fabric finishes, and finishes for appearance.
- Identify the environmental and sustainable issues caused by textile consumption and waste.

FT228 - Introduction to Industrial Sewing

- Create complete garments employing factory construction methods and equipment.
- Discuss and explain specific techniques used in the garment industry with appropriate terminology.
- Operate industrial machines and attachments with understanding of each specialty procedure.

FT230 - Creative Line Designing

- Assemble a line of garments to include the buyer's line sheets and order form for retail or wholesale.
- Compose an original line of garments for a specific target group, store, or department.
- Conduct research and an oral presentation about starting and running a business.
- Construct a line of clothing to represent a cohesive design concept, fabrics, and findings.
- Perform the draft or drape of designs to complete a salable line of clothing.
- Present the finalized design line to potential buyers at a practice appointment.

FT232 - Fashion Consumer Alteration

- Apply proper sewing techniques and finishes to customer projects.
- Develop clear communications with customer for satisfactory project completion.
- Identify pattern adjustments to fit individual figures.
- Interpret information gathered from accurate garment fittings with actionable solutions.
- Perform specific alterations on completed garments.

FT236 - Draping

- Apply principles of draping of basic fit using a standard fit form to create master pattern slopers.
- Create the drape and develop pattern templates toward the manufacture of original designs, and projects.
- Execute the production of accurate patterns from draped designs.
- Incorporate principles of draping for advanced designs such as kimono sleeves, collars, cowl necklines, and torso foundations.

FT237 - Pattern Grading

- Apply and determine the grade for the advanced garment patterns: raglan, kimono, princess lines, and other design variations.
- Define and perform the grade for the basic garment patterns: bodices; skirts; collars; sleeves. pants; miscellaneous pattern designs.
- Demonstrate grading by manual methods from sample size template to smaller and larger sizes.
- Utilize a manual grading machine to resize patterns to different sizes.

FT238 - Draping and Design

- Assemble garment designs for marketable, ready-to-wear price range.
- Conduct research and present oral reports on innovative and influential fashion designers.
- Create original designs using research as inspiration and direction.
- Develop clear communications with customer for satisfactory project completion.
- Produce garments through methods of draping, drafting, flat patternmaking and construction of original designs.

FT241 - Apparel Draft Design

- Assemble garment components, fit adjustments and finishing details of project garments.
- Build advanced pattern drafts through standardized measurements for a master aloha shirt, and master children's slopers.
- Create pattern drafts by measurements for master slopers which are universally used as the basis of manufacturing.
- Execute the production of accurate patterns from drafted designs with correct symbols and markings.
- Measure a fit form or a person accurately toward the draft of a pattern template.

FT243 - Cut Room Functions

- Apply the following principles of marker-making: proper pattern placement; attention to order requirements; cost effective fabric yield; accuracy and neatness.
- Identify specific characteristics of spreading fabrics through manufacturing techniques and equipment.
- Operate and maintain industrial fabric cutting machines and related equipment.
- Process a purchase order through production stages until the final garment is completed.

FT260 - Comp Grading & Marking

- Build parameter tables which encompass business and garment requirements.
- Conduct daily system activities by generating system reports for monthly business evaluation.
- Determine X and Y coordinates to reflect garment size growth by creating logical grade rule tables.
- Perform process of digitize, verify, and test pieces by input to finalized pattern stage.
- Process orders of models(styles), grading(sizing) and markers for production efficiency and timeliness.
- Utilize Gerber Technology Accumark software system to organize manufacturing criteria.

FT270 - Computerized Pattern Making

- Apply the "Clean up" Functions following the draft pattern pieces in PDS.
- Determine development of projects through the advanced functions of piece, line, and points in PDS.

- Explore and utilize the Gerber Technology: Pattern Design System (PDS).
- Propose added manufacturing requirements through extended functions in PDS.
- Utilize the Draft Functions by creating pattern pieces through PDS.

FT289 - Men's Fashion Designing

- Assemble the components for men's pants with expected consumer details to include a fly with zipper closure.
- Compose and redesign a men's shirt with current fabric and trending applications.
- Construct a traditional business shirt with appropriate fabric and sewing details.
- Survey and select advanced sewing techniques practiced in the men's garment industry for sampling.

FT290 - FT Special Topics

- Analyze the selected specialty industry with regards to raw materials, construction details, and unique consumer expectations.
- Create and redesign patterns to compliment the special topic consumer wishes.
- Interpret and utilize the vocabulary essential to the special topic industry.
- Modify the specialty topic patterns and suggest fabric choices for consumer fit and suitability.
- Operate sewing equipment necessary to construct garments from the specialty fabrics.
- Recognize the notions and fabrics used specifically for the special topic.

Food Science and Human Nutrition

CLO

FSHN185 - The Science of Human Nutrition

- Compare the various types of nutrition research with respect to type and reliability of information produced.
- Define malnutrition as over- and under-nutrition, and discuss its causes, cures, and associated health effects.
- Describe physiological changes that occur during the life cycle and explain the changes in nutrient needs that accompany these changes.
- Describe what nutrients are and state basic information about each of six categories of nutrients (e.g., functions in the body, risks of excesses/deficiencies, sources, guidelines for intake).
- Discuss current issues related to the safety of the food supply using concepts from toxicology.
- Discuss how alcohol and other drugs interact with nutritional processes.
- Evaluate nutrition information in popular media critically, with respect to its correctness.
- Identify factors that influence why you eat as you do and how to make changes in your diet.
- Identify which nutrients are sources of energy for the body and how an excess or a deficiency of energy can affect the body.
- Use and understand the components of a food label.
- Use the U.S. Dietary Guidelines and Food Pyramid to evaluate the nutrient adequacy of your diet.

Human Services

CLO

HDFS100 - Personal & Professional Dev

- Demonstrate an understanding of elements that contribute to healthy psycho-social development and strategies that support healthy development for optimal functioning in society and the larger global community.
- Demonstrate an understanding of emotional intelligence.
- Participate in mock job interviews.

HDFS133 - Dynamics of Family Violence

- Demonstrate an understanding of criminal justice research in the field of domestic violence.
- Demonstrate an understanding of the dynamics involved in abusive relationships and various forms of child, partner, and elder abuse.
- Demonstrate an understanding of the legal, medical and social perspectives of family violence.
- Demonstrate knowledge and understanding of the major models and theories of family violence.

- Demonstrate knowledge of the police/court responses to family violence and of the intervention strategies, as well as prevention and treatment resources.
- Describe the physical, mental, and financial consequences of family violence.

HDFS141 - Parenting

- Demonstrate an understanding of a variety of parenting strategies or styles and their impact on the child's development and parent-child relationship.
- Demonstrate an understanding of research on child development and the parent-child relationship.
- Demonstrate an understanding of the social, economic, and cultural influences on the parenting process.
- Demonstrate knowledge and understanding of the theories on parenting and child development.
- Identify and describe the major parenting tasks and major problems for each of the age ranges (infant to adult).

HDFS199V - Special Studies

- Investigate topics of particular interest in human services.

HDFS230 - Human Development

- Apply human development terminology, concepts, theories, and research findings as they relate to life situations and events.
- Demonstrate knowledge and understanding of the processes of change in all domains (physical, cognitive, psycho-social) throughout the lifespan.
- Demonstrate knowledge and understanding of the various theoretical perspectives in the study of human development that includes psychoanalytical, cognitive, social learning, humanistic, and bioecological theories.
- Identify and describe the different research methods and ethical guidelines for researchers.

HDFS244 - Aging

- Demonstrate an understanding of the theories on aging and the myths and stereotypes about aging.
- Explain the biological, cognitive, social, and personality changes associated with aging.
- Formulate opinions on social and health policies related to older adults and on the implications of current research related to the support and/or care of older adults.
- Identify various services and resources available through government, non-profit, and for-profit organizations that promote quality of life for older adults.

HDFS296 - Working With People

- Define terms and concepts relevant to the field of human relationships.
- Demonstrate ability to recognize communication barriers and to identify and to use effective communication skills.
- Demonstrate ability to recognize conflict management styles and to use appropriate conflict management skills.
- Demonstrate knowledge of and the application of personal and workplace ethics.
- Demonstrate knowledge of the group problem solving and decision making processes.
- Demonstrate knowledge of various types of intrapersonal and interpersonal behaviors.
- Identify ways to manage and prevent stress and anger.

HDFS299V - Special Studies

- Investigate topics of particular interest in human services.

HSER121 - Family Dynamics & Thesoc Wk

- Demonstrate an understanding of family dynamics, including, self-esteem, communication, and rules.
- Demonstrate an understanding of social work; values, ethics and basic principles.
- Demonstrate an understanding of the elements of an initial social work interview.
- Demonstrate an understanding of the helping relationship and engagement in working with clients.

HSER140 - Individual Counseling

- Demonstrate ability to apply counseling and problem-solving skills given case scenarios and/or actual case situations and in a video-taped mock counseling session.
- Demonstrate knowledge and understanding of basic counseling concepts and skills.
- Develop an awareness of personal values and interpersonal styles that influence the counseling relationship.

HSER150 - Group Counseling

- Demonstrate knowledge of the ethical and professional issues in group practice.
- Describe stages of group development and challenges and issues.
- Discuss theoretical approaches used in group counseling and their advantages and limitations.
- Identify the various types of groups, explain their purposes, and give examples for each type of group.
- Understand the role of the group leader or group facilitator; and identify and discuss group leadership or facilitation skills.

HSER170 - Substance Abuse Counseling

- Demonstrate ability to do an initial assessment of a client requesting entry into treatment.
- Demonstrate an understanding of the cost to society from addiction.
- Demonstrate knowledge of the physical and psycho-social effects of different classes of substances.
- Demonstrate knowledge of the substance abuse laws and ethics of the substance abuse profession.
- Identify and explain the components of the substance abuse screening and referral process.

HSER190 - Internship Seminar

- Analyze problems in work practicum settings.
- Maintain confidentiality of client information.
- Present case studies.
- Use helping skills in discussions of client/work situations.

HSER191V - Human Services Internship

- Demonstrate a working knowledge of the host human services agency's mission, services, fees, and referral sources.
- Demonstrate ability to relate effectively with clients using basic human services knowledge and skills in an ethical and culturally sensitive manner.
- Demonstrate ability to work effectively with agency's supervisors and colleagues.
- Develop personal learning goals and objectives in measurable terms appropriate to the agency setting.

HSER199V - Special Studies

- Investigate topics in human services.

KLS195 - Personal Health & Wellness

- Demonstrate ability to monitor, understand, and impact changes in one's own health status.
- Demonstrate knowledge and understanding of basic definitions, concepts, principles, theories, and issues that provide a multi-disciplinary foundation for understanding core concepts in health.
- Describe best practices that promote health and wellness.

SW200 - The Field of Social Work

- Analyze social problems affecting individuals, families, groups, and communities.
- Describe the professional characteristics of social work.
- Explain social work values and their implications in the field.
- Identify principles and skills involved in social work.
- Recognize personal characteristics and their implications in the practice of social work.

Information and Computer Science**CLO****ICS100 - Computing Literacy & Appls**

- Define, explain, and demonstrate proper computing terminology usage in areas such as hardware, software, and communications.
- Describe ethical issues involved in the use of computing technology.
- Utilize online resources for research and communication.

- Utilize operating system interfaces to manage computing resources effectively and securely.
- Utilize the basic features of computing applications to communicate effectively (major content area).

ICS101 - Digital Tools for Info World

- Choose the proper application software to solve a specific problem and/or produce a desired output.
- Create a relational data base table with filters, queries and reports that extract and display records.
- Create a variety of electronic slides using templates, background styles, graphics, photographs, and animation effects.
- Demonstrate the integration of different application output.
- Demonstrate the use of the operating system to manage software files and folders.
- Describe the use of computer technology and its impact on society.
- Explain why data created on the computer must be saved on a storage device.
- Produce a document in a variety of formats using word processing software.
- Solve and display the results of a mathematical or financial analysis using spreadsheet software.
- Use a browser to navigate and search the Internet for research topics.
- Use an electronic mail program to send and receive messages and attachments.
- Use proper terminology to describe computer hardware components and their function in processing software instructions and input data.

ICS102 - Intro to Internet Resources

- Create a Web site on a local or remote server.
- Create Web pages by writing HTML code with a simple text editor.
- Describe how JavaScript can be used to create dynamic web pages.
- Discuss network security problems and protection against viruses.
- Insert hyperlinks and various image and sound formats into a Web page.
- Manage Web page files and folders including the assignment of permission codes.
- Use Cascading Stylesheets to style a web page.
- Use JavaScript to perform simple animation on a web page.
- Use Secure File Transfer Protocol to upload and download files via the Internet.

ICS110P - Intro to Information Systems

- Apply analytical and problem solving skills when writing programs.
- Explain the steps involved in the programming process.
- Solve simple problems and express those solutions as algorithms.
- Understand web technologies and develop programs to interact with them.
- Write simple programs that use input, output, selection statements, and repetition statements.

ICS111 - Intro to Comp Science - Java

- Demonstrate basic problem solving skills: analyzing problems, modeling a problem as a system of objects, creating algorithms, and implementing models and algorithms in an object-oriented computing language.
- Demonstrate working with primitive data types, strings and arrays.
- Illustrate basic programming concepts such as program flow and syntax of a of a high-level general purpose language and basic security practices.
- Use an appropriate programming environment to design, code, compile, run and debug computing programs.

ICS141 - Discrete Math Comp Sci I

- Determine whether or not a relation is a partial order.
- Find the closure of a relation.
- Prove mathematical theorems, including proofs using mathematical induction.
- Solve counting problems using basic counting techniques.

- Solve counting problems using the concepts of permutations, combinations, and binomial coefficients.
- Solve problems in elementary set theory.
- Solve problems in propositional logic.
- Solve simple recurrence relations.
- Use Venn diagrams.
- Work with reflexive, symmetric, transitive, equivalent, and anti-symmetric relations.
- Work with truth tables.

Music and Entertainment Learning Experience

CLO

MELE101 - Survey of Mus & Ent Business

- Demonstrate a basic understanding of copyright law with respect to the music & entertainment industry.
- Demonstrate a basic understanding of the contracts and terminology used in the music & entertainment industry.
- Demonstrate a basic understanding of the major revenue streams in the music & entertainment industry.
- Demonstrate knowledge of the career options and roles in the music & entertainment industry.
- Demonstrate knowledge of the major entertainment conglomerates and their country of origin.

MELE102 - Survey of Recording Technology

- Demonstrate ability to conduct, analyze and interpret experiments, and apply experimental results to improve processes.
- Demonstrate an ability to communicate effectively.
- Demonstrate an ability to understand professional, ethical and social responsibilities.
- Demonstrate appropriate mastery of the knowledge, techniques, skills and modern tools of the discipline of audio engineering.
- Demonstrate knowledge of the history and evolution of recording technology.
- Demonstrate the ability to apply creativity in the design of audio engineering systems, components or processes appropriate to program objectives.
- Demonstrate the ability to apply current knowledge and adapt to emerging applications of science, technology, engineering, and mathematics.
- Demonstrate the ability to identify, analyze and solve technical problems.

MELE103 - Modern Music & Theory

- Demonstrate an ability to identify notes, chords, and rhythm.
- Demonstrate an ability to name and identify various musical instruments and their families.
- Demonstrate an ability to write music notation and create a lead sheet.
- Demonstrate knowledge of basic song forms and songwriting techniques.

MELE104 - Songwriting & Arranging Tech.

- Analyze the manner in which rhythm, melody, harmony, and lyrics work together to create memorable songs.
- Collaborate with other student songwriters to create song compositions and demo recordings ready for pitching.
- Create original songs with lyrics, melody, and chord progressions that demonstrate competence of song structure and a variety of lyrical techniques.

MELE201 - Hist of the Rec & Ent Industry

- Demonstrate a basic understanding of how the recording industry developed in terms of music, business, and technology.
- Demonstrate a basic understanding of recording labels and popular music recordings from 1877 to the present.
- Demonstrate a basic understanding of the recording industry in Hawaii, its historical origins, key performers, and organizations.

MELE202 - Pub Rel Mus & Ent Industry

- Build an electronic press kit for use in an artist website.
- Compile and present the different components of a press kit.

- Critique, compare and rate various artist websites.
- Understand artist image and its importance in the public relations field.
- Write a press release.
- Write an artist biography.
- Write effective story hooks.

MELE203 - Intel Prop Mus & Ent Industry

- Demonstrate a basic understanding of how intellectual property rights can be infringed.
- Demonstrate a basic understanding of the different types of intellectual property with primary emphasis on copyright law.
- Demonstrate a basic understanding of the exclusive rights under copyright law.
- Demonstrate a basic understanding of the process for registering copyrights and trademarks.

MELE204 - Mus Pub in the Ent Industry

- Demonstrate a basic understanding of different types of publishing deals available to songwriters.
- Demonstrate a basic understanding of the creative tasks performed by music publishers.
- Demonstrate a basic understanding of the revenue streams available to music publishers.
- Demonstrate a basic understanding of the role music publishing plays in the music & entertainment industry.

MELE205 - Concert & Event Production

- Demonstrate an understanding of the logistics involved with planning a concert/event from artist & venue selection, budgeting, accommodations, technical & hospitality requirements, promotion & publicity.
- Demonstrate an understanding of the typical types of deals and the income streams found in the concert/event business.
- Demonstrate an understanding of the vocabulary and concepts used in the concert/event business.
- Identify the key organizations/individuals and their specific roles in the concert/event business.

MELE206 - Music Supervision

- Demonstrate an understanding of effective music placement.
- Demonstrate an understanding of the career opportunities for music supervisors.
- Demonstrate an understanding of the licenses and cue sheets required for creative media projects.
- Demonstrate an understanding of the music supervision and production workflow.

MELE211 - Audio Engineering 1

- Demonstrate an ability to identify, analyze and solve technical problems.
- Demonstrate an appropriate mastery of studio mixing techniques.
- Demonstrate an appropriate mastery of studio outboard equipment including spectral, dynamic, and time processors.
- Demonstrate an understanding of basic electronic audio signal flow in the recording studio.
- Demonstrate proper recording session procedures for tracking, overdubbing and mixing sessions.

MELE212 - Digital Audio: Theory and DAW

- Apply basic concepts and techniques learned, into industry applications in the areas of film, music and game audio.
- Effectively navigate menu systems, system configurations, file structures, main windows, edit tools and modes, time rulers and midi controls of ProTools software.
- Identify software and hardware components, file formats, plug-ins, virtual instruments, editing tools and functions of a digital audio workstation.
- Recall significant dates, events and technological advances in digital audio.
- Understand the theory and application of MIDI protocol.

MELE213 - Studio Production

- Analyze existing music productions from different recording eras.
- Demonstrate techniques, skills, and modern tools of the discipline of audio production.
- Identify, analyze and solve technical problems.

- Plan, conduct, and conclude recording sessions.
- Understand professional, ethical and social responsibilities.

MELE214 - Electronics for Audio Eng.

- Demonstrate their knowledge of audio electronics including basic circuit design, signal flow and system troubleshooting.
- Have a general understanding of electronics and circuit theory to assist them in the understanding and application of audio engineering.
- Interpret basic electronic schematics and manuals, operate electronic meters, oscilloscopes and utilize audio analyzers.

MELE215 - Sound Reinforcement

- Apply analog console live signal routing and signal flow charts.
- Design, assemble, trouble-shoot and operate small venue sound systems with a knowledge base of large concert venue sound systems.
- Identify and analyze live acoustic and audio system technical problems.

MELE216 - Live Audio for Media

- Design, assemble, trouble-shoot, operate and record in Live Audio for Media settings.
- Obtain quality audio for various Internet Mediums.
- Set up audio for Conferences, Field Recordings, Set recordings and Live Events.

MELE220 - Audio Engineering II

- Apply basic audio perception skills required of the recording engineer.
- Operate the NEVE consoles as well as analog and digital recording equipment found in the Mike Curb MELE Studios.
- Organize, execute, document, and participate in recording sessions in the Mike Curb MELE Studios.

MELE222 - Adv. Digital Audio:Theory&DAW

- Apply advanced concepts and techniques learned, into industry applications in the areas of film, music and game audio.
- Effectively navigate advanced menu systems, system configurations, file structures, main windows, edit tools and modes, time rulers and midi controls of ProTools software.
- Identify advanced software and hardware components, file formats, plug-ins, virtual instruments, editing tools and functions of a digital audio workstation.
- Understand advanced theory and application of MIDI protocol.

MELE275 - Practicum

- Acquire marketable skills and make valuable industry connections.
- Apply music business/audio technology theories and principles to specific situations within their practicum experience.
- Observe and reflect on professional behavior in the music industry.
- Obtain practical experience in the music & entertainment industry.

MELE311 - Audio Post Production I

- Apply advanced post production recording techniques to film, animation and game audio.
- Record post production audio with advanced recording techniques such as Dialogue, Voice Over, ADR, and Sound Effects and Design.

MELE320 - Audio Post Production II

- Apply advanced post production recording techniques to Film, Animation and Game Audio.
- Identify and pull all of the sound elements together for final mixing.
- Implement the use of Surround Sound in a final Mix.
- Record and edit Foley.
- Using a proper workflow, balance all of the elements for a project.

Cooperative Education

Cooperative Education courses

CLO**ABRP93V - Cooperative Education**

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.
- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

AEC193V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations.
- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement.

AERO93V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.
- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

AJ193V - Cooperative Education

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- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

AMT93V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations.
- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement.

APTR193V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.
- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student

Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

CA193V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.
- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

CARP93V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.
- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

COSM93V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations.
- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement.

CSNT290V - Cooperative Education

- **Demonstrate Job Performance:** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations.
- **Personal Assessment:** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement.
- **Secure Job Placement:** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit.

CSNT293V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations.
- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement.

DISL93V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.
- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.
- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

EIMT93V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA

regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.

- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.

- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

FIRE193V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.

- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.

- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

FT93V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.

- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.

- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

FT193V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.

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HUM193V - Cooperative Education

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- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.

- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

OESM193V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations.

- **Job Placement.** The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit.

- **Personal Assessment.** The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement.

RAC93V - Cooperative Education

- **Job Performance.** As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA

regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.

- Job Placement. The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.

- Personal Assessment. The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

SCI193V - Cooperative Education

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- Job Placement. The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.

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SMP93V - Cooperative Education

- Job Performance. As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.

- Job Placement. The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.

- Personal Assessment. The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

SSCI193V - Cooperative Education

- Job Performance. As part of a team, the student will perform all duties required at the cooperative education work site, demonstrating positive work habits and using appropriate procedures, tools and equipment, consistent with all applicable standards and OSHA regulations. This Learning Outcome will be assessed by: Student Time Sheet; Employment Supervisor's Evaluation of Cooperative Education.

- Job Placement. The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.

- Personal Assessment. The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

WELD93V - Cooperative Education

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- Job Placement. The student will obtain a position with a company that is related to his/her major and perform a minimum of 75 hours per semester for each credit. This Learning Outcome will be assessed by: Cooperative Education Student Application Form; Resume, Cover letter and list of potential employers; Cooperative Education Agreement.

- Personal Assessment. The student will demonstrate an understanding of personal skills with an awareness of the impact of abilities and skills on career development and academic achievement. This learning outcome will be assessed by: Mid Term Report; Student Evaluation of Cooperative Education Experience; Learning Outcome Paper(s).

Hawaiian Programs

Hawaiian

CLO

HAW101 - Elementary Hawaiian I

- Communicate orally in Hawaiian at a novice mid level.
- Produce and interpret written Hawaiian at a novice mid level.

- Recognize the relationship between the practices and perspectives of Hawaiian culture.
- Utilize vocabulary and other language skills that integrate work, school, family, 'ina, and language in real life applications.

HAW102 - Elementary Hawaiian II

- Communicate orally in Hawaiian at a novice high level.
- Produce and interpret written Hawaiian at a novice high level.
- Recognize the relationship between the practices and perspectives of Hawaiian culture.
- Utilize vocabulary and other language skills that integrate work, school, family, 'ina, and language in real life applications.

HAW110 - Evol of Hawai'i's Languages

- Explain key similarities and differences between modern Native speakers and second language speakers of Hawaiian today.
- Explain the cross-cultural exchanges and relationships developed with its impact on the languages, culture, and diversity of Hawaii.
- Explain the evolution of the Hawaiian Language in Hawaii dating from 1778 to present.
- Identify basic Hawaiian and Pidgin phrases.

HAW201 - Intermediate Hawaiian Lang I

- Apply and interpret vocabulary and other language skills that integrate work, school, family, 'ina, and language in real life applications.
- Communicate orally in Hawaiian at an intermediate low level.
- Demonstrate an understanding of the grammatical and structural aspects of Hawaiian.
- Ho'ike (Demonstrate) practices and perspectives of Hawaiian culture.
- Produce and interpret written Hawaiian at an intermediate low level.

HAW202 - Intermediate Hi Language II

- Apply and interpret vocabulary and other language skills that integrate work, school, family, 'ina, and language in real life applications.
- Communicate orally in Hawaiian at an intermediate mid level.
- Demonstrate an understanding of the grammatical and structural aspects of Hawaiian.
- Ho'ike (Demonstrate) practices and perspectives of Hawaiian culture.
- Produce and interpret written Hawaiian at an intermediate mid level.

HAW261 - Hawaiian Literature in English

- Apply a variety of literary terms for literary analysis.
- Demonstrate confidence and competence in producing grammatically correct, well-organized and thoughtful writing.
- Discuss the literature of the native Hawaiians, compare and contrast with those found in other civilizations and traditions.
- Discuss universal themes and experiences that transcend cultural and time differences.
- Explain each selection as an example of the genre to which it belongs.
- Explain literary works as products of the social, historical, political and religious contexts of classical Hawaiian culture.
- Identify and explain a variety of indigenous Hawaiian literary works ranging from folk tales, children's stories, legends, myths, poetry, prose, and prayers.

Hawaiian Studies

CLO

HWST105 - Hawaiian Plants & Their Uses

- Demonstrate awareness of scientific and folk taxonomy as the relate to Hawaiian plants.
- Describe the influence of natural history and environmental conditions on the habitat distribution of these plants and on Hawaiian settlement patterns.
- Discuss the relationship of selected plants to Hawaiian material culture, agricultural practices, and belief systems.
- Identify differences and similarities between Hawaiian ethnobotanical practices with those in other Polynesian societies.

- Identify plants of ethnobotanical significance in Hawaiian culture by their Hawaiian names.
- Identify the origins and dispersal agents of endemic, indigenous, and introduced plants in Hawai'i.

HWST107 - Hawaii: Center of the Pacific

- Demonstrate how important it is to mlama (care for) the 'ina (land) because of the relationship the people of Hawai'i and Oceania have always had with the environment.
- Demonstrate knowledge of the origins, migrations and settlement patterns of Oceania.
- Explain the connections of historical events to modern issues in relation to the unique social, political and economic history of Hawai'i, including concepts such as colonization and decolonization, occupation, independence movements, and sovereignty.
- Identify and explain basic knowledge of Pacific (Oceania) geography, including Hawaiian place names and land divisions.
- Pronounce and spell Hawaiian words correctly, as well as have a basic understanding of the cultural and political significance of indigenous languages in the Pacific.
- Show knowledge of similarities between Native Hawaiians and other Oceanic people's cultures, languages, religions, arts, and natural resources.

HWST110 - Intro to Hawn Voyaging

- Describe the tools contemporary navigators use for open-ocean voyaging.
- Discuss the historical and cultural events leading to the revival and reestablishment of Hawaiian voyaging.
- Explain the various aboriginal and academic narratives relating to the migration to and settlement of Oceania.
- Locate and name the islands and island groups of Oceania.

HWST110L - Waa Hookele:Hawn Sailing Lab

- Describe the tools contemporary navigators use for open-ocean voyaging.
- Discuss the historical and cultural events leading to the revival and reestablishment of Hawaiian voyaging.
- Explain the various aboriginal and academic narratives relating to the migration to and settlement of Oceania.
- Locate and name the islands and island groups of Oceania.

HWST128 - Introduction to Hula Kahiko

- Execute basic hula steps and motions.
- Explain basic hula and oli (chant) practices and traditions.
- Identify hula and oli (chant) terminology.
- Perform all learned pieces.

HWST129 - Introduction to Hula ?Auana

- Execute basic hula steps and motions.
- Explain basic contemporary hula and mele (music, song, poetry) practices, and traditions.
- Identify contemporary hula and mele (music, song, poetry) terminology.
- Perform all learned pieces.

HWST135 - HAWN Woodwork and Wood Carving

- Develop skills that improve personal well-being and enhance professional potential in visual arts.
- Express ideas clearly and creatively in diverse ways through the fine and performing arts, speech and writing.
- Gain insight into how visual arts and writing have applications in today's Hawaiian cultural practices to help recognize one's role in community and global issues with a respect for diverse cultures and differing views while embracing one's own cultural values and heritage.
- Use research and technology skills to access information from multiple sources; use critical thinking and problem solving skills to evaluate and synthesize information to form conclusions, ideas and opinions.

HWST207 - Hawn Perspectives in Ahupua'a

- Demonstrate an increased understanding of the unique genealogical and spiritual relationship that Hawaiians have with the 'ina through the concept of ahupua'a.
- Demonstrate an understanding of Hawaiian perspectives regarding traditional land tenure, resource management, and geography.
- Development of research approaches in mlama 'ina through an examination of sources in online sites and physical repositories.

HWST228 - Hula Kahiko

- Execute hula steps and motions.
- Explain hula and oli (chant) practices and traditions.
- Identify hula and oli (chant) terminology.
- Perform all learned pieces.

HWST229 - Hula ?Auana

- Execute hula steps and motions.
- Explain contemporary hula and mele (music, song, poetry) practices, and traditions.
- Explain historical development of hula, and mele (music, song, poetry).
- Identify contemporary hula and mele (music, song, poetry) terminology.
- Perform all learned pieces.

HWST255 - Intro to the Hawaiian Kingdom

- Analyze past events in Hawaii by using methodological reasoning (including but not limited to objective/subjective frameworks, positive/normative interpretations of knowledge, and using multiple sources of information) on the various models of social, political or economic systems.
- Analyze the cause and effects (social, political and economic) of the Great Mhele as a unique land tenure system on Hawaiian society.
- Analyze the problems facing each of the Alii Nui, their solutions to those problems and the historical significance of each Alii Nui from Kamehameha I to Queen Liliuokalani.
- Assess the various lawful and unlawful Hawaiian Constitutions (including but not limited to the 1840, 1852, 1864, 1887, and 1894 constitutions) their creation, implementation and legal authority.
- Compare and contrast applicable domestic and international law terminology (including but not limited to colonization/occupation, state/government, treaty/joint resolution) as applied to the Hawaiian historical context.
- Explain the economic development of the Hawaiian Kingdom from a pre-unification feudal society to an internationally recognized nation-state.
- Explain the political development of the Hawaiian Kingdom from a pre-unification feudal society to an internationally recognized nation-state.
- Explain the social development of the Hawaiian Kingdom from a pre-unification feudal society to an internationally recognized nation-state.

HWST270 - Hawaiian Mythology

- Analyze the relationship between Hawaiian mo'olelo (mythologies) and Hawaiian worldview, including Hawaiian cultural values and traditions.
- Describe akua (deities), kupua (deities), 'aumakua (ancestral family deities), and kanaka (humans) and their various forms from Hawaiian mo'olelo.
- Employ the terminology of literary and/or cultural analysis in the study of Hawaiian mo'olelo.
- Identify and utilize written and oral sources of Hawaiian mo'olelo.

HWST275A - Pana O?ahu

- Demonstrate an increased understanding of the unique genealogical and spiritual relationship that Hawaiians have with the 'ina through the concept of mlama 'ina.
- Demonstrate an understanding of Hawaiian perspectives regarding traditional land tenure, resource management, poetry, and geography.
- Demonstrate an understanding of research approaches in mlama 'ina through an examination of sources in online sites and physical repositories.

HWST281 - Ho'okele I:Hawn Astronomy&Nav

- Demonstrate a basic knowledge of the richness of the Hawaiian language in describing the environment, and how the terminology reflects a Hawaiian world view.
- Demonstrate knowledge of the stories, both traditional and contemporary, that are attached to the stars, constellations and star lines used by Hawaiian wayfinders.
- Demonstrate knowledge of traditional Hawaiian and Polynesian concepts of the cosmos, space, direction, and time and explain how these concepts compare with Western concepts.
- Identify and explain the significance of celestial bodies and atmospheric and oceanic features and conditions used in wayfinding.
- Identify and name the component parts of the Hawaiian star compass used by Polynesian Voyaging Society (PVS) trained navigators and explain the differences between that compass and the Micronesian star compass used by Mau Piailug.
- Identify and name the four star lines used by contemporary Hawaiian wayfinders and the stars and constellations (both Hawaiian and non- Hawaiian names) that make up those star lines.

HWST281L - Ho'okele I: Hawn Astro&Nav Lab

- Apply knowledge of the stories, both traditional and contemporary, that are attached to the stars, constellations and star lines used by wayfinders in a live setting.
- Apply practical knowledge of traditional Hawaiian and Polynesian concepts of the cosmos, space, direction, and time and how these concepts compare with Western concepts.
- Identify and name the component parts of the star compass used by Polynesian Voyaging Society (PVS) trained navigators in a live setting.
- Identify and name the four star lines used by contemporary Hawaiian wayfinders in a live setting.
- Identify and name the stars and constellations (both Hawaiian and non-Hawaiian names) that make up the individual star lines in a live setting.
- Identify and explain significance of celestial bodies and atmospheric and oceanic features and conditions used in wayfinding in a live setting.

HWST282 - Ho'okele II: Hawn Voyaging&Sea

- Demonstrate ability to develop a sail plan.
- Demonstrate knowledge of Hawai'i and Pacific geography, weather systems, and oceanic currents and conditions.
- Demonstrate knowledge of the dangers associated with sailing and appropriate emergency procedures.
- Demonstrate knowledge of the significance of voyaging in the revival of native Hawaiian culture and education in modern times.
- Demonstrate knowledge of the voyages of Hokule'a and other modern Pacific canoes and what has been learned from such voyages about traditional navigation, voyaging, and migration routes.
- Demonstrate knowledge of voyaging canoe parts, design, building materials, and rigging.

HWST282L - Ho'okele II: Hawn Voy&Sea Lab

- Demonstrate ability to accurately monitor weather and ocean patterns to determine safe ocean conditions for sailing.
- Demonstrate basic seamanship skills required to sail a canoe which include: tying and untying knots, casting off from a dock, paddling, rigging the mast, setting the sails, steering, tacking, stopping, and docking.
- Demonstrate knowledge of appropriate cultural protocol and values associated with sailing Hawaiian voyaging canoes.
- Demonstrate knowledge of the parts of the canoe and canoe rigging.
- Demonstrate knowledge of the roles and responsibilities of crew positions on board the sailing canoe.
- Identify and explain the dangers associated with sailing canoes, appropriate emergency procedures and the use of proper equipment to safeguard against harm and injury at sea.

HWST284 - He Moku He Wa'a: Island Canoe

- Critically examine and analyze traditional resource management and food production in Hawai'i and their relevance in addressing contemporary environmental issues in Hawai'i and Oceania.
- Demonstrate knowledge of basic concepts of non-instrument navigation.
- Demonstrate knowledge of developing and carrying out a sail plan which include: course strategy, reference course, and necessary provisions.
- Demonstrate knowledge of the parts of a voyaging canoe, canoe rigging, and safety and emergency procedures.
- Demonstrate knowledge of the voyages of Hokulea and other modern Oceanic canoes and what has been learned from such voyages about traditional navigation and voyaging.
- Identify some Native and Polynesian-introduced plants and explain traditional uses of these plants.
- Recognize and explain the significance of aloha 'ina (love of the land) as a core value of traditional Hawaiian society.

HWST285 - La'au Lapa'au

- Identify 45 various Hawaiian, and introduced medicinal herbs.
- Produce multiple herbal remedies and utilize them in various forms for application to the body.
- Recount basic mo'olelo pertaining to la'au lapa'au in Hawai'i and the University of Hawai'i System.
- Use the herbs and concepts of health in designing a wellness plan for a final project.

HWST297 - Hula 'Olapa-Advanced Tradition

- Execute hula steps and motions.
- Explain hula and oli (chant) practices and traditions.
- Identify hula and oli (chant) terminology.

- Perform all learned pieces.

Interdisciplinary

Interdisciplinary Studies

CLO

IS20 - Introduction to the Trades

- Apply appropriate standards for efficiency, technique, style, and product.
- Assess personal knowledge, skills and Interests to determine which careers would be appropriate, and the financial and social implications of that choice on self and family.
- Choose a career and complete a 4-year academic and 5-year professional plan.
- Communicate effectively with instructors, co-workers and customers while performing tasks related to projects.
- Complete a project management plan and present it to the class: Identify necessary labor, overhead, resources, materials, tools and equipment; Calculate cost of project; Create a time line and critical work functions; Determine Code and OSHA requirements; Identify and adhere to applicable codes and standards; Prepare a bill of materials; Prepare a cutting list.
- Conduct an on site evaluation and design a safety plan for a worksite.
- Conduct an online research project to identify the levels of education, training, and certification requirements, employment opportunities, workplace environments, career growth potential, and impact of current and future technologies for each occupation using ECOS, Career Kookua, O Net, etc.
- Create a working drawing and written specifications for a project.
- Demonstrate interpersonal skills including equity, good attendance and promptness, willingness to learn, proper dress and hygiene.
- Demonstrate knowledge and proper use of tools and equipment according to industry standards and OSHA requirements.
- Demonstrate positive work habits including quality and quantity of work performance.
- Demonstrate proper identification and use of materials.
- Demonstrate respect for all people encountered on the job site including women, people from diverse backgrounds and those with special needs.
- Demonstrate safety precautions and practices including the safe use and maintenance of materials, equipment, hand tools and power tools.
- Demonstrate stamina by performing required tasks in allowed time period without becoming strained or overly tired.
- Demonstrate the skills needed to prepare for, seek, obtain, maintain, advance in and change jobs.
- Design, construct and finish a project that uses a variety of materials, tools, equipment and procedures according to industry standards.
- Identify and address customer needs to achieve customer satisfaction.
- Interpret orthographic and pictorial symbols.
- Maintain a drug-free lifestyle.
- Maintain mental clarity and demonstrate problem solving and critical thinking required for the trades occupations.
- Practice time management and stress management, and demonstrate how to diffuse a disagreement using a trades examples.
- Prepare a safety-training workshop for workers incorporating hazard identification, personal protective equipment, blood born pathogens, OSHA regulations, and stress management techniques and present it to the class.
- Provide assistance to others while working on jobs.
- Recognize and identify basic blueprint terms, components, end symbols.
- Recognize different classifications of working drawings and apply drawing specifications to projects.
- Relate information on blueprints to actual locations on the print.
- Use math skills to solve problems related to plan.
- Work as an effective team member assuming various roles (leader, member, mentor).

IS100 - UH Manoa Transfer Seminar

- Build a network of peers with the common experience of transferring.

- Design and implement an action plan that includes transfer goals.
- Identify and apply the steps of decision-making to educational choices.
- Identify campus resources available to them as they transition to University of Hawaii at Manoa.
- Integrate the results of self-assessment to identify educational options. Recognize the value of self-assessments (e.g. interests, values, etc.) and understand how these relate to different majors and opportunities in academia.
- Recognize the psychological and emotional components of the transfer process.
- Understand the cultural and historical importance of University of Hawaii at Manoa.
- Understand the overall transfer process from Honolulu Community College to University of Hawaii at Manoa.

IS103 - Introduction to College

- Demonstrate knowledge of registration procedures
- Develop a money management plan to handle personal and school expenses.
- Discuss their definition of success.
- Evaluate the importance of their life roles and how it will effect college expectations.
- Explain important college and academic policies
- Identify college resources and their functions

IS106 - Sustainable Const Practices

- Establish a foundation for the importance of sustainable I green building.
- Explore LEED and the National Green Building Standard.
- Identify how laws, requirements and incentives encourage green building.
- Identify the benefits of green building.
- Make connections between environmental issues that we will discuss in this class.
- Recognize and identify green building strategies.

Language Arts

American Sign Language

CLO

ASL101 - Elem American Sign Language I

- Demonstrate comprehension and correct use of American Sign Language through application and classroom conversation.
- Demonstrate knowledge of basic concepts, rules, and functions of American Sign Language including appropriate body language and facial expressions.
- Demonstrate the ability to translate basic English concept sentences into understandable American Sign Language through expressive classroom work and receptive practice.
- Demonstrate understanding of fundamental American Sign Language functions and various grammatical concepts through participation in expressive and receptive assignments within the classroom.

ASL102 - Elem American Sign Language II

- Demonstrate comprehension and correct use of American Sign Language through application in classroom conversation.
- Demonstrate knowledge of basic concepts, rules, and functions of American Sign Language including appropriate body language and facial expressions.
- Demonstrate the ability to translate basic English concept sentences into understandable American Sign Language through expressive classroom work and receptive practice.
- Demonstrate understanding of fundamental American Sign Language and various grammatical concepts through participation in expressive and receptive assignments within the classroom.

ASL201 - Intermediate ASL I

- Demonstrate comprehension and correct use of American Sign Language through application in classroom conversation.
- Demonstrate knowledge of concepts, rules, and functions of American Sign Language including body language and facial expressions.

- Demonstrate the ability to translate English concept sentences into understandable American Sign Language through expressive classroom work and receptive practice.
- Demonstrate understanding of American Sign Language functions and grammatical concepts through participation in expressive and receptive assignments within the classroom.

ASL202 - Intermediate ASL II

- Demonstrate comprehension and correct use of American Sign Language through application in classroom conversation.
- Demonstrate knowledge of concepts, rules, and functions of American Sign Language including body language and facial expressions.
- Demonstrate the ability to translate English concept sentences into understandable American Sign Language through expressive classroom work and receptive practice.
- Demonstrate understanding of American Sign Language functions and grammatical concepts through participation in expressive and receptive assignments within the classroom.

Chinese

CLO

No CLOs

East Asian Languages and Literature

CLO

EALL271 - Japanese Lit Translation

- Apply various critical approaches to works of Japanese literature.
- Demonstrate knowledge of major forms of Japanese literature from the earliest era to the mid-19th century.
- Demonstrate knowledge of major Japanese works before mid-19th century.
- Explicate works of Japanese literature as a reflection of Japanese culture.
- Express opinions concerning traditional Japanese literature clearly and effectively orally and in writing.
- Identify and explain literary devices used in traditional Japanese literature.
- Identify major themes in traditional Japanese literature, describe their implications, and explain their basic assumptions.

EALL272 - Japanese Lit Trans Modern

- Apply various critical approaches to works of Japanese literature.
- Demonstrate knowledge of major forms of Japanese literature from the mid-19th century to the present.
- Demonstrate knowledge of major Japanese works and author after mid-19th century.
- Explicate works of Japanese literature as a reflection of Japanese culture.
- Express opinions concerning modern Japanese literature clearly and effectively orally and in writing.
- Identify and explain literary devices used in modern Japanese literature.
- Identify major themes in modern Japanese literature, describe their implications, and explain their basic assumptions.

English

CLO

ENG100 - Composition I

- Demonstrate clear, logical, and inventive thinking through writing.
- Gather and evaluate information purposefully from electronic and print sources.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for college writing.
- Revise, edit, and proofread for correctness, clarity, and effectiveness.
- Write a research paper that supports a thesis, integrates expert opinions from various sources, and documents sources appropriately.

ENG100S - Composition Supplement I

- Demonstrate clear, logical, and inventive thinking through writing.
- Gather and evaluate information purposefully from electronic and print sources.

- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for college writing.
- Revise, edit, and proofread for correctness, clarity, and effectiveness.
- Write a research paper that supports a thesis, integrates expert opinions from various sources, and documents sources appropriately.

ENG100T - Composition Supplement II

- Demonstrate clear, logical, and inventive thinking through writing.
- Gather and evaluate information purposefully from electronic and print sources.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for college writing.
- Revise, edit, and proofread for correctness, clarity, and effectiveness.
- Write a research paper that supports a thesis, integrates expert opinions from various sources, and documents sources appropriately.

ENG201 - Intro to Creative Writing

- Demonstrate and practice effective oral delivery of literary writing.
- Evaluate and critique to improve literary writing using the Workshop process.
- Identify and explain the artistry of well-written poetry, fiction, and non-fiction.
- Prepare poetry, fiction, and non-fiction for submission to publishers.
- Produce and use imaginative writing to communicate significant ideas, feelings, and attitudes to a literary audience and to further the continuing dialogue of literature from classic to contemporary.
- Recognize, employ, and explain the basic elements, concepts, terminology, approaches, and techniques of poetry, fiction, and non-fiction.
- Write poetry, fiction, and non-fiction of literary form and quality.

ENG202 - Advanced Creative Writing

- Demonstrate and practice effective delivery of writing in works of the genre(s).
- Evaluate and critique to improve writing works of the genre(s) using the Workshop process.
- Identify and explain the artistry of well-written works of the genre(s).
- Prepare works of the genre(s) for submission to publishers, producers, or agents.
- Produce and use imaginative writing to communicate significant ideas, feelings, and attitudes to an audience and to further the continuing dialogue within genre(s) from classic to contemporary.
- Recognize, employ, and explain the basic elements, concepts, terminology, approaches, and techniques of the genre(s) in the course.
- Write works of literary form and quality in the genre(s).

ENG209 - Business & Managerial Writing

- Apply current available technology to business communication.
- Apply effective strategies and techniques to facilitate business communication.
- Compose various writing for specific business purposes.
- Demonstrate comprehension of the importance, goals, and patterns of business communication, both orally and in writing.
- Discuss and explain the importance of ethics in a business environment.
- Revise, edit, and proofread for correctness, clarity, and effectiveness.

ENG210 - Writing Term Papers

- Demonstrate clear, logical, and inventive thinking through writing.
- Demonstrate effective use of primary and secondary sources in developing and supporting a thesis.
- Effectively employ the MLA format in bibliographical and parenthetical citations.
- Organize and present ideas convincingly and logically in expository prose.
- Write a clear thesis statement and present and develop significant points in extended essays.

ENG250 - American Literature

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss and explain the development of American literature.

- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss the artistry of literary works and writers of American literature.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG251 - British Literature to 1800

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss the artistry of literary works and writers of British literature before 1800.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG252 - British Literature after 1800

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss the artistry of literary works and writers of British literature after 1800.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG253 - World Literature to 1600

- Apply basic critical concepts and terminology to the analysis of literary works.
- Explain and discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss the artistry of literature from different areas of the world from ancient times to the early modern period.
- Identify a writer's implied as well as literal meaning.
- Identify and evaluate the historical contexts and trends of literature written before 1600, such as development of urban centers, cultural and economic trade, and world exploration.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG254 - World Literature after 1600

- Analyze the development of literature from different areas of the world from the Renaissance to the present.
- Apply basic critical concepts and terminology to the analysis of literary works.
- Explain and discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Identify a writer's implied as well as literal meaning.
- Identify and evaluate the historical contexts and trends of literature written after 1600, such as the growth of imperialism and industrialization.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG255 - Short Story & Novel

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss short stories and novels, including the techniques involved in their creation.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG256 - Poetry & Drama

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss poetry and drama, including the techniques involved in their creation.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257A - Literary Perspectives Anime

- Apply basic critical concepts and terminology to support the analysis of texts and films.
- Discuss major themes in Japanese anime and explore the artistic, social, and political implications.
- Identify the director's or writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims about the films and texts.
- Write essays that support a thesis integrate expert opinions and document sources appropriately.

ENG257B - Baseball in Literature

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss the unique quality of short stories, novels, poetry, or other literature related to baseball.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257C - Comedy & Satire in Literature

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss humor or comedy in short stories, plays, or novels, including the techniques involved in their creation.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257E - Wild Wrtg: Env and Eco Non Fic

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss and explain the artistry of literary works and writers as artists and theorists of wilderness, nature, environment, and ecology.
- Explain and discuss major themes in a work of literature, explore implications, and identify basic assumptions.

- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257F - Women in Literature

- Apply basic critical concepts and terminology to the analysis o literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss the nature and role of women in literature
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257G - Manga as Literature

- Apply basic critical concepts and terminology to the analysis of texts.
- Discuss major themes in manga and explore the artistic, social, and political implications.
- Identify a writer's/artist's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims about the texts.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257H - Hip-Hop Liter & Urban Culture

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in hip-hop and explore the artistic, social, and political implications.
- Identify a writers implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257K - Literature on Hawaii

- Apply basic critical concepts and terminology to the analysis of literary works.
- Demonstrate understanding of differing perspectives of local and non-local authors writing about Hawaii.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257M - Cross-Cult Persp Asia/Pac Lit

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss the artistry of literary works and writers of Asia and the Pacific.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257N - Books at the Movies

- Apply basic critical concepts and terminology to the analysis of works of literature and film.
- Discuss and explain the artistry of literary and cinematic works and writers and film-makers as artists adapting films from literature.
- Explain and discuss major themes in works of literature and film, explore implications, and identify basic assumptions.
- Identify the implied as well as the literal meaning in literature and film.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257O - Okinawan Literature

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss and explain the artistry of literary works as artists and theorists of Okinawan literature
- Explain and discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257P - Literature & The Sea

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss the psychological significance of the sea in literature and its biographical and literary significance to the authors.
- Identify a writers implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257S - Comics, Superheroes and Society

- Apply basic critical concepts and literary terminologies, theories, categories, motifs, and genres appropriate to an analysis of works that make use of both the visual and written mediums.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Identify and explore important historical, cultural, and economic factors that have influenced comic book writers and artists and how comic book superheroes have influenced American culture.
- Write essays that support a thesis, integrate literary evidence to support claims, and document sources appropriately.

ENG257X - Science Fiction

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss the interaction between technology and society and how works of literature reflect technology's influence on culture and human identity.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions. and document sources appropriately.

ENG257Y - Young Adult Novel

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss and explain the artistry of literary works and writers as artists and theorists of young adult literature and novels.
- Explain and discuss major themes in a work of literature, explore implications, and identify basic assumptions.

- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG257Z - Literature and Globalization

- Apply basic critical concepts and terminology to the analysis of literary works.
- Discuss major themes in a work of literature, explore implications, and identify basic assumptions.
- Explain and discuss the representations of globalization in literature.
- Identify a writer's implied as well as literal meaning.
- Produce writing whose form, organization, syntax, diction, style, and tone are appropriate for a given audience, subject, and purpose.
- Provide literary evidence to support claims and ideas about the works.
- Write essays that support a thesis, integrate expert opinions, and document sources appropriately.

ENG268 - Literary Nonfiction

- Analyze the artistry of literary works and their authors.
- Apply basic critical concepts and terminology to the analysis to literary works.
- Demonstrate the use of literary evidence to support opinions and ideas regarding literary work.
- Demonstrate understanding of the history and current practice of literary nonfiction.
- Employ critical thinking skills and course content to the examination of new and unknown works in order to evaluate, explain, and appreciate contemporary works of narrative nonfiction.
- Express opinions and responses to literature clearly and effectively orally and in writing.
- State the major themes in a work of literature, identify its basic assumptions, and explore their implications.
- Write analytical, well-organized, and correctly documented papers about this style of literature.

ENG271 - Japanese Lit in Tran Trad

- Apply various critical approaches to works of Japanese literature.
- Demonstrate knowledge of major forms of Japanese literature from the earliest era to the mid-19th century.
- Demonstrate knowledge of major Japanese works before mid-19th century.
- Explicate works of Japanese literature as a reflection of Japanese culture.
- Express opinions concerning traditional Japanese literature clearly and effectively orally and in writing.
- Identify and explain literary devices used in traditional Japanese literature.
- Identify major themes in traditional Japanese literature, describe their implications, and explain their basic assumptions.

ENG272 - Japanese Lit in Trans Modern

- Consider a work of Japanese literature as a reflection of its cultural milieu and compare that milieu with the student's own.
- Demonstrate knowledge of all major forms of Japanese literature from the mid-19th century to the present.
- Demonstrate knowledge of some major Japanese authors after mid-19th century.
- Demonstrate the ability to write papers on modern Japanese literature.
- Examine a work of Japanese literature using various critical approaches.
- Express opinions and responses to modern Japanese literature clearly and effectively in writing.
- Recognize major themes in modern Japanese literature, explore their implications, and identify their basic assumptions.
- Show greater sensitivity to language and literary devices authors use in literature.

English as a Second Language

CLO

ESL3 - College Reading/Writing Skills

- Demonstrate application of varied reading strategies to beginning-level texts.
- Demonstrate comprehension of various types of beginning-level written and visual materials.
- Demonstrate effective use of beginning-level vocabulary.
- Demonstrate the basic writing process steps including prewriting, drafting, revision, and editing.
- Write short compositions that have a main idea with supporting details.

ESL4 - Grammar I

- Demonstrate effective use of intermediate-level grammar.
- Identify and correct specific grammar errors.
- Write sentences/short compositions to illustrate specific grammar points.

ESL13 - Coll Reading/Writing Skills II

- Apply various reading strategies to intermediate-level texts to increase comprehension.
- Effectively use high-intermediate level vocabulary and grammar in writing.
- Implement a multi-step writing process that includes pre-writing, drafting, revising, and editing.
- Write compositions that have a main point and supporting ideas developed with logically organized details.

ESL14 - Grammar II

- Demonstrate effective use of intermediate-level grammar.
- Identify and revise specific grammar errors in writing compositions.
- Write sentences/compositions to illustrate specific grammar points.

ESL23 - Intro Expository Writing NNS

- Demonstrate effective use of a multi-step writing process that includes drafting, revising, and editing.
- Make revisions in response to written and oral feedback.
- Proofread for effective grammar, word choice, punctuation, and spelling.
- Write compositions that have a main point and supporting details developed with specific, logically organized details.

ESL24 - Grammar III

- Demonstrate effective use of advanced-level grammar.
- Identify and correct specific grammar errors.
- Write sentences and compositions to illustrate specific grammar points.

ESL100 - Composition I for Non-Native Speakers of English

- Apply the steps in the writing process, which include activities in: prewriting, organizing, drafting, proofreading, editing, and revising, to produce college level compositions.
- Demonstrate clear, logical, and inventive thinking through writing.
- Demonstrate college level critical thinking, oral and written communication skills.
- Gather and evaluate information purposefully from electronic and print sources.
- Produce writing whose grammar, writing conventions, form, organization, syntax, diction style, and tone are appropriate for college writing.
- Utilize a variety of reading strategies to analyze academic texts.
- Write a research paper that supports a thesis, integrates expert opinions from various sources, and documents sources appropriately.

ESL124 - English for Professions

- Demonstrate effective communication using the vocabulary and expressions of a specific profession.
- Demonstrate understanding of English vocabulary and expressions of a specific profession.

Japanese

CLO**JPN101 - Elementary Japanese I**

- Communicate orally on everyday topics using a limited number of practiced and memorized words, phrases, and simple sentences in a culturally appropriate manner.
- Recognize familiar words, phrases, and simple sentences in short texts related to everyday life.
- Recognize spoken familiar words, phrases, and simple sentences related to everyday life.
- Write a short passage about oneself and everyday topics using practiced and memorized expressions in a culturally appropriate manner.

JPN102 - Elementary Japanese II

- Communicate orally handling tasks on familiar topics (by) using simple and connected sentences in a culturally appropriate manner.
- Recognize simple and connected sentences in short texts related to familiar topics.
- Recognize spoken simple and connected sentences related to familiar topics.
- Write a short passage about familiar topics using practiced and memorized expressions in a culturally appropriate manner.

JPN142 - Japanese for Hospitality

- Demonstrate basic knowledge about Japanese culture in the topics above.
- Demonstrate basic language skills (listening and speaking) for topics related to business and visitor industry (hospitality) in Hawai'i.
- Perform, although limited, oral communication in Japanese utilizing the language skills and cultural knowledge relating to the topics above.

JPN143 - Japanese for Service Industry

- Demonstrate basic knowledge about Japanese culture in the topics above.
- Demonstrate basic language skills (listening and speaking) for topics related to service industry (i.e., hair salons, nail salons, spas) in Hawai'i.
- Perform, although limited, oral communication in Japanese utilizing the language skills and cultural knowledge relating to the topics above.

JPN201 - Intermediate Japanese I

- Communicate orally in short interactions asking appropriate follow-up questions and conveying information on a limited variety of topics including personal and social interests in a culturally appropriate manner.
- Comprehend spoken short, simple messages, presentations, and conversations on a limited variety of topics including personal and social interests.
- Comprehend written messages and simple narratives on a limited variety of topics including personal and social interests.
- Write about a limited variety of topics including personal and social interests and convey information using a series of connected sentences in a culturally appropriate manner.

JPN202 - Intermediate Japanese II

- Communicate orally in interactions asking appropriate follow-up questions and conveying information on a variety of topics including personal and social interests in a culturally appropriate manner.
- Comprehend spoken messages, presentations, and conversations on a variety of topics including personal and social interests.
- Comprehend written messages and narratives on a variety of topics including personal and social interests.
- Write about a variety of topics including personal and social interests and convey information using a series of connected sentences in a culturally appropriate manner.

JPN280 - Teaching Practicum in Japanese

- Demonstrate effective use of pedagogy in teaching Japanese language.
- Develop and implement a class plan with a clear objective.
- Use presentations, worksheets, or drills to effectively teach language skills.

Journalism**CLO****JOUR150 - HCC-E-The Media and Society**

- Demonstrate understanding of the First Amendment and how it affects American media and society.

- Discuss and explain the importance of the free press in society.
- Evaluate the validity of various forms of journalism, including written, music, photos, movies, and performing arts.
- Express why ethics plays an important role in media and culture.

JOUR204 - Writing for the Web

- Demonstrate understanding of the ways that writing for traditional print media and the Internet are significantly different and require different storytelling approaches.
- Develop and use social media tools, such as Facebook, Twitter, Tumblr, and so on for distributing and promoting writing specifically aimed at a web audience.
- Show understanding of crucial journalism and other ethical standards and practices that are unique to the Internet.
- Understand and utilize the techniques required to conduct background research and interviews to gather information accurately and comprehensively.
- Write, edit, proofread, distribute and promote stories prepared for electronic media, incorporating styles and techniques that are unique to writing for the web.

JOUR205 - HCC-E-News Writing

- Analyze and discuss the quality of coverage in stories produced by the mass media as a critical consumer of news.
- Apply basic journalistic concepts and principles to produce a range of articles (press release, short news, profile, timed deadline pieces, news story, and in-depth news or features) that meet standards for readability, accuracy, news style, and mechanics.
- Apply the basic concepts, values, and principles of journalism, including news and feature story structures and legal and ethical issues related to communication and publications.
- Conduct background research and interviews to gather information accurately and comprehensively.
- Demonstrate competency in ethical deliberation and the use of discipline-based tools to arrive at rational ethical judgments.
- Edit and proofread stories for readability, clarity, accuracy, news value, conciseness, and mechanics.
- Express why ethics plays an important role in journalism.
- Use the relevant methods of news distribution such as blogs, social media, and websites.

JOUR206 - News Editing

- Apply basic principles of libel and privacy law.
- Correct weak leads, faulty transitions, poor story structure, redundancies, and sensationalism.
- Demonstrate quick and accurate judgment of photo and graphic values.
- Demonstrate speed with accuracy, involving quick evaluation of articles, cutting to specified length, fast editing without reviewing, and fast headline writing while avoiding faults.
- Edit text to create sharp leads, tight prose, clear text, and organized copy.
- Effectively use reference texts and the Associated Press style guide to apply the style conventions to newspapers, magazines, and the web.

JOUR207 - Photojournalism

- Demonstrate understanding of legal restrictions and ethical concerns in the field of photojournalism.
- Employ content and composition of photographs to tell a story, inform the public, and evoke emotion.
- Use the camera, flash, lenses, and other basic tools of photojournalists such to produce quality digital photos similar to those in the media today.

JOUR230 - Intro Public Relations

- Apply public relations theory to media and media relations.
- Define public relations and identify examples in contemporary culture.
- Describe the role of public relations and public relation program goals in organizations and society.
- Explain the history of the contemporary public relations practice.
- Identify the professional, ethical, and legal aspects of public relations practice.
- Use public relations principles and theory in designing strategic public relations programs.

JOUR268 - Literary Nonfiction

- Analyze the artistry of literary works and their authors.
- Apply basic critical concepts and terminology to the analysis to literary works.

- Demonstrate the understanding of the history and current practice of literary nonfiction.
- Demonstrate the use of literary evidence to support opinions and ideas regarding literary work.
- Employ critical thinking skills and course content to the examination of new and unknown works in order to evaluate, explain, and appreciate contemporary works of narrative nonfiction.
- Express opinions and responses to literature clearly and effectively orally and in writing.
- State the major themes in a work of literature, identify its basic assumptions, and explore their implications.
- Write analytical, well-organized, and correctly documented papers about this style of literature.

JOUR285V - Newspaper Laboratory

- Apply basic journalistic concepts and principles to produce a range of articles that meet standards for publication, including readability, accuracy, news style, and mechanics.
- Apply knowledge of photography to take pictures using a digital camera and cropping photos for publication.
- Demonstrate a working knowledge of page design principles and software to produce pages for a tabloid publication.

Korean

CLO

KOR101 - Elementary Korean I

- Communicate orally on everyday topics using a limited number of practiced and memorized words, phrases, and simple sentences in a culturally appropriate manner.
- Recognize familiar words, phrases, and simple sentences in short texts related to everyday life.
- Recognize spoken familiar words, phrases, and simple sentences related to everyday life.
- Write a short passage about oneself and everyday topics using practiced and memorized expressions in a culturally appropriate manner.

KOR102 - Elementary Korean II

- Communicate orally handling tasks on familiar topics (by) using simple and connected sentences in a culturally appropriate manner.
- Recognize simple and connected sentences in short texts related to familiar topics.
- Recognize spoken simple and connected sentences related to familiar topics.
- Write a short passage about familiar topics using practiced and memorized expressions in a culturally appropriate manner.

KOR197 - Korean for Hospitality

- Demonstrate basic knowledge about Japanese culture in the topics above.
- Demonstrate basic language skills (listening and speaking) for topics related to business and visitor industry (hospitality) in Hawai'i.
- Perform, although limited, oral communication in Japanese utilizing the language skills and cultural knowledge relating to the topics above.

KOR201 - Intermediate Korean I

- Communicate orally in short interactions asking appropriate follow-up questions and conveying information on a limited variety of topics including personal and social interests in a culturally appropriate manner.
- Comprehend spoken short, simple messages, presentations, and conversations on a limited variety of topics including personal and social interests.
- Comprehend written messages and simple narratives on a limited variety of topics including personal and social interests.
- Write about a limited variety of topics including personal and social interests and convey information using a series of connected sentences in a culturally appropriate manner.

KOR202 - Intermediate Korean II

- Communicate orally in interactions asking appropriate follow-up questions and conveying information on a variety of topics including personal and social interests in a culturally appropriate manner.
- Comprehend spoken messages, presentations, and conversations on a variety of topics including personal and social interests.
- Comprehend written messages and narratives on a variety of topics including personal and social interests.
- Write about a variety of topics including personal and social interests and convey information using a series of connected sentences in a culturally appropriate manner.

KOR280 - Teaching Practicum in Korean

- Demonstrate effective use of pedagogy in teaching Korean language.
- Develop and implement a class plan with a clear objective.
- Use presentations, worksheets, or drills to effectively teach language skills.

Linguistics

CLO

No CLOs

Spanish

CLO

No CLOs

Mathematics

Mathematics courses

CLO

MATH24 - Elementary Algebra I

- Evaluate and manipulate formulas using addition, subtraction, multiplication and division.
- Find the absolute value, additive inverse, and multiplicative inverse of a real number.
- Graph linear equations and inequalities by point plotting, the intercept method, and the slope-intercept method.
- Identify terms, like terms, and numerical coefficients in a polynomial.
- Identify the following properties: commutative, associative, identity, inverse, distributive.
- Identify whole numbers, integers, rational numbers, irrational numbers, and real numbers.
- In general, the course will enable the student to understand the terminology and concepts of basic algebra and solve problems for which such understanding is necessary. The student will be prepared for further study of mathematics and science.
- Perform arithmetic operations with signed rational numbers.
- Plot an ordered pair and state the quadrant in which it lies.
- Simplify algebraic expressions.
- Solve a formula for a specified variable.
- Solve linear equations and inequalities in one variable.
- Solve linear systems of equations and inequalities in two variables by algebraic and graphic methods.
- Translate word phrases into algebraic expressions.
- Use linear systems to solve word problems.
- Use the order of operations to evaluate algebraic expressions.
- Write and solve ratios and proportions including those from word problems.
- Write the equation of a line given two points or the slope and y-intercept or the slope and a point on the line.

MATH25 - Elementary Algebra II

- Add, subtract, multiply, and divide algebraic fractions.
- Add, subtract, multiply, and divide polynomials in one or two variables.
- Add, subtract, multiply, or divide radical expressions.
- Complete the perfect square trinomial square given a partial trinomial.
- Evaluate a radical expression.
- Factor a polynomial of four terms by grouping.
- Factor general trinomials $ax^2 + bx + c$, where a, b, and c are integers.
- Factor the greatest common factor from a polynomial expression.

- Graph quadratic functions, using the vertex and axis of symmetry.
- Identify a given radical as rational, irrational, or not real.
- Identify and use the laws of exponents to simplify expressions with integral exponents.
- In general, the course will enable the student to understand the terminology and concepts of basic algebra; e.g. Math 103 (College Algebra), Math 100 (Survey of Mathematics), Math 107 (Technical Mathematics for the Information Age), and Math 115 (Statistics).
- Learn and apply the Pythagorean Theorem.
- Recognize and factor a perfect square binomial.
- Recognize and factor the difference of two squares.
- Simplify a radical expression.
- Solve equations containing rational expressions.
- Solve quadratic equations by factoring, extraction of roots, completing the square, and the quadratic formula.
- Solve radical equations.
- Solve word problems that lead to equations containing radical expressions.
- Solve word problems that lead to equations containing rational expressions. (Inclusion of indirect variation is optional.).
- Use scientific notation in calculations.
- Write rational expressions in lowest terms (including complex rational expressions).

MATH50 - Technical Mathematics

- Compute powers and square roots of rational numbers, and Scientific Notation.
- Convert measurements with arithmetic operations in metric and English systems.
- Evaluate and simplify expressions, including distribution and like terms.
- Factor the greatest common factor from a polynomial expression.
- Graph linear, quadratic, and various equations by plotting points.
- Perform algebraic monomial multiplication and division.
- Perform arithmetic operations with Integers and Rational numbers without a calculator.
- Solve linear equations with distribution, variables on each side, and clearing the fractions.
- Solve quadratic equations by the quadratic formula.
- Solve ratio, percent, and proportion problems in applications.
- Solve two variable linear systems of equations by substitution.
- Understand ordered pairs, quadrants, intercepts, and slope.

MATH50P - Technical Mathematics

- Compute perimeters, arc length, and areas of two dimensional figures.
- Compute powers and roots of rational numbers.
- Convert measurements (in metric and English systems).
- Convert, add, and subtract angles in degrees-minutes-seconds.
- Determine the precision, accuracy, and number of significant digits of measurement numbers.
- Evaluate and solve formulas.
- Evaluate expressions using scientific notation.
- Measure lengths and angles using appropriate tools.
- Perform arithmetic operations with rational numbers and demonstrate a clear understanding of order of operations.
- Read, interpret and draw bar, line, and circle graphs.
- Solve applied word and diagrammed problems.
- Solve for sides of the right triangle, using the Pythagorean Theorem.
- Solve ratio and proportion problems.

- Solve simple linear equations.

MATH55 - Tech Mathematics II

- Calculate angles and segments.
- Compute angles of simple geometric shapes.

MATH75X - Intro to Math Reasoning

- Compute powers and square roots of rational numbers.
- Convert Scientific Notation.
- Convert unit measurements with arithmetic operations, metric or English systems.
- Demonstrate factoring out the GCF from a polynomial expression.
- Graph a linear equation with ordered pairs, intercepts, and slope.
- Perform algebraic distribution, monomial multiplication and monomial division.
- Perform arithmetic operations with integers and rational numbers, without a calculator.
- Simplify expressions including distribution and like terms.
- Solve a linear system of equations with substitution, only two variables.
- Solve a quadratic equation with the quadratic formula.
- Solve for a variable in a simple formula.
- Solve linear equations with distribution, variable on each side, and clearing the fractions.
- Solve percent or proportion problems in an application.

MATH100 - Survey of Mathematics

- Apply inductive and deductive reasoning in estimating and making conclusions.
- Calculate the probability of an event in a sample space and calculate the expected value of an event in a game.
- Construct truth tables for compound logic statements.
- Determine the validity of an argument.
- In general, the course will develop the student's quantitative and analytical reasoning abilities and will familiarize the student with some of the different areas of mathematics so that the student might gain a better understanding of and appreciation for mathematics.
- Perform arithmetic operations in various numeration systems.
- Perform operations of conjunction, disjunction, and negation on logic statements that are either represented symbolically or by Euler diagrams.
- Perform set operations of union, intersection, and complements by roster or Venn diagrams.
- Represent a data set by a histogram and calculate its mean, mode, median, range, and standard deviation.
- Represent numbers using various numeration systems, both ancient and modern.
- Solve applied problems (e.g., survey analysis) using set operations.
- Solve applied problems in consumer mathematics, including simple interest, compound interest, and installment buying.
- Use counting methods, such as permutations and combinations.

MATH103 - College Algebra

- Change from rational exponents to radicals and visa versa, including problems with greater complexity than elementary algebra.
- Define and graph basic exponential and logarithmic functions.
- Determine the algebraic and graphical properties of a one-to-one function.
- Divide polynomials using synthetic division.
- Factor polynomials using techniques such as grouping, sum and difference of two cubes and completing the square, including problems with greater complexity than elementary algebra.
- Find the inverse function of a one-to-one function.
- Graph quadratic functions including finding its vertex by completing the square.
- In general, the course is designed to provide the student with skills and knowledge necessary to handle pre-calculus courses such as Math 135, Math 140 and QM 121.

- Perform arithmetic operations on rational expressions and solve rational equations, including problems with greater complexity than elementary algebra.
- Perform arithmetic operations with complex and imaginary numbers.
- Perform operations on radicals and solving radical equations containing more than one radical, including problems with greater complexity than elementary algebra.
- Raise binomials to the n th degree using Pascal's triangle or the Binomial Theorem.
- Recognize functions through graphs and equations, stating their domains and ranges.
- Solve basic exponential and logarithmic equations.
- Solve compound linear and quadratic inequalities.
- Solve equations and inequalities involving absolute values.
- Solve quadratic form and literal quadratic equations.
- Solve systems of equations in three unknowns and nonlinear systems in two unknowns.
- Upon completion, students are expected to have a clearer understanding of, and deeper insight into, algebraic and related geometric concepts, operations, and techniques.
- Use function notation.
- Use the discriminant to determine the type of roots of an equation.

MATH111 - Math for Elementary Teachers I

- Choose and demonstrate appropriate strategies to investigate problems and persevere in solving them.
- Communicate mathematical concepts coherently, clearly, and precisely to various audience.
- Explain the meanings of basic mathematical operations and how they relate to each other.
- Identify and describe various types of patterns and make connections among mathematical concepts.

MATH112 - Math for Elem Teachers II

- Apply symbolic forms to represent, model, and analyze mathematical situations to solve problems.
- Develop and present creative math lessons which emphasize communicating, reasoning about, and justifying ideas as fundamental in the work of mathematics.
- Formulate functional relationships from various patterns.
- Present information about mathematical concepts and principles from materials written in words and in symbols.
- Utilize precise mathematical language and symbols to effectively communicate mathematics in written and oral form.

MATH115 - Intro to Stats and Prob

- Articulate and interpret various descriptive statistics, such as mean, median, mode, range, variance, and standard deviation.
- Calculate probabilities involving normal random variables.
- Determine and interpret (for large samples) confidence interval estimates of population means.
- Draw a scatter diagram, determine and draw the corresponding regression line, and calculate and interpret the corresponding correlation coefficient for a set of paired data.
- In general, the course will provide the student with a basic working knowledge of the methods of statistical inference, and how these methods can be applied to "real-life" situations. In particular, the formation and testing hypotheses is emphasized.
- Organize, draw, and interpret various graphs such as frequency histograms, bar graphs, and pie charts.
- Perform hypothesis testing.
- Solve probability problems involving the concepts of independent events, mutually exclusive events and conditional probability.
- Use the binomial and normal probability distributions to calculate the mean and standard deviation.

MATH135 - PreCalc: Elementary Functions

- Define and graph inverse functions.
- Define continuous and discontinuous functions.
- Find all complex zeros of polynomial functions.
- Find domains and ranges of functions, including sums of functions and composite functions.
- Graph exponential and logarithmic functions.

- Graph general polynomial functions.
- Graph piecewise-defined functions.
- Graph radical functions.
- Graph rational functions including horizontal, vertical, slant and curvilinear asymptotes.
- In general, the course will prepare students for the study of calculus by providing them with skills, knowledge, and mathematical maturity necessary for success in that course. It will also prepare students for vocations in which knowledge of elementary functions is useful. Completion of this course with a "C" grade or higher satisfies the three credits of quantitative reasoning requirement of many University of Hawai'i programs.
- Perform operations on functions, including addition, subtraction, multiplication, division, and composition of functions.
- Recognize odd and even functions (symmetry).
- Solve absolute value equations and inequalities.
- Solve applied problems of exponential and logarithmic functions.
- Solve exponential and logarithmic equations.
- Solve linear, quadratic and rational inequalities.
- Transform functions, including vertical and horizontal translations.
- Use function notation.
- Use interval notation.
- Use the properties of logarithms.

MATH140 - PreCalc:Trig/Analytic Geometr

- Convert rectangular and polar coordinates.
- Define the trigonometric functions using the unit circle.
- Graph exponential and logarithmic functions.
- Graph trigonometric functions on the polar axes.
- Graph trigonometric functions on the rectangular axes.
- In general, the course will prepare students for: the study of calculus by providing them with the skills, knowledge and mathematical maturity necessary for success in that course of study; vocations in which a knowledge of trigonometric and analytic geometry is useful.
- Prove trigonometric identities and apply trigonometric formulas.
- Represent conic sections algebraically and geometrically.
- Solve right and oblique triangles.
- Solve trigonometric equations.
- Solve verbal and non-verbal problems in plane trigonometry.
- Write complex numbers in trigonometric form.

MATH150 - Technical College Mathematics

- Add, subtract, and negate vectors with components.
- Analyze vector quantities and scalar quantities in applications.
- Calculate right triangle problems and applications using the sine, cosine, and tangent functions.
- Calculate vector components from the modulus and angle, using trigonometry.
- Compute perimeters and areas of two dimensional figures, include multi-component figures.
- Compute volume of three dimensional right prisms, pyramids, cones, and spheres.
- Convert measurements in degrees and radians.
- Define the trigonometric ratios of sine, cosine, and tangent in a right triangle.
- Demonstrate calculator usage with trigonometric and inverse trigonometric functions.
- Graph the sine and cosine waves by plotting points.
- Recognize and use the special triangles: 30/60/90 and 45/45/90.

- Recognize from graphs of sine or cosine the amplitude and period.
- Solve for sides of the right triangle, using the Pythagorean Theorem.
- Solve problems with angular geometry, arc length, and sectors.
- Use a calculator to convert degrees-minutes-second and decimal degrees.

MATH150P - Technical College Mathematics

- Add vectors using scale drawings and trigonometry.
- Additional topic suggested by physics instructors - solving systems of 2 equations with 2 unknowns using the substitution method.
- Analyze graphs of the six trig functions over a given interval.
- Apply chord, tangent, arc, and central; angle theorems in applied problems.
- Apply tangent and secant theorems in computing arcs and angles formed on, inside, and outside a circle.
- Compute interior and exterior angles of polygons by applying polygon angle theorems.
- Compute lengths of sides of similar polygons.
- Compute the lengths of sides and angles of simple geometric shapes.
- Compute vector and scalar quantities.
- Determine angle values in geometric figures by applying theorems of vertical, alternate-interior, and corresponding angles.
- Determine component vectors and be able to add them using trigonometry.
- Determine the area of segments and sectors of a circle.
- Determine the six trig functions of angles in any quadrant.
- Graph any angle and vector in standard position on the Cartesian coordinate plane.
- Know and apply the law of Sines and Cosines.
- Solve applied problems using vector components.
- Solve complex applied problems that require forming two or more (right or oblique) triangles by the projection of auxiliary lines.
- Solve for any side or angle in a right or oblique triangle using trigonometry.
- Solve right and oblique triangle problems using trigonometry given in word form including problems involving angle of elevation and angle of depression.
- Without a calculator determine the co-function of any acute angle and compare it to the given function of the angle to determine which function is greater.

MATH203 - Calculus for Bus & Soc Science

- Applying definite and indefinite integrals to business/economic problems.
- Calculating derivatives and partial derivatives of non-trigonometric elementary functions and their sums, products, quotients, and compositions.
- Evaluating definite and indefinite integrals by using basic formulas and substitution.
- Solving applied problems by using functions of more than one variable.
- The basics about functions of more than one variable.
- Using calculus to perform optimization methods.

MATH241 - Calculus I

- Define and use the concepts of limit and continuity.
- Differentiate functions, including products, quotients, and compositions of functions.
- Integrate functions by approximation and by the use of anti-derivatives.
- Learn and use the Fundamental Theorem of Calculus.
- related rates problems.
- Solve applied problems using differentiation, including maximization or minimization problems and.
- Use differential calculus to sketch curves.
- Use differentiation to approximate the value of a function.

- Use differentiation to find the maximum and minimum values of a function.
- Use integral calculus to determine area under and between curves.
- Use integral calculus to determine volume of rectangular solids.

MATH242 - Calculus II

- Apply L'Hospital's Rule to find limits.
- Apply techniques in this course to solve application problems.
- Determine the convergence of infinite sequences and series and approximate functions with the Taylor.
- Differentiate and integrate elementary transcendental functions.
- Evaluate improper integrals.
- Integrate single variable functions using various methods.
- Polynomial.
- Solve separable differential equations.
- Use the computer to assist in clarifying concepts as well as an aid to solving problems.

MATH243 - Calculus III

- Perform partial differentiation, with applications to problem solving.
- Recognize and work with graphical representations of functions of two variables.
- Understand curves described by parametric equations or given in polar coordinates.
- Work with functions of several variables.
- Work with lines, curves, planes and surfaces in three dimensions.
- Work with two and three-dimensional vectors.

MATH244 - Calculus IV

- An introduction to functions of complex variables.
- Evaluating line and surface integrals, including a discussion of Green's Theorem, the Divergence Theorem, and Stokes' Theorem.
- Optional topics which may include extensions of Green's Theorem, Picard iterations, Laplace transforms, numerical solutions of ordinary differential equations using microcomputers, or series solutions near a regular singular point.
- Using multiple integrals to integrate functions of several variables.
- Working with first-order differential equations, including a discussion of: the Existence and Uniqueness Theorem; direction fields and integral curves; separable, homogeneous, exact, and Bernoulli equations; solving applied problems.
- Working with second-order differential equations, including a discussion of: the theory and solution of homogeneous equations with constant coefficients; solving non-homogeneous equations including the method of undetermined coefficients and variation of parameters; solving applied problems; an introduction to series solutions near an ordinary point.
- Working with two and three dimensional vectors.

Natural Sciences

Agriculture

CLO

AG100 - Intro to Agricultural Sciences

- Demonstrate an understanding of the importance of natural resource management in sustainable agricultural development.
- Describe the principles of horticulture and the sustainable production of fruit, vegetable, and ornamental crops in the tropic.
- Explain the principles, concepts, applications, and inter-relations of biology, chemistry, soil science, and mathematics as they apply to natural and agrarian "crop-based" ecosystems.
- Identify the factors that affect crop production including plant growth and development and the contribution of climatic, environmental, and edaphic factors.
- List and describe the role of stakeholders in agricultural development.
- Outline the history of agriculture in Hawai'i and the tropical Pacific and describe possible reasons for historic changes in crops and

production levels.

- Use the principles of scientific inquiry to describe, analyze, solve, and report on scientific problems involving tropical plant science and related fields

Astronomy

CLO

ASTR110 - Survey of Astronomy

- Discover that even the most recent textbooks are always somewhat out of date. Investigating information available on the Internet will demonstrate that our knowledge of astronomy changes continuously.
- Gain an understanding of the other sciences that are utilized to conduct astronomy (classical mechanics, optics, spectroscopy, chemistry, geology, meteorology, thermodynamics, relativity, and quantum mechanics).
- Gain an understanding of the techniques that astronomers use to analyze data.
- Utilize the information in the textbook to obtain an "inside out" understanding of the universe. That is, starting with the Earth and expanding outward to the solar system, Sun, stars, galaxies, and finally the whole universe.

ASTR110L - Survey of Astronomy Lab

- Apply the scientific method to a selected group of topics in astronomy.
- Collect, report and analyze data obtained in a laboratory and/or observatory setting in a manner exhibiting organization, proper documentation and critical thinking.
- Demonstrate a basic understanding of the use of standard astronomical instruments.
- Demonstrate a working knowledge of computer on-line and Internet astronomical programs.
- Identify environmental factors, which affect the outcome of an experiment or observation and apply basic error analyses techniques.
- Perform image analysis, especially as related to astronomical photographic data.

ASTR199V - Special Studies

- Execute and report on completion of stated milestones and/ or objectives
- Plan and/ or outline milestones and/ or objectives to completed with a specified timeline

Atmospheric Sciences

CLO

No CLOs

Biochemistry

CLO

BIOC141 - Fundamentals of Biochemistry

- Analyze and apply appropriate procedures for solving biochemical and allied health-related calculations involving solids, liquids, gases, and solutions.
- Describe ionic and covalent bonding theories and apply them to the construction of proper Lewis structures and prediction of molecular characteristics.
- Relate biochemical and allied health-related concepts, theories and laws to everyday phenomena.
- Relate the location of an element in the periodic table to its electronic structure and chemical reactivity.
- Utilize precise chemical language to effectively communicate biochemical and allied health-related concepts and results.

BIOC142 - Elements of Biochemistry

- Construct molecular models and use these to describe chemical structure, geometry and physical properties.
- Demonstrate knowledge of biochemistry concepts in metabolism.
- Predict products of fundamental organic reactions.
- Use the vocabulary on organic chemicals and reactions in metabolism and other biochemical applications.

Biology

CLO

BIOL100 - Human Biology

- Demonstrate a basic knowledge of human organ system physiology.
- Distinguish between selected diseases and how they impact organs and organ systems in the human body.
- Employ the methods of scientific inquiry to address issues in the Biological Sciences.
- Identify cell, tissue, and anatomical structures of the major human organ systems, and describe how they interact to support homeostasis in the human body.

BIOL101 - Biology and Society

- Demonstrate how evolution is the foundation of modern biology.
- Employ the methods of scientific inquiry to address issues in the Biological Sciences.
- Identify challenges and solutions to global ecological issues.
- Utilize the vocabulary and concepts of biology to explain the basic processes of life.

BIOL101L - Biology and Society Laboratory

- Apply the methods of scientific inquiry to address issues in the Biological Sciences.
- Employ proper techniques and procedures for biological investigations such as: microscopy, magnification, population sampling, scientific illustration, dissection, data collection and data analysis.
- Research, evaluate and present scientific information as relevant to issues in biology and society.

BIOL123 - Hawaiian Environment Science

- Demonstrate an understanding of the geological formation of the Hawaiian Island chain and its relationship to the development of terrestrial and marine habitats.
- Describe ecosystem processes and species interactions such as succession, predation, and competition using examples from Hawai'i.
- Describe the origin and evolution of Hawai'i's plant and animal species and differentiate between native and endemic species.
- Evaluate the concepts of sustainability in Hawai'i with respect to land use, energy production, waste disposal, and exploitation of natural resources.
- Evaluate the pressures from the global environment and how anthropogenic impacts are affecting Hawai'i.

BIOL124 - Environment & Ecology

- Describe the biological and physical principles of ecology including ecosystem productivity, major biogeochemical cycles, and energy flow.
- Develop methods for evaluating current actions and public policies that are not environmentally sound.
- Discuss and provide supporting evidence for alternatives to current local environmental practices; and h. develop a personal environmental statement and action plan.
- Discuss the unique environmental issues that affect island ecosystems, including habitat alteration and destruction, loss of biodiversity, and effects of introduced alien species.
- Explain and give examples of the impacts of science and technology on global ecosystems.
- Explain the basic principles of population dynamics, recent trends in population growth, factors affecting population growth, carrying capacity, consequences of overpopulation on environmental conditions including resource depletion, and methods that can be used to reduce population growth.
- Identify and explain the dynamics of various kinds of environmental pollution, including water, air, soil, , noise, light, debris, and radioactivity.

BIOL124L - Environment & Ecology Lab

- Create a presentation with supporting evidence for alternatives to current local environmental practices.
- Debate current public actions and public policies that have environmental consequences.
- Demonstrate a quantitative understanding of demography, ways that populations of organisms are sampled in the field (and lab), and how this is important to changing population trajectories (removal of invasive species, or supporting native species).
- Describe and demonstrate sampling and assessment techniques for various kinds of environmental pollution, including water, air, soil, noise, light, debris, and radioactivity.
- Describe the biological and physical principles of ecology including ecosystem productivity, major biogeochemical cycles, and energy flow.
- Discuss the unique environmental issues that affect island ecosystems, including habitat alteration and destruction, loss of biodiversity, and effects of introduced alien species.
- Give examples of how the impacts of science and technology on global ecosystems.

BIOL171 - Introduction to Biology I

- Demonstrate an understanding in basic genetics, trait inheritance and chromosomal characteristics.
- Describe the principle of evolution, and use the evidence in support of evolutionary theory.
- Employ the methods of scientific inquiry to address issues in Biological Sciences.
- Identify the diversity of biological organisms.
- Relate cell structures to cellular metabolism, growth, and reproduction.

BIOL171L - Introduction to Biology I Lab

- Analyze and interpret experimental and observational results, including proper construction of data tables and graphs.
- Apply concepts learned in lecture course to an experimental and observational setting.
- Demonstrate proper use of common lab equipment such as microscopes, scales, computers, and other analytical tools.
- Practice the scientific method of inquiry in biological investigations.

BIOL172 - Introduction to Biology II

- Demonstrate an understanding in animal organ systems and their interrelationships
- Describe the diversity of biological organisms
- Explain population, community, and ecosystems ecology
- Relate structures to functions in plants and animals

BIOL172L - Introduction to Biology II Lab

- Analyze and interpret experimental and observational results, including proper construction of data tables and graphs.
- Apply concepts learned in lecture course to an experimental and observational setting.
- Demonstrate proper use of common lab equipment such as microscopes, scales, computers, and other analytical tools.
- Practice the scientific method of inquiry in biological investigations.

Botany

CLO

BOT101 - General Botany

- Describe important metabolic processes in plant including plant responses to the environment.
- Describe the importance of plants to life on earth including ecological and socio- economics aspects.
- Describe the unique anatomical characteristics of major plant groups and relate these structures to the function they perform.
- Explain the characteristics of living things and the basic structure and function of the plant cell.
- Explain the structure and function of the major plant organs: root, leaf, stem and flower/fruit.
- Learn about diversified agriculture technologies for increasing food production.

BOT101L - General Botany Laboratory

- Demonstrate ability to use laboratory equipment and procedures effectively for observation and data gathering.
- Identify plants from fresh materials to their scientific designation.
- Identify significant parts and variations of plant cells, root, stem, leaf, flower and fruit.
- Learn basics of diversified farming techniques.
- Perform an experiment on living plants, collect, analyze data and write a report in scientific format.
- Perform experiments including significant physiological processes in plants and analyze the outcomes.

BOT105 - Hawaiian Plants & Their Uses

- Compare Hawaiian ethnobotanical practices with those in other Polynesian societies.
- Demonstrate awareness of scientific and folk taxonomy as they relate to Hawaiian plants.
- Describe the influence of natural history and environmental conditions on the habitat distribution of these plants and on Hawaiian settlement patterns.

- Discuss the relationship of selected plants to Hawaiian material culture, agricultural practices, and belief system.
- Identify plants of ethnobotanical significance in Hawaiian culture by their Hawaiian names.
- Identify the origins and dispersal agents of endemic, indigenous, and introduced plants in Hawai'i.

BOT130 - Plants in the Hawaiian Environ

- Assess the importance of scientific names over common names.
- Define what is life and what is a plant. The student will differentiate major differences between plants and animals.
- Distinguish characteristic similarities and differences in algae, fungi, mosses, ferns, and seed plants.
- Identify external and internal structures of leaves, stems, roots and flowers, including illustration of special highlights of form and function.
- Name subcellular organelles in plant cells and explain their functions.

BOT130L - Plants in Hawaiian Environ Lab

- Assess the importance of scientific names over common names.
- Define what is life and what is a plant. The student will differentiate major differences between plants and animals.
- Distinguish characteristic similarities and differences in algae, fungi, mosses, ferns, and seed plants.
- Identify external and internal structures of leaves, stems, roots and flowers, including illustration of special highlights of form and function.
- Name subcellular organelles in plant cells and explain their functions.

Chemistry

CLO

CHEM100 - Chemistry and Society

- Demonstrate an appreciation for the impact and influence of chemistry on our lives, and learn how we can cope with our environment using our knowledge of chemistry.
- Demonstrate an understanding of the elements and principles of chemistry.
- Demonstrate an understanding of the scientific method.

CHEM100L - Chemistry & Society Laboratory

- Demonstrate skills in employing the scientific method.
- Demonstrate techniques and concepts of laboratory experimentation.
- Demonstrate understanding of the limitations of measurements and the importance of careful observations.
- Perform experiments which demonstrate the chemicals, reactions and principles discussed in the lecture course.

CHEM105 - Environmental CHEM

- Demonstrate an appreciation for the impact and influence of chemistry on our lives, and learn how we can cope with our environment using our knowledge of chemistry
- Demonstrate an appreciation for the impact and influence of chemistry on our lives, and learn how we can cope with our environment using our knowledge of chemistry.
- Demonstrate an understanding of the scientific method.
- Demonstrate skills in employing the scientific method.
- Demonstrate techniques and concepts of laboratory experimentation.
- Demonstrate understanding of the limitations of measurements and the importance of careful observations.
- Perform experiments which demonstrate the chemicals, reactions and principles discussed in the lecture course.

CHEM105C - Cosmetic Chemistry

- Demonstrate an understanding of the elements and principles of chemistry.
- Demonstrate an understanding of the scientific concepts behind the methods and procedures used in treating hair, skin, and fingernails.
- Demonstrate an understanding of the scientific method.

- Demonstrate recognition of the chemical nature of the compounds in hair, skin, fingernails, and cosmetic preparations.

CHEM131 - Prep for General Chemistry

- Balance chemical equations, classify reactions, predict products of precipitation reactions.
- Solve acid/base neutralization problems.
- Understand atomic structure and use this information to predict compound formation.
- Understand intermolecular forces in solids, liquids, and gases.
- Understand trends in physical and chemical properties of elements based on the periodic table.
- Use conversion factors and equation rearrangement to solve algebra problems and perform calculations.
- Use the mole concept in solving stoichiometry problems involving solids, liquids, gases and solutions.

CHEM151 - Elem Survey of CHEM

- Demonstrate an appreciation for the impact and influence of chemistry on our lives, and learn how we can cope with our environment using our knowledge of chemistry.
- Demonstrate skills in employing the scientific method.
- Demonstrate understanding of the elements and principles of chemistry.
- Extract practical information from theoretical information, with emphasis on computational skill.

CHEM151L - Elem Survey of CHEM Lab

- Demonstrate an understanding of the limitations of measurements and the importance of careful observations.
- Demonstrate skills in employing the scientific method.
- Demonstrate understanding of the techniques and concepts of laboratory experimentation.
- Perform experiments which demonstrate the chemicals, reactions and principles discussed in the lecture course.

CHEM161 - General Chemistry I

- Demonstrate an appreciation for the impact and influence of chemistry on our lives, and learn how we can cope with our environment using our knowledge of chemistry.
- Demonstrate skills in employing the scientific method.
- Demonstrate understanding of the elements and principles of chemistry.
- Extract practical information from theoretical information, with emphasis on computational skill.

CHEM161L - General Chemistry I Laboratory

- Demonstrate an understanding of the limitations of measurements and the importance of careful observations.
- Demonstrate skills in employing the scientific method.
- Demonstrate understanding of the techniques and concepts of laboratory experimentation.
- Perform experiments which demonstrate the chemicals, reactions and principles discussed in the lecture course.

CHEM162 - General Chemistry II

- Develop skills in employing the scientific method
- Learn how to extract practical information from theoretical information, with emphasis on computational skill
- Learn the elements and principles of chemistry
- Learn to appreciate the impact and influence of chemistry on our lives, and to learn how we can cope with our environment using our knowledge of chemistry

CHEM162L - General Chemistry II Lab

- Demonstrate an understanding of the limitations of measurements and the importance of careful observations.
- Demonstrate skills in employing the scientific method.
- Demonstrate understanding of the techniques and concepts of laboratory experimentation.
- Perform experiments which demonstrate the chemicals, reactions and principles discussed in the lecture course.

Civil Engineering

CLO**CE270 - Applied Mechanics I**

- Determine section properties of areas, including centroids and moments of inertia.
- Develop mathematical models of engineering structures for static analyses.
- Understand and apply the equations of equilibrium and to know their limitations.
- Understand the fundamental principles of statics
- Understand the various types of force systems and to be able to determine those that more closely approximates the real problem situation

Electrical Engineering**CLO****EE150 - Intro to Computer Prog Methods**

- Describe the input and output information.
- Develop an algorithm, or step-by-step outline, of the problem solution.
- State the problem clearly.
- Work the problem by hand with a sample set of data.

EE160 - Programming for Engineers

- Compile, troubleshoot, and debug programs with sufficient documentation and commenting.
- Use the fundamental techniques of selection, looping, assignment, input, and output to describe the steps a computer takes to solve a problem.
- Utilize mathematical techniques to solve simple problems and express those solutions as algorithms.
- Write, test, and debug small programs for inquiry-based laboratory investigations.

EE213 - Basic Circuit Analysis II

- Analyze circuits in the frequency domain using Laplace Transforms, including two-port networks.
- Analyze OP AMP circuits.
- Understand and analyze RLC circuits for natural and step responses, and evaluate resonance conditions.
- Understand and use standard electronic measurement instruments.

EE296 - Sophomore Project

- Communicate design and engineering concepts effectively via oral presentations and written reports.
- Employ analytical reasoning to identify and define engineering design problems or needs.
- Implement engineering design reviews to evaluate outcomes against requirements.
- Utilize scientific knowledge to establish design parameters with respect to engineering standards and practical constraints.

Geology and Geophysics**CLO****GG101 - Introduction to Geology**

- Critically analyze problems within the framework of the course.
- Define a problem for study, gather and record data, analyze the data, arrive at appropriate conclusions and report the findings.
- Demonstrate knowledge of and ability to apply the metric system, scientific notation, and geographic and basic statistical measurements.
- Demonstrate the ability to read and interpret maps and graphs.
- Use a variety of measuring instruments to gather environmental data.

GG101L - Introduction Geology Lab

- Analyze the physical properties of minerals and rocks.
- Distinguish between and identify the mineral species and the rock types.

- Interpret topographic maps to: identify topographic features; identify and interpret geologic structures and hazards; understand surface water dynamics; identify surface water supplies.

GG103 - Geology of the Hawaiian Islands

- Demonstrate an understanding of geologic principles, including aspects of earth science, physics, chemistry and environmental sciences that are basic to current understanding of Hawaiian Islands and their geologic processes.
- Demonstrate knowledge of basic geologic terms, locations, concepts, theories, and methodology.
- Discuss humans' association with the geologic environment, vulnerability to geologic hazard, and dependency on natural resources such as groundwater, and environmental impacts.
- Discuss the earth's physical processes, particularly those that bear on geology of the Hawaiian Islands and Pacific Islands.
- Discuss the important aspects of the regional and historical geology of Hawai'i Islands.
- Recognize and explain the existence of products of marine and terrestrial sedimentation in Hawai'i.
- Recognize Hawaiian landforms produced by various weathering and erosion processes.
- Recognize landforms, structures and products of volcanoes and other igneous phenomena.

GG199V - Special Studies

- execute and report on completion of stated milestones and/ or objectives
- plan and/ or outline milestones and/ or objectives to completed with a specified timeline

GG299V - Special Studies

- execute and report on completion of stated milestones and/ or objectives
- plan and/ or outline milestones and/ or objectives to completed with a specified timeline

Microbiology

CLO

MICR130 - General Microbiology

- Apply the basics of epidemiology to the etiology of microbial diseases; demonstrate an understanding of microbial pathogenicity, the immune system, and the host-parasite interactions both in health and in disease.
- Demonstrate knowledge in microbial growth and metabolism, and ways to control their growth by physical and chemical means.
- Describe the principles of microbial genetics and their impacts on cell division, mutations, bacterial virulence, antibiotics resistance, and genetic engineering.
- Identify diversity of microorganisms; compare and contrast their similarity and differences in cellular structures and functions.

MICR140L - Microbiology Laboratory

- Identify microorganisms using morphological, biochemical and media-based methods.
- Perform aseptic transfer to obtain and maintain pure culture.
- Practice safe microbiology using appropriate protective equipments and procedures.
- Properly prepare and view microbial specimens using compound microscopy.

Oceanography

CLO

OCN101 - Marine Option Program Seminar

- Identify an appropriate Marine Options Program (MOP) skills project topic.
- Prepare and deliver an oral presentation.
- Use critical thinking to complete a written project proposal for their Marine Options Program (MOP) skills project.

OCN102 - Intro to Environmental Science

- Define the Earth's major ecosystems and the major flows of matter and energy through them.
- Define the fundamentals of sustainability metrics in terms of major impact categories (into which pollutants and activities are grouped) and their units.
- Identify, source and action of the major pollutants that disrupt these ecosystems. • Relate the carrying capacities of each major ecosystem relative to these pollutant loads, as well as the consequences to the environment if they fail.

- State how the cultural practices and indigenous knowledge of the Native Hawaiians related to sustainability.

OCN180 - Aquaculture & Aquarium Mgmt

- Analyze harvesting and marketing strategies.
- Learn hatchery and nursery operations.
- Learn how to set-up and maintain aquarium systems.
- Learn techniques involved in the culture of various organisms.
- Learn various breeding and water quality monitoring techniques.
- Observe culture techniques of phytoplankton and zooplankton species.
- Study of biology and life cycle of cultured species.
- Study pathogens and diseases and their treatments.
- Survey aquaculture methods and species in Hawai'i.
- Understand functions of filtration system.
- Understand pond lay-out, construction and preparation.
- Understand principles of "closed" aquaculture systems.
- Understand the structure and functions of aquatic ecosystems.

OCN201 - Science of the Sea

- Examine how sustainable practices and concepts can be connected to the ocean and atmosphere.
- Examine the anthropogenic effects on the climate system
- Identify the interactions between the ocean and the atmosphere including light and heat budgets and hydrographic properties.
- Summarize the chemical composition and physical properties of water on Earth.
- Use theories and concepts to show an understanding of the formation of ocean basins and their geological features.

OCN201L - Science of the Sea Lab

- Examine the anthropogenic effects on the climate system.
- Identify the impacts of pollution on the marine environment.
- Identify the interactions between the ocean and the atmosphere such as light and heat budgets and hydrographic properties.
- Learn how to collect and analyze chemical and physical data from water and sediment samples.
- Show an understanding of the formation of ocean basins and their geological features.
- Summarize the chemical composition and physical properties of water on Earth.

Physics

CLO

PHYS99V - Special Studies

- execute and report on completion of stated milestones and/ or objectives
- plan and/ or outline milestones and/ or objectives to completed with a specified timeline

PHYS100 - Survey of Physics

- Demonstrate an understanding of the applicable physics by assessing the accuracy and correctness of all results.
- Identify the relevant physics that applies to given physical situations.
- Qualitatively describe the logical application of the relevant physics to explain both observations made in the real world and the solutions to real physical problems.
- Upon the successful completion of PHYS 100, the student will be able to:.

PHYS100L - Survey of Physics Lab

- Apply the appropriate physics to the physical situation presented.

- Demonstrate the ability to use select measuring devices.
- Employ proper techniques when making scientific measurements.
- Formulate and report scientific conclusions based on data analysis.
- Quantitatively analyze experimental data.

PHYS103 - Phys for Electrical Tech

- Apply Faraday's law to inductors and transformers.
- Apply Kirchhoff's rules to solve complex DC circuits.
- Apply Newton's laws of motion in two dimensions.
- Apply Ohm's Law and calculate power delivered and power dissipated.
- Calculate current and resistance.
- Calculate parameters used to describe simple harmonic motion.
- Define the parameters used to describe motion and solve one-dimensional kinematics problems with constant acceleration.
- Define work and power and solve problems using the work-energy theorem.
- Demonstrate the proper use of a digital multimeter to measure voltage, current, and resistance.
- Demonstrate the proper use of an oscilloscope to measure AC voltage and frequency.
- Demonstrate the use of trigonometric definitions to resolve vectors into components and combine vectors.
- Determine the magnetic force exerted on charges.
- Differentiate between electric field, electric potential energy, and electric potential.
- Solve basic series AC circuits.
- Solve capacitive circuits.
- Use vector representation to solve kinematics problems in two dimensions.

PHYS104 - Phys for Transportation Tech

- Apply Kirchhoff's rules to solve complex DC circuits.
- Apply Newton's laws of motion in two dimensions.
- Apply Ohm's law and calculate power delivered and power dissipated.
- Apply Pascal's principle.
- Apply the dynamics of rigid bodies.
- Calculate current and resistance.
- Calculate parameters used to describe simple harmonic motion.
- Calculate the amount of thermal expansion in one and three dimensions for a solid.
- Define the parameters used to describe motion and solve one-dimensional kinematics problems with constant acceleration.
- Define work and power and solve problems using the work-energy theorem.
- Demonstrate the proper use of a digital multimeter to measure voltage, current, and resistance.
- Demonstrate the use of trigonometric definitions to resolve vectors into components and combine vectors.
- Differentiate between electric field, electric potential energy, and electric potential.
- Identify the different heat transfer mechanisms and calculate the rate of heat transfer.
- Solve capacitive circuits.
- Solve kinematics and dynamics problems for particles moving in a circle.
- Use the ideal gas equation of state.
- Use vector representation to solve kinematics problems in two dimensions.

PHYS105 - Principles of Technology

- Explain precision and accuracy in measurements and occurrence of systematic errors in experiments.

- Explain the results within the framework of the applied physical principles.
- Explain the scientific method and how it applies to laboratory experiments.
- Formulate physics problems into a solution structure using the fundamental concepts and basic equations.
- Identify and relate problems in their trade or profession to physical principles learned in the course.
- Interpret physical phenomena in terms of physics formulas and concepts.
- Set up apparatus, perform experiments, analyze data in a laboratory setting.
- Solve the equations and provide reasonable qualitative and quantitative results.

PHYS105P - Physics for the Applied Trades

- Apply Newton's laws of motion in one dimension
- Apply the kinematics and dynamics of rotating rigid bodies
- Apply the law of conservation of momentum in collisions
- Apply the physics of fluids to fluids at rest and fluids in motion
- Calculate heat transfer rates
- Calculate the amount of thermal expansion along a linear dimension
- Calculate the resistance of specific objects
- Correlate heat with resulting temperature and phase changes
- Define the electric field from the electric force
- Define the parameters used to describe motion and solve one-dimensional kinematics problems with constant acceleration
- Define work and power, and solve problems using the work-energy theorem
- Demonstrate an understanding of electromagnetic induction
- Demonstrate the appropriate use of units, significant figures, and algebra as they apply to problems in physics
- Describe Coulomb's law
- Describe qualitatively the magnetic force exerted on a moving charge and a current-carrying conductor
- Identify the basic phases of matter
- Solve basics series and parallel resistive circuits

PHYS122 - Intro to Physical Science

- Calculate simple quantities from mathematically formulated principles.
- Collect data, analyze it and submit reports which demonstrate comprehension of the principles and processes involved.
- Demonstrate ability to visualize and analyze graphical and pictorial information.
- Demonstrate comprehension of the abstract ideas of energy and momentum.
- Demonstrate comprehension of the basic laws and properties of atoms.
- Demonstrate comprehension of the concept of proportionality in physical principles.
- Demonstrate comprehension of the development of scientific thought in social context.
- Demonstrate comprehension of the nature of thermal energy and the kinetic theory of matter.
- Demonstrate comprehension of the variables, descriptions, and principles of motion and gravitation.
- Demonstrate comprehension of various conservation laws and their importance.
- Demonstrate insights into associations and relationships among the physical sciences.
- Demonstrate knowledge and understanding of basic physical concepts and principles.
- Discuss in expository form certain recurring themes in the unified system of science.
- Identify and assess quantitative information.
- Solve problems and reach tenable conclusions that require abstract and analytical reasoning.
- Write a formal research paper on a topic related to these learning outcomes.

- Write logical, clear and parsimonious expositions which demonstrate mastery of the nature of physical science.

PHYS151 - College Physics I

- Demonstrate a sufficient understanding of the required math that allows solutions to be obtained.
- Demonstrate an understanding of the applicable physics by assessing the accuracy and correctness of all results.
- Demonstrate the ability to quantitatively and systematically incorporate the relevant physics.
- Demonstrate the ability to select an approach that is appropriate for applying the applicable physics to any problem.
- Identify the relevant physics that applies to given physical situations.

PHYS151L - College Physics I Lab

- Apply the appropriate physics to the physical situation presented
- Demonstrate the ability to maintain a laboratory notebook
- Demonstrate the ability to use selected pieces of measuring devices including the analytical balance, caliper and micrometer
- Demonstrate the ability to use the computer as a data analysis tool
- Employ proper techniques when making scientific measurements
- Formulate and report scientific conclusions based on data analysis
- Prepare lab reports in standard scientific format
- Quantitatively analyze experimental data

PHYS152 - College Physics II

- Demonstrate a sufficient understanding of the required math that allows solutions to be obtained.
- Demonstrate an understanding of the applicable physics by assessing the accuracy and correctness of all results.
- Demonstrate the ability to quantitatively and systematically incorporate the relevant physics.
- Demonstrate the ability to select an approach that is appropriate for applying the applicable physics to any problem.
- Identify the relevant physics that applies to given physical situations.

PHYS152L - College Physics II Lab

- Apply the appropriate physics to the physical situation presented
- Demonstrate the ability to maintain a laboratory notebook
- Demonstrate the ability to use selected pieces of measuring devices including the multimeter, oscilloscope, and AC and DC power supplies
- Demonstrate the ability to use the computer as a data analysis tool
- Employ proper techniques when making scientific measurements
- Formulate and report scientific conclusions based on data analysis
- Prepare lab reports in standard scientific format
- Quantitatively analyze experimental data

PHYS170 - General Physics I

- Demonstrate a sufficient understanding of the required math that allows solutions to be obtained.
- Demonstrate an understanding of the applicable physics by assessing the accuracy and correctness of all results.
- Demonstrate the ability to quantitatively and systematically incorporate the relevant physics.
- Demonstrate the ability to select an approach that is appropriate for applying the physics to any problem.
- Identify the relevant physics that applies to given physical situations.

PHYS170L - General Physics I Lab

- Apply the appropriate physics to the physical situation presented
- Demonstrate the ability to interface the computer to serve as both a control and measuring device
- Demonstrate the ability to maintain a laboratory notebook
- Demonstrate the ability to use selected pieces of measuring devices

- Demonstrate the ability to use the computer as a data analysis tool
- Employ proper techniques when making scientific measurements
- Formulate and report scientific conclusions based on data analysis
- Prepare lab reports in standard scientific format
- Quantitatively analyze experimental data

PHYS199V - Special Studies

- execute and report on completion of stated milestones and/ or objectives
- plan and/ or outline milestones and/ or objectives to completed with a specified timeline

PHYS272 - General Physics II

- Demonstrate a sufficient understanding of the required math that allows solutions to be obtained.
- Demonstrate an understanding of the applicable physics by assessing the accuracy and correctness of all results.
- Demonstrate the ability to quantitatively and systematically incorporate the relevant physics.
- Demonstrate the ability to select an approach that is appropriate for applying the applicable physics to any problem.
- Identify the relevant physics that applies to given physical situations.

PHYS272L - General Physics II Lab

- Apply the appropriate physics to the physical situation presented
- Demonstrate the ability to interface the computer to serve as both a control and measuring device
- Demonstrate the ability to maintain a laboratory notebook
- Demonstrate the ability to use selected pieces of measuring devices including the multimeter, oscilloscope, and AC and DC power supplies
- Demonstrate the ability to use the computer as a data analysis tool
- Employ proper techniques when making scientific measurements
- Formulate and report scientific conclusions based on data analysis
- Prepare lab reports in standard scientific format
- Quantitatively analyze experimental data

PHYS274 - General Physics III

- Demonstrate a sufficient understanding of the required math that allows solutions to be obtained.
- Demonstrate an understanding of the applicable physics by assessing the accuracy and correctness of all results.
- Demonstrate the ability to quantitatively and systematically incorporate the relevant physics.
- Demonstrate the ability to select an approach that is appropriate for applying the applicable physics to any problem.
- Identify the relevant physics that applies to given physical situations.

Physiology

CLO

PHYL141 - Anatomy & Physiology I

- Explain the atoms, elements, chemical bonds and the structure and properties of molecules important in biology.
- Relate chemical knowledge to the form and function of human cells, tissues and organs of the human body.
- Identify the cells, tissues and anatomical structures of the human integumentary, skeletal, muscular and nervous systems.
- Describe the physiological process of the human integumentary, skeletal, muscular and nervous systems.
- Distinguish between various diseases of the human integumentary, skeletal, muscular and nervous systems.

PHYL141L - Human Anatomy & Physiology Lab

- Perform scientific experiments using the scientific method, including analyzing data and writing laboratory reports.

- Identify the cells, tissues and organs of the integumentary, skeletal, muscular, and nervous systems from prepared slides, models, and real and/or virtual animal dissections.
- Use basic laboratory and medical equipment to evaluate functions of the integumentary, skeletal, muscular, and nervous systems.
- Use critical thinking to analyze and interpret clinical data of the integumentary, skeletal, muscular, and nervous systems.
- Perform literature research on diseases of the integumentary, skeletal, muscular, and nervous systems.

PHYL142 - Human Anatomy & Physiology II

- Describe the structure and function of sensory cells, tissues and organs.
- Distinguish between nervous and hormonal means of regulating human physiology.
- Identify the cells, tissues and anatomical structures of the human cardiovascular, respiratory, urinary, digestive and reproductive systems.
- Describe the physiological process of the human cardiovascular, respiratory, urinary, digestive and reproductive systems.
- Distinguish between various diseases of the human cardiovascular, respiratory, urinary, digestive and reproductive systems.

PHYL142L - Human Anat & Physiology II Lab

- Perform scientific experiments using the scientific method, including analyzing data and writing laboratory reports.
- Identify the cells, tissues and organs of the sensory, endocrine, respiratory, urinary, digestive and reproductive systems from prepared slides, models, and real and/or virtual animal dissections.
- Use basic laboratory and medical equipment to evaluate functions of the sensory, endocrine, respiratory, urinary, digestive and reproductive systems.
- Use critical thinking to analyze and interpret clinical data of the sensory, endocrine, respiratory, urinary, digestive and reproductive systems.
- Perform literature research on diseases of the sensory, endocrine, respiratory, urinary, digestive and reproductive systems.

Science

CLO

SCI122 - Intro to Physical Science

- Calculate simple quantities from mathematically formulated principles.
- Collect data, analyze it and submit reports which demonstrate comprehension of the principles and processes involved.
- Demonstrate ability to visualize and analyze graphical and pictorial information.
- Demonstrate comprehension of the abstract ideas of energy and momentum.
- Demonstrate comprehension of the basic laws and properties of atoms.
- Demonstrate comprehension of the concept of proportionality in physical principles.
- Demonstrate comprehension of the development of scientific thought in social context.
- Demonstrate comprehension of the nature of thermal energy and the kinetic theory of matter.
- Demonstrate comprehension of the variables, descriptions, and principles of motion and gravitation.
- Demonstrate comprehension of various conservation laws and their importance.
- Demonstrate insights into associations and relationships among the physical sciences.
- Demonstrate knowledge and understanding of basic physical concepts and principles.
- Discuss in expository form certain recurring themes in the unified system of science.
- Identify and assess quantitative information.
- Write a formal research paper on a topic related to these course objectives.
- Write logical, clear and parsimonious expositions which demonstrate mastery of the nature of physical science.

SCI199V - Special Studies

- execute and report on completion of stated milestones and/ or objectives
- plan and/ or outline milestones and/ or objectives to completed with a specified timeline

SCI295V - STEM Research Experience

- Collect and analyze data as appropriate.
- Design methods to test a hypothesis.
- Document and formally present results of hypothesis testing to an audience.
- Formulate a hypothesis.
- Work responsibly in a lab setting.

Zoology

CLO

ZOOL101 - Principles of Zoology

- Analyze animal ecology and zoogeography: where do animals live and why, what are their roles in ecosystems.
- Analyze protoplasm, cells and tissues with emphasis on cell structure, function and reproduction.
- Associate scientists with their development of major concepts and theories in anatomy, physiology, cytology, taxonomy, embryology, evolution and genetics.
- Examine the ten body systems of animals and compare these systems in the eleven major phyla of animals.
- Identify differences between science and non-science, list the steps in using the scientific method and compare the pure sciences with the applied sciences.
- List anatomical and embryological characteristics of the eleven major animal phyla as they relate to taxonomy.
- Record differences between living and nonliving matter and the major differences between animals and plants.
- Sequence organic evolution: when, where and how life began, animal adaptations and the forming of new species.
- Synthesize the anatomy and physiology of representative animals, with the frog used as an example in lectures and fetal pig dissection in laboratory periods.
- Tabulate phenotypic ratios in genetics and examine recent developments in genetics.
- Validate the understanding of physics and chemistry as they relate to biological molecules of life and energy exchanges within animals and ecosystems.

ZOOL200 - Marine Biology

- Demonstrate an understanding of the physical and chemical properties that lead to a diversity of organisms in the marine environment.
- Describe the major life zones of the ocean and the factors affecting the distribution of marine species in these zones.
- Examine how sustainable practices and concepts can be connected to the marine environment.
- Examine the anthropogenic effects on the marine environment.
- Illustrate an understanding of the taxonomic system of classification of marine organisms.

ZOOL200L - Marine Biology Lab

- Demonstrate an understanding of the physical and chemical properties that lead to a diversity of organisms in the marine environment.
- Describe the major life zones of the ocean and the factors affecting the distribution of marine species in these zones.
- Examine the anthropogenic effects on the marine environment.
- Illustrate an understanding of the taxonomic system of classification of marine organisms.
- Use the scientific method of inquiry to investigate biological phenomena.

Social Sciences

Anthropology

CLO

ANTH135 - Pacific Island Peoples

- Compare and contrast economic opportunities and constraints in Hawai'i and other Pacific societies.
- Evaluate the impact of European and Asian influence in Hawai'i and other Pacific island societies.
- Explain Pacific settlement theory and the types of evidence used in the development of this theory.

- Explain the relationship between culture and ecology in the Pacific Islands.
- Identify cultural differences and similarities in the three culture areas of the Pacific: Melanesia, Micronesia, and Polynesia.
- Identify social problems in the contemporary Pacific and assess their potential impact on Hawai'i.
- Produce research reports based on several published sources, including indigenous accounts, of three Pacific island cultures using college-level writing with citations.
- Recognize the voyaging spirit and skills of Pacific island navigators.

ANTH150 - Human Adaptations

- Compare the topics and interactions of the major fields of physical anthropology and cultural anthropology and the major subfields including archaeology, ethnology and linguistics.
- Describe several biological and cultural differences and similarities in several human populations.
- Describe several genetics processes involved in human evolution and biological differentiation including mutation and natural selection.
- Develop an understanding of culture useful in discussing cross-cultural issues in Hawai'i, the United States and the world.
- Discuss some current theories about biological and cultural factors that influence human evolution.
- Discuss the scientific and popular concepts of "race".
- Produce a research paper based on fieldwork to describe primates using college-level writing.
- Produce a research paper based on published ethnographic fieldwork to describe another culture using college-level writing with citations.

ANTH152 - Culture and Humanity

- Define the concept of culture and explain its historical usage in anthropology.
- Develop a concept of culture that will be useful in analyzing cross-cultural issues in Hawai'i, the United States and the world.
- Discuss the threats to the culture concept and its limits.
- Identify key concepts in cultural anthropology.
- Identify the processes by which cultural anthropologists do their work.

ANTH200 - Cultural Anthropology

- Apply anthropological perspectives to explore career interests in health, human services, education and other fields.
- Compare the topics and interactions of the major fields of physical anthropology and cultural anthropology and the major subfields including archaeology, ethnology and linguistics.
- Describe several cultures in Africa, Europe and the Americas, and be able to discuss culture, adaptation, language, political organization or society in these areas.
- Describe several cultures in Asia and the Pacific Islands, and be able to discuss culture, adaptation, language, political organization or society in these areas.
- Develop an understanding of culture useful in discussing cross-cultural issues in Hawai'i, the United States and the world.
- Explain how anthropologists study economics, the family, kinship, political and religious systems, personality development, creative expression and cultural change.
- Explain how applied anthropological research can be used in social planning and development and in problem-solving.
- Produce a research paper based on fieldwork to describe a subcultural scene in Hawai'i using college-level writing.
- Produce a research paper based on published ethnographic fieldwork to describe another culture using college-level writing and citations.

Economics

CLO

ECON120 - Introduction to Economics

- Analyze the consequences of different types of market structures: perfect competition, monopoly, monopolistic competition, oligopoly.
- Apply basic economic tools of supply and demand analysis to understand how the prices of goods and resources are determined, how they change in response to market forces, and how prices affect the way in which goods and resources are allocated among competing uses and users.
- Calculate and interpret economic indicators that measure the performance of the U.S. economy, such as gross domestic product, unemployment rate and price indexes.

- Demonstrate an understanding of the U.S. banking system, including the role of the Federal Reserve System (the U.S. central bank).
- Demonstrate knowledge of the circular flow model of the U.S. economy and an understanding of how the U.S. economy works compared to other types of economic systems.
- Understand and analyze national fiscal policy (government spending and taxes), the federal budget, and national debt and their effect on national output, income and employment.
- Understand and analyze national monetary policy and its effect on national output, income and employment.

ECON130 - Prin of Economics I - Micro

- Analyze the consequences of different types of market structures: perfect competition, monopoly, monopolistic competition, oligopoly.
- Apply the basic economic tools of supply and demand analysis to understand how the prices of goods and resources are determined, how they change in response to market forces, and how prices affect the way in which goods and resources are allocated among competing uses and users.
- Demonstrate an understanding of microeconomic theories and the scientific method and models that economists use to analyze and explain the economic behavior of consumers and producers.
- Demonstrate knowledge of the circular flow model of the U.S. economy and an understanding of how the U.S. economy works compared to other types of economic systems.
- Understand the reasons for and results of government antitrust policy and industry regulation.

ECON131 - Princ of Economics II - Macro

- Apply the basic economic tools of supply and demand analysis to understand how the prices of goods and resources are determined, how they change in response to market forces, and how prices affect the way in which goods and resources are allocated among competing uses and users.
- Calculate and interpret economic indicators that measure the performance of the U.S. economy, such as gross domestic product, unemployment rate and price indexes.
- Demonstrate an understanding of macroeconomic theories and the scientific method and models that economists use to analyze and explain the performance of the economy and such macroeconomic problems as inflation and unemployment.
- Demonstrate an understanding of the U.S. banking system, including the role of the Federal Reserve System (the U.S. central bank).
- Demonstrate knowledge of the circular flow model of the U.S. economy and an understanding of how the U.S. economy works compared to other types of economic systems.
- Explain and apply macroeconomic models to analyze the factors that determine the level of, and changes, in national output, income, and employment.
- Understand and analyze national fiscal policy (government spending and taxes), the federal budget, and national debt and their effect on national output, income and employment.
- Understand and analyze national monetary policy and its effect on national output, income and employment.

Geography and Environment

CLO

GEO101 - The Natural Environment

- Apply geographic principles, theories, and methods to the study of the physical environment.
- Demonstrate knowledge of, and ability to apply, scientific systems of measurement to describe natural phenomena.
- Describe the primary interactions between human societies and the physical environment.
- Identify the key physical processes shaping the Earth's surface, their interrelationships, and their spatial distribution.
- Interpret maps of physical phenomena to identify patterns.

GEO101L - The Natural Environment Lab

- Define a problem for study, gather and record data, analyze the data, arrive at appropriate conclusions and report the findings in written form.
- Demonstrate knowledge of and ability to apply the metric system, scientific notation, and geographic and basic statistical measurements.
- Demonstrate the ability to read and interpret maps and graphs.
- Use a variety of measuring instruments to gather environmental data.

GEO102 - World Regional Geography

- Explain the spatial differentiation of human patterns on the landscape.

- Locate places on maps of the various regions of the world.
- Understand geographic concepts and theories used to explain world patterns and distributions of population, culture, and economic activities.
- Understand the interconnections between world's regions, and identify and interpret contemporary world issues from a regional perspective.

GEO122 - Geography of Hawaii

- Describe the connections between traditional Hawaiian culture and the environment as related to settlement, land tenure, agriculture, economics and religion.
- Discuss the contemporary demographic, economic, environmental, and social situations and challenges that characterize Hawai'i in the 21st Century.
- Explain the unique aspects of Hawai'i's natural history and the relationship between Hawaiian environments and their flora and fauna.
- Identify principal locations in the Pacific, and physical and cultural features in Hawai'i by their Hawaiian names.
- Illustrate the influence of key historical events such as annexation on political, economic, environmental and social conditions in Hawai'i especially as they relate to native Hawaiians.
- Trace the migration of people and culture across Oceania, through Polynesia, and to Hawai'i.

Political Science

CLO

POLS110 - Intro to Political Science

- Describe causes and control of domestic and international violence.
- Describe changes in Hawai'i politics.
- Describe different types of law, courts and bureaucracies.
- Describe operations and effects of political parties, media and interest groups.
- Describe political cultures, subcultures and public opinion.
- Describe tenets of classical political philosophy and modern political ideologies.
- Describe the scope of political science.
- Describe theories and practice of managing economies.
- Describe types of states, democracies, voting and economic systems.

POLS120 - HCC-E-Intro to World Politics

- Describe different theories and levels of analysis of world politics.
- Describe important terms, characteristics and factors in world politics.
- Describe issues regarding the environment, population and human rights.
- Describe major alliances, treaties and tenets of international law.
- Describe the functions of major non-state actors.
- Describe the historical background of today's world system.
- Describe theories of war; military power; and strategy.
- Describe types and theories of globalization, development and trade.

POLS130 - HCC-E-Intro to Amer Politics

- Describe civil rights history and contemporary issues.
- Describe federalism and civil liberties.
- Describe how special interests, the Presidency, bureaucracy, Congress and Supreme Court work.
- Describe parties, voting and elections.
- Describe patterns of U.S. taxes, spending and wealth.
- Describe political participation, the media and public opinion.
- Describe U.S. foreign policy.

- Describe U.S. ideals and the Constitution.

POLS180 - Intro to Hawaii Politics

- Describe and analyze Big 5/Republican control of Territorial economics and politics, and union resistance.
- Describe and analyze Hawaii and mainland Japanese Americans' WWII experiences.
- Describe and analyze plantation work, pay and rules, and worker resistance.
- Describe and analyze pre-contact economics and politics, and Kamehameha's and Kaahumanu's changes.
- Describe and analyze the Great Mahele, Reciprocity Treaty, Bayonet Constitution, 1893 coup and Annexation.
- Describe and analyze the takeover and changes by Burns and the Democratic Party.
- Describe and analyze today's political processes and groups.

POLS250 - Asian Politics Since 1900

- Describe major political, economic, and social processes since 1900 of ten Asian countries.
- Describe the political and economic policies that these countries used to develop their societies.
- Describe the political structures and processes that produced these policies.

Psychology

CLO

PSY100 - Survey of Psychology

- Describe and demonstrate a comprehension of the scientific method and decision making as applied to the social sciences.
- Identify and describe the major subject areas, concepts, theories, and approaches within psychology.
- Identify the strengths and weaknesses of different research methods used in psychological research.

PSY180 - The Psychology of Work

- Describe and demonstrate a comprehension of the scientific method and decision making as applied to the practices and problems of the work place.
- Describe and explain how individual personality characteristics, values, and behavior affect job performance.
- Describe and explain how the physical properties of the work place and how an organization's culture and climate affect job performance.
- Describe and explain human resources and its role in employee selection, appraisal, and training.
- Summarize and apply psychological principles to improve worker satisfaction, the work environment, and overall organizational effectiveness.

PSY212 - Survey of Research Methods

- Demonstrate an ability to present the components of a research report in written and oral format.
- Describe the goals of science.
- Describe the methods and tools of psychological science, and discuss the strengths and weaknesses of each.
- Discuss biases in psychological research, including experimenter and subject biases.
- Discuss research ethics and the history of ethical principles.
- Evaluate the results of a study and understand its implications for supporting or not supporting the hypothesis.
- Understand and apply descriptive statistics; understand the logic of inferential statistics in decision-making.
- Understand how to formulate a research hypothesis and design a study to test the hypothesis.
- Understand the differences between reliability and validity.
- Understand the major components of a research report written in American Psychological Association (APA) format.

PSY220 - Intro to Behavioral Psychology

- Apply principles of learning and conditioning to change or regulate behavior.
- Demonstrate knowledge of how to measure behavior and evaluate changes in behavior.
- Demonstrate knowledge of the science of behavioral psychology, based on theories of learning and behavior.

- Demonstrate knowledge of the terminology of the field of learning and behavior modification, including classical conditioning and operant conditioning.
- Think critically and communicate effectively both orally and in writing.
- Understand how to construct, read, and interpret data presented in graphs and tables.

PSY225 - Statistical Techniques

- Calculate confidence intervals and perform hypothesis testing.
- Prepare visual presentations of data, including charts, graphs, and tables.
- Test differences between Means, Variances, and Proportions.
- Understand correlation and regression.
- Understand the role of probability and probability distributions in statistics in order to evaluate social science research data.
- Utilize computer resources to perform data analysis.

PSY230 - Intro to Psychobiology

- Demonstrate knowledge about the neural mechanisms of behavior and mental processes.
- Describe the approach and scope of the field of psychobiology.
- Describe the basic structures and functions of the nervous system.
- Describe theories about the interaction between nature and nurture in determining behavior.
- Identify research methods used in the field of psychobiology, the rationale behind the methods, and evaluate their strengths and limitations in addressing questions about the biological basis of behavior.

PSY240 - Developmental Psychology

- Demonstrate an ability to critically review, evaluate, and analyze material from developmental psychology.
- Demonstrate an understanding of the research methods and tools of developmental psychology and their strengths and weaknesses.
- Demonstrate knowledge of the major theories and models of developmental psychology and their role in explaining behavior.
- Identify the major developmental principles, stages, and process, from conception through adulthood.

PSY250 - Social Psychology

- Demonstrate an awareness of the major methods, theories, and research findings in social psychology.
- Demonstrate the ability to apply the theories and research findings of social psychology to contemporary social problems.
- Demonstrate the ability to critically review material related to social psychology.

PSY260 - Psychology of Personality

- Critically evaluate different theories.
- Demonstrate knowledge of the different theories of personality including each theory's approach to personality development, assessment and change.
- Express ideas and opinions clearly both orally and in writing.
- Understand the respective strengths and weaknesses of different methodologies associated with personality research.

PSY270 - Intro to Clinical Psychology

- Be familiar with the main theories and models of psychological intervention and how to evaluate their efficacy.
- Critically evaluate current issues in clinical psychology especially as they relate to ethics, gender, and culture.
- Describe psychological assessment and diagnosis.
- Describe the different careers in clinical psychology and their requirements.
- Express ideas clearly both orally and in writing.
- Know the different models of psychopathology.
- Know the history and development of clinical psychology and the scientist-practitioner model.

Social Sciences courses

CLO**SSCI125 - Pacific Island Peoples**

- The student will gain an understanding of the traditional cultures of Polynesia, Micronesia, and Melanesia through the study of selected examples of each culture area.

SSCI250 - Gender & Society

- Achieve a better understanding of the relationship of individuals to the gendered social environment.
- Critically analyze and formulate positions on contemporary gender issues.
- Employ various social science perspectives and research methods in studying male and female social roles.
- Examine personal values, formulate and articulate positions concerning gender issues.
- Express ideas and opinions clearly in writing; specifically in essay and research paper formats.
- Identify "gender" expectations in economic, political, social behavior and communication.
- Understand and articulate "gender" as an underlying, if obscured, force in social behavior and institutions.
- Understand and articulate the "social constructionist" and "feminist" social science theories.
- Understand and articulate the impact of class, ethnicity and race on gender roles.
- Understand the inter-connectedness, interdisciplinary nature of social, gendered issues.
- Understand the multiple sources and forms of gender inequalities.
- Understand the role of gender in contemporary economic, social, cultural and political institutions.
- Understand, articulate and manipulate quantitative and qualitative research regarding gender.

Sociology**CLO****SOC100 - Survey of General Sociology**

- Comprehend and apply basic sociological concepts to daily life.
- Develop an appreciation for the sociological imagination.
- Gain a greater appreciation for cultural diversity and the lessons that can be learned from others and other societies.
- Recognize strengths and weaknesses of basic sociological research methods.
- Understand major sociological theoretical approaches.

SOC212 - Intro to Sociology of Japan

- Apply major sociological theoretical approaches to Japanese society.
- Comprehend and be able to apply basic sociological concepts to daily life in Japanese society.
- Develop an appreciation for the sociological imagination applied to Japanese society.
- Gain a greater appreciation for cultural diversity and the lessons that can be learned from others and other societies.
- Recognize strengths and weaknesses of basic sociological research methods in studying Japanese society.

SOC214 - Intro to Race & Ethnic Relations

- Apply major sociological theoretical approaches to race and ethnic relations.
- Comprehend and apply basic sociological concepts to the study of race and ethnic relations.
- Develop an appreciation for the sociological imagination applied to understanding race and ethnic relations.
- Recognize strengths and weaknesses of basic sociological research methods in studying race and ethnic relations.
- See race and ethnic relations in the local as well as the global.

SOC218 - Introduction to Social Problems

- Apply major sociological theoretical approaches to social problems.
- Comprehend and apply basic sociological concepts to the study of social problems.

- Develop an appreciation for the sociological imagination applied to understanding social problems.
- Recognize strengths and weaknesses of basic sociological research methods in studying social problems.
- See social problems in the local as well as the global.

SOC231 - Intro to Juvenile Delinquency

- Apply major sociological theoretical perspectives to studying juvenile delinquency.
- Comprehend and apply basic sociological concepts to the study of juvenile delinquency.
- Develop an appreciation for the sociological imagination applied to understanding juvenile delinquency.
- Recognize strengths and weaknesses of basic sociological research methods in studying juvenile delinquency.
- See juvenile delinquency in the local as well as the global.

SOC251 - Intro Sociology of the Family

- Apply major sociological theoretical perspectives to studying family.
- Comprehend and apply basic sociological concepts to the study of family.
- Develop an appreciation for the sociological imagination applied to understanding family.
- Recognize strengths and weaknesses of basic sociological research methods in studying family.
- See family in the local as well as the global.

Transportation and Trades

Aeronautics

CLO

AERO130 - General Aircraft Maint I

- Complete maintenance and inspection records.
- Determine areas and volumes of geometric shapes.
- Extract roots and raise numbers to a given power.
- Fabricate and install fluid lines.
- Identify and select cleaning materials.
- Identify and select fuels.
- Identify and treat corrosion.
- Identify appropriate nondestructive testing methods.
- Inspect welds.
- Operate, service and secure aircraft.
- Perform algebraic operations of signed numbers.
- Perform heat treatment.
- Perform precision measurements.
- Perform various types of nondestructive testing.
- Read, comprehend, and apply information from manufacturers and the FAA.
- Select hardware and materials.
- Sketch repairs and alterations.
- Solve ratios, proportions, and percentage problems.
- Use aircraft drawings and schematics.
- Use blueprint information.
- Use graphs and charts.

AERO131 - Adv Gen Aircraft Maint II

- Calculate and measure capacitance, inductance, electrical power, voltage, current, and resistance.
- Inspect and service batteries.
- Perform weight and balance record keeping.
- Read and interpret electrical circuit diagrams.
- Use and understand simple machines, sound, fluid and heat dynamics; basic aerodynamics; aircraft structures; and theory of flight.
- Weigh aircraft.

AERO132 - Powerplant Maintenance I

- Identify and select lubricants.
- Inspect and repair radial engines.
- Inspect, check, service and repair lubrication systems and components.
- Inspect, service, repair, and troubleshoot ignition systems and components.
- Inspect, service, troubleshoot, and install reciprocating engines.
- Overhaul magnetos and ignition harnesses.
- Overhaul reciprocating engines.
- Repair electrical components.
- Troubleshoot and repair electrical and mechanical indicating systems.

AERO133 - Airframe Maintenance

- Apply finishes with paint gun and brush to fabric and metal surfaces.
- Be familiar with magnesium, titanium, aluminum and stainless steel welding procedures.
- Bend sheet aluminum.
- Demonstrate skill in application of trim and lettering.
- Determine correct registration number sizing.
- Fabricate a honeycomb composite panel.
- Hand form and heat treat aluminum structure.
- Inspect and identify composite structures.
- Inspect and identify flaws in welded structures.
- Install and finish a fabric panel.
- Install and remove rivets without flaws to the rivet or sheet metal.
- Interpret fabric covering instructions.
- Perform bend allowance calculations.
- Perform proper rib lacing.
- Perform simple oxyacetylene procedures and welds.
- Prepare and prime aircraft metals.
- Properly layout rivet patterns.
- Repair damage to sheet aluminum using correct material, rivet number and metal treatment.
- Select and install sheet metal special fasteners.
- Select rivets using correct material, size, and type.
- Solder aircraft wiring.
- Understand use of aircraft paint and finish.

AERO134 - Powerplant Maintenance II

- Inspect and repair heat exchangers, superchargers, and turbine engine airflow and temperature control systems.

- Inspect and repair ice and rain control systems.
- Inspect, check, service, and troubleshoot auxiliary power units.
- Inspect, service, troubleshoot and repair turbine ignition systems.
- Inspect, service, troubleshoot, and repair turbine starting systems.
- Install, troubleshoot and remove turbine engines.
- Overhaul carburetors.
- Overhaul, inspect, check, service, and repair turbine engines.
- Repair and inspect reciprocating and turbine engine fuel metering systems and components.
- Troubleshoot and adjust turbine fuel metering systems.
- Use lubricants and repair lubrication systems.

AERO135 - Airframe Maintenance II

- Assemble, balance, rig, and inspect primary and secondary flight control surfaces.
- Check alignment of structures.
- Inspect, check, service, and repair windows, doors, and furnishings.
- Inspect, check, service, troubleshoot and repair electronic and mechanical flight instruments.
- Inspect, test, and repair fabric, fiberglass, plastics, honeycomb, composite, and laminated structures.
- Install and perform tests of static pressure instrumentation.
- Jack aircraft.
- Perform conformity and airworthiness inspections.
- Rig rotary-wing and fixed-wing aircraft.
- Service, repair, and inspect wood structures.

AERO136 - Powerplant Maintenance III

- Balance propellers.
- Identify and select propeller lubricants.
- Inspect and service propeller synchronizing and ice control systems.
- Inspect and troubleshoot unducted fan systems.
- Inspect, check, service, and troubleshoot turbine driven auxiliary power units.
- Inspect, check, service, troubleshoot and repair fire detection and extinguishing systems.
- Install, check, and service electrical wiring, controls, and components.
- Install, troubleshoot, and remove propellers.
- Repair aluminum propeller blades.
- Repair cooling systems and components.
- Repair exhaust systems and components.
- Repair propeller control and governing systems.
- Troubleshoot and repair thrust reverser systems and components.

AERO137 - Airframe Maintenance III

- Check and service fuel dump systems, pressure fueling systems, and fuel management systems.
- Inspect and repair antennas and electronic equipment.
- Inspect and repair quantity, pressure, and temperature indicating systems.
- Inspect, check and troubleshoot autopilot systems.
- Inspect, check, and service brake and antiskid systems.
- Inspect, check, and service communication and navigation systems.

- Inspect, check, and service smoke, fire, and carbon monoxide detection systems.
- Inspect, check, and troubleshoot constant speed and integrated speed drive generators.
- Inspect, check, service, and repair landing gear, brakes, wheels, tires, hydraulic and pneumatic power systems and components.
- Inspect, check, service, troubleshoot, and repair fire extinguishing systems.
- Inspect, check, troubleshoot and service heating, cooling, air conditioning, pressurization and oxygen systems and components.
- Inspect, check, troubleshoot and service position warning and indicating systems.
- Inspect, check, troubleshoot, service, and repair ice and rain control systems.
- Repair and inspect electrical systems and components.
- Repair fuel system component.

Applied Trades

CLO

IEDD101 - Basic Drafting & Blueprint Rea

- Communicate ideas graphically to others.
- Demonstrate basic mechanical drawing skills.
- Use various types of blueprints to perform work-related functions.

WORK194V - Coop. Ed. Federal Work Cycle

- Apply Skills learned from class to Duties at Work: Applies the SLOs from HCC classes to duties on the waterfront including ENG 100, PSY 180, SP 251, MATH 50/55, IEDD 101, PHYS 100/100LV and AMST 202.
- Demonstrate Basic Technological Skills: Uses computers, mainframes, networked systems, word processors, and office systems software to access and input information; Uses the most current technology, tools and equipment according to industry standards.
- Demonstrate Career Literacy: Describe personal career opportunities, pathways, and workforce changes likely to occur; Seek out growth activities to maintain and enhance job options through continuous learning.
- Demonstrate Industry Knowledge: Adheres to security and legal policies, ethical practices, and quality assurance, production, and safety standards; Meets production standards for quality and quantity of work performed.
- Demonstrate Interpersonal Skills: Interact cooperatively and courteously with others, understanding the interdependent nature of the workplace; Demonstrates respect for all individuals regardless of differences.
- Demonstrate Positive Work Habits/Ethics: Sustains a commitment to personal excellence and high quality work; Maintains adaptability and flexibility in a changing environment and think cross-functionally; Maintains ethical behavior by performing with integrity; Manages oneself by maintaining high motivation and perseverance, and personal responsibility; Dresses appropriately for the department and situation and speak and act professionally.
- Demonstrate Sustainability: Conserves energy, reuse and recycle materials and equipment.
- Demonstrate Thinking Skills: Thinks critically and creatively, use available resources, organize information, strategize, and reach solutions; Uses reference materials such as blueprints, charts and graphs to make decisions; Uses organizing strategies to manage information (e.g., alphabetically, numerically, chronologically); Uses time and resources productively and efficiently.

Architectural Engineerg and CAD Technology

CLO

AEC101 - Constr. Graphics & Conventions

- Define typical construction symbols, line types, and terminology.
- Demonstrate graphical problem-solving skills appropriate to the level of the coursework.
- Describe and explain how complex plan sets are organized.
- Describe the special characteristics of commercial plans and explain how to read and interpret them.
- Identify and describe the components of an exterior wall section.
- Identify and describe the components of site plans and civil plans.
- Identify typical contract documents and describe their function.
- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work, and meet production deadlines.
- Use the full range of tools in a computer 3D modeling program such as SketchUp® to create, modify, and manipulate computer models of objects.

- Utilize software to aide in the reading and interpretation of construction plans.

AEC110 - Basic AutoCad

- Demonstrate graphical and computational problem-solving skills appropriate to the level of the coursework.
- Identify or roughly define the terms, concepts, and standards associated with the topics of the course.
- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work, and meet production deadlines.
- Use the AutoCAD® software program to create drawings from scratch and to modify, manipulate, copy, delete, save, and plot drawings.
- Use the full range of AutoCAD® commands and options and employ shortcuts and time-saving strategies to operate the program at a level of efficiency acceptable for employment as a CAD technician.

AEC111 - Intro. to Professional Ethics

- Analyze a workplace ethical dilemma to identify root issues, apply moral principles to the intentions, motives, and circumstances involved, and suggest one or more solution that adequately addresses the interests of all parties or entities actually or potentially affected by it.
- Correctly explain any one of seven moral principles to an extent and with enough precision to distinguish it from the other principles.
- Distinguish between science and ethics, personal and professional ethics, statements of fact and opinion, reason and emotion, etc.
- Identify or explain the distinguishing features of at least four of the ethical theories presented in the course - egoistic, conventional, utilitarian, duty, virtue, and feminist ethics.

AEC118 - Construction Materials

- Demonstrate model-building and drawing layout proficiencies in the completion of course construction and graphic communication projects related to topics of the course.
- Identify, explain, or compare the common construction materials, products, and systems presented in the course -their sources, properties uses, or methods of installation.
- Participate regularly and appropriately in online group discussions about class material, and seek the help of others as needed.
- Roughly define the common terms and concepts associated with the topics of the course.

AEC160 - Construction Detailing

- Apply the layout, line weight, and other basic drawing and presentation standards to produce drawings of industry standard quality.
- Demonstrate oral and written communication, computation, and problem-solving skills appropriate to the level of the coursework.
- Design the foundation and the floor, wall, and roof framing of a small residential building.
- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work, and meet production deadlines.
- Roughly define the terms, concepts, and standards associated with the topics of the course.
- Use CAD® software to create common construction drawing details complete with labels and dimensions for one or more small buildings.

AEC161 - Bldg Info Modeling Software

- Compose and print a sheet in a building model set.
- Create still renderings, perspective views and walk through animations of a building model using Building Information Modeling (BIM) software.
- Demonstrate oral and written communication, computation and problem-solving skills appropriate to.
- Demonstrate the appropriate software commands to create a 3D building model including the following assemblies: walls, floors, doors, windows, roofs, components, dimensions and stairs.
- Demonstrate the loading of components into a building model.
- Import a vector-based reference drawing into a model file.

AEC163 - Construction Law

- Differentiate between various contractual relationships by understanding the roles and responsibilities of contractual parties.
- Know how to handle schedule impacts, delays, accelerations, suspensions and disruption of time related work activities.
- Recognize, develop and manage a document control system.
- Understand the importance of contract documents and construction law as they pertain to on-site construction supervisors.

AEC164 - Residential Planning & Design

- Clearly and adequately explain a design in presentation of it to a group or students or others, and fairly and objectively critique designs and presentations of others.
- Demonstrate oral and written communication, computation, and problem-solving skills appropriate to the level of the coursework.
- Describe and apply reasonable space requirements, code restrictions, site and building orientation constraints, and room proximity standards to development of a residential design.
- Explain and demonstrate the building design process.
- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work, and meet production deadlines.
- Use the AutoCAD® and SketchUp® computer programs (or similar programs) to develop and finalize an architectural design.

AEC165 - Construction Administration

- Demonstrate the ability to create and manage an effective quality control plan.
- Prepare and update various plans required by government agencies.
- Properly manage a change proposal log and be able to identify changes in the scope of work for a construction project.
- Set up and manage the documentation process for a construction project.

AEC209 - Planning and Scheduling

- Apply float, constraints, sorts, and filters, to a computer generated schedule and understand resources and how they can be coordinated into the schedule.
- Demonstrate the ability to define a schedule of activities and assign reasonable durations to the activities, sequence the activities for a logical workflow.
- Demonstrate the ability to describe process of project planning and the efficiencies derived from planning.

AEC210 - Residential Working Drawings

- Demonstrate the setup and organization of a residential drawing project set using CAD software.
- Prepare a brief site data analysis using the current version of the City and County of Honolulu Land Use Ordinance that proves the residential project complies with land use regulations.
- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work and meet intermediate and final production deadlines.
- Using Building Information Modeling (BIM) software, create and fully annotate a complete set of two-story residential construction drawings based on an original design and conforming to local Land Use Ordinance regulations.

AEC211 - Construction Est & Bidding

- Define terminology specific to the profession of building estimators.
- Demonstrate oral and written communication, computation and problem-solving skills appropriate to the level of the coursework.
- Determine the proper unit of measure for a quantity of specific building components.
- Prepare a quantity take-off for a small building using Building Information Modeling (BIM) software and export it to spreadsheet software for analysis and pricing to determine bare costs, profit and overhead, and bid price.
- Prepare an outline of the sequence of events in the estimating process for a building.
- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work and meet production deadlines.

AEC213 - Construction Codes

- Explain the main difference between the land use ordinance and the building code.
- Using the Building Code: For both residential and commercial buildings determine the Occupancy/Occupancies for a given building use or list of uses, the minimum occupancy separation for two adjacent occupancies, the appropriate Construction Type for the building's use or list of uses, and the appropriateness of exit system by analyzing the occupant load, number of exits, exit width and distance to exits.
- Using the City and County of Honolulu Land Use Ordinance, determine the necessary zoning and development standards for a commercial building in a commercial zoning district including, but not limited to setbacks, maximum density, building envelope, landscaping, screening, loading and parking.
- Using the City and County of Honolulu Land Use Ordinance, determine the necessary zoning and development standards for a dwelling in a residential zoning district including, but not limited to setbacks, maximum density, building envelope and parking.

AEC217 - Structural Drawing

- Prepare structural floor framing plans, details and sections for buildings with concrete structural systems.
- Prepare structural floor framing plans, details and sections for buildings with steel structural systems.

- Prepare structural floor framing plans, details and sections for buildings with wood structural systems.

AEC236 - Introduction to Sustainability

- Apply tools and methods to conduct a sustainability assessment
- Define sustainability from a multidisciplinary perspective
- Design a project that utilizes sustainable practices
- Illustrate the importance to advance sustainability

AEC237 - Intro to the Built Enviro

- Demonstrate oral and written communication skills appropriate to the level of the coursework.
- Describe a building by breaking it down into its 2D and 3D fundamental components.
- Describe the roles of various design professionals in the creation of the built environment.
- Explain some of the coursework taken by architecture students pursuing an architectural degree.
- Give a report on a well known architect.
- List the environmental responses of a building to it's location.

AEC239 - Field Shadow Experience

- Demonstrate listening, processing, and speaking skills in responding appropriately to audience questions and comments.
- Give at least two Powerpoint presentations based on research and firsthand observation that evidence seriousness, depth of involvement, organization, verbal clarity, good grammar (both written and spoken), personal appearance and poise, attention to the audience, and graphical and technical skill.
- Observe and compare the written, oral, and technical skills of employees to the areas of their expertise within an architectural, engineering, or construction firm.
- Observe and describe the apparent organization and preparation involved in presentations by others at office and client meetings.
- On the basis of direct observation, characterize the relationships and forms or levels of communication between employees one to another employees and consultants or contractors, and employees and clients.
- Organize a presentation that explains the history, structure, and operation of an AEC firm, some of its prominent projects, and the relationships and individual responsibilities of people within the firm.
- Research a particular architectural, engineering, or construction firm to learn its structure, history, emphases, community involvement, an representative current and completed projects.

AEC260 - Commercial Working Drawings

- Demonstrate oral and written communication, computation and problem-solving skills appropriate to the level of the coursework.
- Demonstrate the setup and organization of a commercial or multi-family apartment building drawing project set using CAD software.
- Describe some of the building areas that need to be addressed when making a commercial or apartment building accessible for handicapped users.
- Prepare a brief site data analysis using the current version of the City and County of Honolulu Land Use Ordinance that proves the commercial or apartment project complies with land use regulations.
- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work and meet production deadlines.
- Using Building Information Modeling (BIM) software, create and fully annotate a complete set of multi-family residential or commercial construction drawings based on an original design and conforming to local Land Use Ordinance regulations.

AEC261 - Building Services

- Demonstrate oral and written communication, computation and problem-solving skills appropriate to the level of the coursework.
- Demonstrate the use of the Psychrometric Chart to explain the relationships of dry bulb temperature, wet bulb temperature, relative humidity and the dew point of air to each other.
- Illustrate the different components in the compression refrigeration cycle.
- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work and meet production deadlines.
- Using Building Information Modeling (BIM) software, create models and construction drawings of vertical circulation (elevators, escalators), air distribution, water supply, drainage/waste/vent and electrical distribution systems in a building to maximize efficiency and minimize resource waste.

AEC263 - Virtual Construction

- Create complex schedules in Revit.

- Create various Revit families.
- Draw viewpoints, sections, and animations in Navisworks.
- Perform clash detections in Navisworks.

AEC264 - Adv Modeling & Presentation

- Create 30 models that include lights and materials to create photorealistic renderings and animations.
- Create 30 objects from 20 objects using modification commands in 3D software.
- Create complex 3D models using additive and subtractive modeling techniques in 3D software.
- Export 30 animation movies for viewing using 3D software.
- Export 30 files for printing on a 3D Printer.
- Model 3D primitives using 3D modeling software.
- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work and meet production deadlines.

AEC265 - Construction Inspection

- Demonstrate dexterity with tables, charts, and guidelines contained in codes.
- Demonstrate oral and written communication, computation, and problem-solving skills appropriate to the level of the coursework.
- Describe commonly used building codes, construction classifications and occupancy categories.
- Determine if a project meets code standards in a variety of projects.
- Explain safety practices and procedures in construction.
- Recognize and describe the methods, techniques and requirements in construction inspections.
- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work, and meet inspection deadlines.
- Roughly define the terms, concepts, and standards associated with the topics of the course.

AEC277 - Land Surveying I

- Describe and perform precise horizontal angle measurements.
- Describe different kinds of surveying.
- Describe different methods of determining elevations, and be able to choose the appropriate method for a given application.
- Describe different methods of measuring horizontal distances, and be able to choose the appropriate method for a given application.
- Describe the basic principles of the Global Positioning System (GPS).
- Explain the difference between plane surveying and geodetic surveying.
- Perform practical skills such as setting simple controlpoints for a construction survey and laying out a curve for a roadway.
- Perform topographic surveys and create views based on that data.
- Setup and use computer spreadsheets to perform calculations related to taping corrections, elevation adjustments, and traverse adjustments.

AEC278 - Land Surveying II

- Demonstrate a detailed working knowledge and application of related computer hardware and software.
- Demonstrate a detailed working knowledge and application of standard field equipment.
- Demonstrate knowledge with comprehensive field note taking, plan reading and preparation.
- Demonstrate more detailed knowledge of survey computations, types of surveys and field operations.
- Describe the basic principles of the profession.

AEC280 - Site Modeling

- Demonstrate written communication, computation, and graphical problem-solving skills appropriate to the level of the course.
- Draw, label, and explain property boundary lines of prescribed lengths and directions in either bearing or azimuth formats.
- Identify or roughly define the terms, concepts, and standards associated with the topics of the course.
- Manipulate contour lines in topographic drawing models to represent excavations for level building areas or level or inclined driveways and roads with specific or maximum grades and embankment slopes.

- Report to a workplace regularly and punctually, engage effectively and congenially with peers and supervisors, work from written as well as oral instructions, use assigned time efficiently for productive work, and meet production deadlines.
- Use point descriptions, draw and label contour lines that indicate topography in land drawings, and "read" contour lines to explain land forms.
- Use various CAD software programs to place and label points in drawings, import points from datasets, create and manage point groups, create and label property boundary and contour lines, and run various surface analyses.

AEC289 - Prep for Employment in AEC

- Compose and print images of work for inclusion in a portfolio.
- Correctly and completely fill out an employment application.
- Create a layout that accentuates presented work in a portfolio.
- Create a professional impression of oneself at a job interview and effectively respond to common, uncommon, and even illegal interview questions.
- Create a professional resume and well-written cover letter.
- Create, maintain, and present a professional portfolio.
- Explain the proper use of text in relation to images when presenting a portfolio.
- Innumerate some of the common questions that are asked at job interviews, and give a pre-planned response to each.
- Model and describe attitudes, work habits, and other factors that relate to success on the job after employment is obtained.
- Select appropriate materials for inclusion in a portfolio.

Auto Body Repair and Painting

CLO

ABRP73 - Collision Prep & Panel Align

- Apply masking materials, remove or protect adjacent panels and parts so needed repairs can be completed.
- Demonstrate fundamental procedures to properly remove and install exterior trim and moldings.
- Demonstrate safety related practices while performing collision repair work.
- Demonstrate the fundamental procedures to locate and repair air, water, and dust leaks related to panel alignment.
- Explain why proper panel alignment is important, and demonstrate the various methods that can be used to align panels.
- Properly wash a vehicle, apply wax and grease remover, and remove corrosion protection from the repair area.
- Read and understand the operations listed on a damage report, than develop a plan to repair the vehicle.
- Remove, install, and align bumpers.
- Select and use the proper tools and equipment needed for removing broken bolts and repairing damaged threads.
- Select and use the proper tools and equipment needed to remove and install deck lid lock cylinders.
- Select and use the proper tools and equipment needed to remove and install door locks and handles.
- Select and use the proper tools and equipment needed to remove and install interior door trim panels.
- Select and use the proper tools and equipment to remove, install, and align bolt-on panels.
- Select the proper tools and equipment and follow the necessary safety procedures while removing, installing, and aligning fenders and doors.
- Select the proper tools and equipment and follow the necessary safety procedures while removing, installing, and aligning hoods and deck lids.
- Use trim removal tools to properly remove trim from a vehicle.

ABRP75 - Door Skin Align & Replace

- Apply the principles and techniques for removing and replacing a damaged welded door skin.
- Demonstrate knowledge of the fundamental procedures in removing and replacing a damaged bonded door skin.
- Demonstrate knowledge of the fundamental procedures in the removal and reinstallation of a sunroof.
- Demonstrate knowledge of the fundamental procedures, principles and techniques to straighten a damaged door frame.

- Remove and install hinged auto glass parts.
- Remove and reinstall moveable door glass.

ABRP78 - Collision Damage Analysis

- Inspect a damaged vehicle and identify various types of damage.
- Interpret body dimension specification sheets and locate key reference points on a vehicle.
- Set up and use various, types of measuring systems.
- Understand how a computerized measuring system is used to identify damage on a vehicle.
- Understand how a dedicated fixture system is used to identify damage on a vehicle.
- Understand how a universal measuring system is used to identify collision damage.
- Use a set a datum line gauges to identify height damage.
- Use a tram gauge to measure vehicle length and width damage.
- Use centering gauges to determine vehicle centerline misalignment.

ABRP79 - Structural Straighten Tech

- Properly mount and anchor a vehicle to a pulling system.
- Select and set up different types of pulling equipment.
- Understand hot and cold stress relief methods in the repair of collision damaged parts.
- Understand the proper techniques needed to be used when working with high strength steel in collision repairs.
- Understand the techniques used to pull and straighten a front end damaged vehicle.
- Understand the techniques used to pull and straighten a rear end damaged vehicle.
- Understand the techniques used to pull and straighten a vehicle with side impact damage.

ABRP80 - Panel Replacement

- Explain the repair procedures for full or partial panel replacement.
- Understand the techniques used to complete a full body section repair.
- Understand the techniques used to repair and replace a floor pan and truck floor.
- Understand the techniques used to repair or replace a complete rail assembly.
- Understand the techniques used to repair or replace a rail section.
- Understand the techniques used to repair or replace a rocker panel.
- Understand the techniques used to section or completely replace a B-pillar.
- Understand the techniques used to section or completely replace an A-pillar.
- Use the information provided to properly select various types of joints used in sectioning.

ABRP101 - Foundation to Auto Body Repair

- Demonstrate the ability to effectively apply and finish body filler.
- Demonstrate the ability to properly operate the MIG welder and perform basic welds.
- Demonstrate the ability to properly prepare the area for refinishing.
- Demonstrate the ability to properly prepare the vehicle for refinishing.
- Demonstrate the ability to safely operate and manipulate materials and equipment for refinishing,.
- Demonstrate the necessary safety precautions needed to protect themselves while working in the trade.
- Display the proper technique needed in the safe operation of hand and power tools.
- Explain the different structural designs of the modern vehicle and it's components.
- Explain the importance of proper alignment of bolt on body components.
- Identify the basic components of the vehicle.
- Identify the necessary tools needed in the removal of vehicle components.

- Select and manipulate necessary tools needed to repair minor body damages.
- Select appropriate materials, tools and equipment necessary to carry out assigned projects.

ABRP102 - Intermediate Auto Body Repair

- Demonstrate an understanding of the correct repair process when working with aluminum.
- Demonstrate the ability to plastic filler finish medium size damages to complex bodylines and advance contours of the modern vehicle.
- Demonstrate the safe and proper operation of intermediate tools and equipment needed to fix advanced damages on the modern vehicle.
- Describe the recommended procedures to following during and after repair to maintain factory corrosion protection.
- Develop a basic estimate and follow its interpretation of tasks needed to repair the vehicle.
- Explain collision energy management on the modern vehicle, its subsequent damages and the relative repair process.
- Explain the proper repair method needed when replacing welded on body components.
- List the basic safety precautions the technician should follow when working with aluminum.
- Manipulate the different repair methods, tools, and materials to properly repair composite components.
- Select needed procedures to properly identify the various automotive composites.
- Select the proper tools and materials needed to prepare the vehicle for delivery.

ABRP103 - Transition Class to Industry

- Describe two things of what you observed and how you would change it if you could change it to make it better or more efficiently from your point of view.
- Develop a cover letter and resume.
- Explain basic mechanical terminology used in vehicle repair.
- Explain the application of silicon bronze MIG welding in auto body repair.
- Explain the different repair strategies utilized when repairing a unitized vehicle versus conventional frames.
- Give a presentation that is based on the student learning outcomes related to the internship.
- Identify common mechanical components that may be damaged in a collision.
- Intern successfully at a place of business that is in line with the transportation industry and list the various career paths available to an individual at the place of business.
- List the fundamental steps to properly set up and tune an aluminum MIG welder.
- Observe and describe the attributes of the business that you feel contributes to its success.
- Observe and list the necessary written, oral, math and technical skills of employees to the areas of their expertise within the business environment.

Automotive Mechanics Technology

CLO

AMT121 - Intro to Automotive Mechanics

- Articulate ideas and theory related to content area.
- Communicate effectively to gather and convey industry related information.
- Identify and properly use basic hand tools and precision measuring equipment.
- Identify and repair fasteners.
- Identify hazardous materials and explain its impact on people and the environment.
- Identify systems and components of an automobile.
- Identify various career opportunities in the automotive field.
- Manipulate automotive tools and equipment.
- Operate automotive equipment and specialty tools.
- Perform basic vehicle maintenance.

- Perform majority of the NA TEF tasks related to content area.
- Perform safety procedures in an automotive repair facility.
- Properly use technical service database and manuals.
- Work independently and inter-dependently in an automotive repair facility.

AMT122 - Survey of Automotive Tech.

- Articulate ideas and theory related to content area.
- Communicate effectively to gather and convey industry related information.
- Describe the eight general automotive systems in a vehicle.
- Identify and properly use basic hand tools and precision measuring equipment.
- Identify and repair fasteners.
- Identify hazardous materials and explain its impact on people and the environment.
- Identify systems and components of an automobile.
- Identify various career opportunities in the automotive field.
- Manipulate automotive tools and equipment.
- Operate automotive equipment and specialty tools.
- Perform majority of the NATEF tasks related to content area.
- Perform safety procedures in an automotive repair facility.
- Properly use technical service database and manuals.
- Work independently and inter-dependently in an automotive repair facility.

AMT130 - Engines

- Communicate effectively to gather and convey industry related information.
- Function safely in an automotive environment.
- Operate automotive equipment and specialty tools.
- Perform all of the NATEF tasks in the following sections: General Engine Diagnosis, Removal and Re-installation (R&R); Cylinder Head and Valve Train Diagnosis & Repair; Engine Block Diagnosis & Repair; Lubrication and Cooling System Diagnosis & Repair. Refer to the NATEF task list on website for a complete list of individual tasks.
- Work independently and inter-dependently in an automotive repair facility.

AMT140 - Electrical Systems I

- Communicate effectively to gather and convey industry related information.
- Function safely in an automotive environment.
- Operate automotive equipment and specialty tools.
- Perform all of the NATEF tasks in the following sections: General Electrical System Diagnosis, Battery Diagnosis & Service, Starting System Diagnosis & Repair, Charging System Diagnosis & Repair, Lighting System Diagnosis & Repair. Refer to the NATEF task list on website for a complete list of individual tasks.
- Work independently and inter-dependently in an automotive repair facility.

AMT142 - Electrical Systems II

- Communicate effectively to gather and convey industry related information.
- Function safely in an automotive environment.
- Identify and describe the operation and characteristics of Hybrid/Electric Vehicles in accordance with NATEF.
- Operate automotive equipment and specialty tools.
- Perform all of the NATEF tasks in the following sections: Gauges, Warning Devices and Driver Information System Diagnosis & Repair; Horn and Wiper/Washer System Diagnosis & Repair; Ignition System Diagnosis & Repair; General Engine Diagnosis; Computerized Engine Control Diagnosis & Repair. Refer to the NATEF task list on website for a complete list of individual tasks.
- Work independently and inter-dependently in an automotive repair facility.

AMT143 - Air Conditioning

- Communicate effectively to gather and convey industry related information.
- Function safely in an automotive environment.
- Operate automotive equipment and specialty tools.
- Perform all of the NATEF tasks in the following sections: AC System Diagnosis & Repair; Refrigeration System Component Diagnosis & Repair; Heating, Ventilation and Engine Cooling System Diagnosis & Repair; Operating System and Related Controls Diagnosis & Repair; Refrigerant Recovery, Recycling and Handling. Refer to the NATEF task list on website for a complete list of individual tasks.
- Work independently and inter-dependently in an automotive repair facility.

AMT146 - Powertrain & Manual Trans

- Communicate effectively to gather and convey industry related information.
- Function safely in an automotive environment.
- Operate automotive equipment and specialty tools.
- Perform all of the NATEF tasks in the following sections: General Drive Train Diagnosis, Clutch Diagnosis & Repair, Transmission/Transaxle Diagnosis & Repair, Driveshaft and Half Shaft/Universal and Constant Velocity (CV) Joint Diagnosis & Repair, Drive Axle Diagnosis & Repair, Four-wheel Drive/All-wheel Drive Component Diagnosis & Repair. Refer to the NATEF task list on website for a complete list of individual tasks.
- Work independently and inter-dependently in an automotive repair facility.

AMT151 - Automatic Transmiss/Transaxles

- Communicate effectively to gather and convey industry related information.
- Function safely in an automotive environment.
- Identify and describe the operation and characteristics of transaxles in Hybrid/Electric Vehicles in accordance with NATEF.
- Operate automotive equipment and specialty tools.
- Perform all of the NATEF tasks in the following sections: General Transmission & Transaxle Diagnosis, Transmission & Transaxle Maintenance and Adjustment, In-vehicle Transmission & Transaxle Repair, Off-vehicle Transmission & Transaxle Repair. Refer to the NATEF task list on website for a complete list of individual tasks.
- Work independently and inter-dependently in an automotive repair facility.

AMT153 - Brakes

- Communicate effectively to gather and convey industry related information.
- Function safely in an automotive environment.
- Operate automotive equipment and specialty tools.
- Perform all of the NATEF tasks in the following sections: General Brake System Diagnosis, Hydraulic System Diagnosis & Repair, Drum Brake Diagnosis & Repair, Disc Brake Diagnosis & Repair, Power Assist Units Diagnosis & Repair, Miscellaneous (Wheel Bearings, Parking Brakes, Electrical I, etc.) Diagnosis & Repair, Anti-lock Brake & Traction Control Systems. Refer to the NATEF task list on website for a complete list of individual tasks.
- Work independently and inter-dependently in an automotive repair facility.

AMT155 - Suspension and Steering

- Communicate effectively to gather and convey industry related information.
- Function safely in an automotive environment.
- Operate automotive equipment and specialty tools.
- Perform all of the NATEF tasks in the following sections: General Suspension & Steering System Diagnosis, Steering System Diagnosis & Repair, Suspension System Diagnosis & Repair, Wheel Alignment Diagnosis, Adjustment & Repair, Wheel and Tire Diagnosis & Repair. Refer to the NATEF task list on website for a complete list of individual tasks.
- Work independently and inter-dependently in an automotive repair facility.

AMT167 - Engine Performance

- Communicate effectively to gather and convey industry related information.
- Function safely in an automotive environment.
- Operate automotive equipment and specialty tools.
- Perform all of the NATEF tasks in the following sections: General Engine Diagnosis; Computerized Engine Controls Diagnosis & Repair; Ignition Systems Diagnosis & Repair, Fuel, Air Induction and Exhaust Systems Diagnosis & Repair; Emission Control Systems Diagnosis & Repair; Engine Related Service. Refer to the NATEF task list on website for a complete list of individual tasks.

- Work independently and inter-dependently in an automotive repair facility.

Carpentry

CLO

CARP20 - Carpentry Basics

- Construct a real world project.
- Demonstrate knowledge and application of technical math.
- Identify and use appropriate tools and equipment, materials, and procedures to complete construction projects according to industry standards.
- Identify characteristics of the Carpentry Industry.

CARP22 - Concrete Forms

- Demonstrate knowledge of concrete forming construction within the building industry.
- Demonstrate practical and technical skills.
- Describe hazardous and safety issues within the work area.
- Explain concrete forming processes.
- Explain the different types of techniques, methods, and terms used in concrete formi.

CARP26 - Carpentry I

- Apply math skills to measure, lay out, fabricate, and assemble project components.
- Attain and maintain a standard of ethics and quality craftsmanship consistent with the trade.
- Estimate, use, conserve, and reuse materials in an environmentally responsible manner.
- Maintain and improve shop conditions for increased safety, efficiency, and productivity.
- Use nomenclature consistent with the carpentry trade.
- Utilize acquired skills to improve the educational experience of others

CARP30 - Blueprint Read for Carpenters

- Communicate ideas graphically through sketches and rough drawings according to industry standards.
- Interpret drawings from construction projects.
- Obtain specific information from blueprints.

CARP41 - Rough Framing & Ext Finish

- Apply roof sheathing and coverings.
- Assemble sills and girders.
- Calculate rafter length, cut and assemble roof.
- Create a material take-off list.
- Frame walls and partitions.
- Identify framing members.
- Install ceiling joists.
- Layout a building.
- Place joists for floors.

CARP42 - Finishing

- Build and install finishing members (windows, doors, stairs, cabinets, trimming members).
- Create a material take-off list.
- Demonstrate skills and knowledge used in finishing.
- Identify and install finishing members.

Diesel Mechanics**CLO****DISL20 - Technical Practices**

- Demonstrate basic rigging methods of rope, cable and chain.
- Demonstrate the proper and safe use of cleaning equipment.
- Demonstrate the proper methods of using threading tools to cut and trace threads.
- Demonstrate the removal of a broken bolt or stud.
- Describe the 5 ways that industry classifies threaded fasteners.
- Discuss about how the working angles of lifting equipment affect the safe working load.
- Discuss about the safe handling and disposal of hazardous wastes.
- Distinguish between the correct and incorrect methods of using and maintaining tools.
- Explain about the safety precautions to be used when operating electric, pneumatic and hydraulic driven power tools with attachments.
- Explain how to identify and measure fittings, tubing, pipe and hose.
- Identify lubricants & sealants used in the diesel field.
- Identify specialty tools by use of manufactures manuals and part numbers.
- List 5 different kinds of personal safety gear and how they protect you.
- Manipulate and read precision measuring instruments with care and accuracy.
- Operate hoisting and lifting equipment correctly and safely.
- Sharpen a twist drill bit.

DISL22 - R & R Components

- Communicate with fellow co-students and instructors when working on projects.
- Demonstrate ability to safely raise, support and lower truck suspension and frame.
- Demonstrate good housekeeping by keeping clean and organized work areas.
- Describe why adjustments are needed on selected project components.
- Discuss weight, stability, balance, leverage and alignment as they relate to projects.
- Evaluate the many different methods to remove, raise lower support, and install components safety, technique and efficiency.
- Fill out project sheet information and comments.
- Look up and record specifications used in torquing hardware.
- Match the names of major components and their function from the R & R project list.
- Perform proper adjustments to selected project components.
- Select and demonstrate safe and correct hands on technics during project assignments.

DISL24 - Operator Orientation

- Analyze gauges and indicators while operating equipment.
- Describe procedure of raising and lowering a load with the forklift.
- Discuss a operators professional.
- Discuss problems of unqualified operators moving equipment.
- Identify equipment operating systems.
- Interpret equipment operating guide manuals.
- Perform a pre trip inspection and checklist on a truck and forklift.
- Properly guide an equipment operator in and out a tight are.

- Safely move a forklift with load thru a maze.
- Safely move a truck in and out of a work stall.
- Safely use a guide when operating equipment in a tight area.

DISL27 - Preventive Maintenance

- Demonstrate the ability to inspect med/heavy truck Engine, Cab and Hood, Frame and Chassis, and Electrical/Electronics systems.
- Review, record, and create maintenance documents.
- Verify an operators concern as it applies to Med/Heavy duty truck operation.

DISL31 - Drive Train

- Differentials: Demonstrate ability to use a 5 ton press and arbor press.
- Differentials: Describe procedure to remove and replace bearing, cup and oil seal.
- Differentials: Discuss failure analysis and identify marks.
- Differentials: Explain how to preload pinion bearings.
- Differentials: Identify components and their functions in a differential.
- Differentials: List preventive maintenance procedures.
- Differentials: Locate and identify model, serial and part book.
- Differentials: Make a part list using a parts book.
- Differentials: Match complaints to trouble shooting guide.
- Differentials: Point out the power flow from drive shaft to wheels.
- Differentials: Select and use tools, service manuals and measuring instruments.
- Standard Transmission: Correctly disassemble & reassemble a complete transmission.
- Standard Transmission: Demonstrate proper use of hand and specialty tools.
- Standard Transmission: Describe the lubrication system.
- Standard Transmission: Discuss failure analysis items using a parts book.
- Standard Transmission: Discuss the high-low shift in the multiple speed auxiliary section.
- Standard Transmission: Explain the air system on fuller transmission.
- Standard Transmission: Install a PTO (power take-off) and adjust backlash.
- Standard Transmission: List preventive maintenance procedures.
- Standard Transmission: List the names of transmission components and their functions.
- Standard Transmission: Locate and identify model, serial and part numbers.
- Standard Transmission: Make a parts list of selected items using a parts book.
- Standard Transmission: Point out the power flow threw a transmission in any gear.

DISL34 - Brakes (Air and Hydraulic)

- Connect, operate and troubleshoot a single air brake system.
- Correctly disassemble and assemble a disc brake, s-cam and wedge brake assembly.
- Define the use and operation of manual and automatic.
- Demonstrate refinishing of wheel cylinders, drum and disc assemblies.
- Demonstrate the proper procedure to set wheel bearing preload.
- Describe how a self adjusting brake works.
- Describe the major components and operation of parking and emergency brake systems.
- Explain the operation of a dual air brake system.
- Explain the purpose and principles of a braking system.
- Identify a vacuum and hydraulic brake booster.

- Identify parking, emergency and antilock brake components with their names and function.
- Perform proper procedures to bleed air from hydraulic brakes.

DISL36 - Suspension and Steering

- Demonstrate how to check and evaluate driveline working angles.
- Demonstrate replacement procedures to repair a defective suspension system.
- Describe the components and operation of a recirculating ball and a worm roller type steering gear.
- Describe the procedure to inspect front axle components for wear.
- Explain how to check and adjust the preload and backlash on a manual steering gear.
- Explain how toe, caster, camber, axle inclination, turning radius, and axle alignment affect tire wear, handling and directional stability.
- Explain the operation of a power steering system and identify the system's components.
- Explain the relationship between suspension system alignment and axle equipment.
- Identify and describe the four types of suspension systems used on today's heavy-duty trucks.
- Identify the steering system components on a heavy - duty truck.
- List the difference between static and dynamic methods of wheel balancing.
- Name the basic suspension parts and their function in a spring, rubber cushion, air bag, equalizing beam, and torsion bar systems.

DISL41 - Diesel Engines

- Assemble engine in a organized, clean and safe manner.
- Demonstrate safe work habits.
- Demonstrate use of the engine service manual by locating specific information on R&R components, model numbers, operating specifications, torque chart values, and systems schematics.
- Disassemble engine in a organized, clean and safe manner.
- Locate and record serial and model numbers from the engine.
- Perform component inspections and measurements and compare with specifications in engine service manual for component reusability.

DISL52 - Electrical/Electronic Systems

- Apply Ohm's law to measure voltage, amperage, and resistance in a circuit.
- Describe a batteries function, classification and maintenance.
- Draw the charging system schematic of the DIMCH flatbed truck.
- Explain the function of and differences between switches, relays and solenoids.
- Identify and describe function of basic electrical tools, in test instruments and equipment.
- Identify electrical components and symbols on a wiring diagram.
- Identify the components and their functions in electric, air and hydraulic starting systems.
- List the 7 advantages and disadvantages of starting aids and when to use them.
- Match a list of electrical terms to their correct definitions.
- Match the function of each electronic component on a DEFI system engine.
- Perform a battery condition load test.
- Perform a charging system output test and check for circuit voltage drop.
- Properly crimp and solder connections between conductor and terminals.
- Select the proper conductor size and termination from the instructor given values.
- Trace and test electrical circuits and components on accessory systems.

DISL56 - Hydraulics

- Calculate problems using hydraulics terms to their correct definitions.
- Correctly assemble hydraulic circuits on a portable fluid trainer.

- Determine correct values using a flow chart.
- Disassemble, inspect, and reassemble various hydraulic components by following instruction and filling in a task sheet.
- Explain about hydraulic system safety, inspection and component replacement.
- Identify 3 separate hydraulic systems on the DIMCH flatbed dump truck.
- Identify and describe the function of 8 different hydraulic components as pointed out by instructor.
- Identify components and fluid flow on a hydraulic schematic.
- List 3 advantages and disadvantages of hydraulics.
- List probable causes of hydraulic system failures.
- Match a list of hydraulic terms to their correct definitions.
- Name Pascal's 4 laws of hydraulics.
- Recognize and identify hydraulic symbols.

DISL61 - Heating, Ventilation, and Air

- AC System Diagnosis & Repair.
- Communicate effectively to gather and convey industry related information.
- Function safely in an automotive environment.
- Heating Ventilation and Engine Cooling System Diagnosis and Repair.
- Operate automotive equipment and specialty tools.
- Operating System and Related Controls Diagnosis and Repair.
- Perform all of the NATEF tasks that are outlined in each section listed below. Refer to the NATEF task list on website for a complete list of individual tasks.
- Refrigerant Recovery, Recycling and Handling.
- Refrigeration System Component Diagnosis and Repair.
- Work independently and inter-dependently in an Med/Heavy truck repair facility.

Electrical Installation and Maintenance Technology

CLO

EIMT30 - Electrical Install Theory I

- Design and calculate the electrical requirements for a specific residential building with emphasis on the National Electrical Code and principles of residential blueprint reading.

EIMT32 - Electrical Installation I

- Analyze the operation of single-pole, three-way, four-way, and double-pole single throw switches.
- Analyze troubleshooting tasks, using a neon voltage tester.
- Apply the National Electrical Code (NEC).
- Explain the installation requirements for non-metallic sheathed cable, according to the NEC.
- Explain the NEC installation of armored cable.
- Identify electrical fittings and devices.
- Identify single-pole, three-way, four-way and double-pole single throw switches.
- Install a door chime.
- Install a low-voltage lighting circuit.
- Install and test smoke detectors.
- Install dryer outlets.
- Install range outlets.
- Install various types of armored cable circuits.

- Install various types of dimmer controlled lighting circuits.
- Install various types of dwelling electrical service equipment.
- Install various types of electrical devices.
- Install various types of fluorescent lighting circuits.
- Install various types of four-way lighting circuits.
- Install various types of Ground-Fault Circuit-Interrupter circuits.
- Install various types of lighting and receptacle combination circuits.
- Install various types of pilot light lighting circuits.
- Install various types of receptacle circuits.
- Install various types of single-pole lighting circuits.
- Install various types of three-way lighting circuits.
- Install various types of time clock circuits.
- Perform safety rules.

EIMT40 - Electrical Install Theory II

- Design and calculate the electrical requirements for a specific commercial building with emphasis on the National Electrical Code and principles of commercial blueprint reading.

EIMT42 - Electrical Installation II

- Design, calculate, troubleshoot, and using various types of cable and raceway systems, install various types of lighting, motor, and transformer branch circuits within a specific commercial building with emphasis on the National Electrical Code and principles of commercial blueprint reading.

EIMT44 - AC/DC Systems and Equipment

- Analyze insulation test graphs.
- Calculate gear reducer outputs.
- Calculate motor locked rotor current.
- Calculate pulley sizes.
- Define single-phase motor terms.
- Define three-phase motor terms.
- Demonstrate honesty.
- Determine capacitor ratings.
- Determine motor dimensions.
- Determine overload trip time.
- Determine temperature corrected overload protection.
- Display dependability.
- Draw control transformer connection diagrams.
- Draw manual motor starter schematic diagrams.
- Draw single-phase motor connections.
- Draw three-phase motor connections.
- Evaluate motor working conditions.
- Explain across-the-line magnetic starter construction.
- Explain across-the-line magnetic starter operating principles.
- Explain contactor operation.
- Explain control station operation.
- Explain general motor maintenance.
- Explain Hand-Off-Auto wiring diagrams.

- Explain magnetic clutches.
- Explain magnetic drives.
- Explain manual motor starter diagrams.
- Explain manual motor starter operating principles.
- Explain motor overload relay operating principles.
- Explain motor selection criteria.
- Explain motor starting equipment selection factors.
- Explain motor torque-speed curve.
- Explain multiple push-button station wiring diagrams.
- Explain pilot device operating principles.
- Explain relay operation.
- Explain reversing starter interlocking methods.
- Explain schematic (elementary) diagrams.
- Explain single-phase motor operation.
- Explain single-phase motor testing.
- Explain three-phase motor operation.
- Explain three-wire control circuit operation.
- Explain timing relay operation.
- Explain two-wire control circuit operation.
- Explain wiring diagrams.
- Identify and draw NEMA symbols.
- Identify single-phase motor terminals.
- Interpret anti-plugging control diagrams.
- Interpret autotransformer starter diagrams.
- Interpret jogging control diagrams.
- Interpret plugging control diagrams.
- Interpret primary resistor starter diagrams.
- Interpret reversing starter diagrams.
- Interpret sequence control diagrams.
- Interpret single-phase motor tests.
- Interpret star-delta starter diagrams.
- Interpret thermal switch tests.
- Interpret three-phase motor tests.
- Interpret wound rotor motor starter diagrams.
- List typical motor starting methods.
- Organize work.
- Select motor running overload protection.
- Select motor starting protection.
- State causes of single-phase motor failure.
- State causes of three-phase motor failure.
- State general motor control principles.
- State new capacitor specifications.

- Use resistor color code.

EIMT46 - Elec Maintenance & Repair

- Calculate single-phase motor slip.
- Calculate three-phase motor slip.
- Clean a single-phase motor.
- Clean a three-phase motor.
- Complete a single-phase motor service report.
- Complete a three-phase motor service report.
- Connect a automatic tank level control wiring diagram.
- Connect a high-pressure alarm wiring diagram.
- Connect a high-pressure annunciator wiring diagram.
- Connect a jogging control wiring diagram.
- Connect a multiple pushbutton station wiring diagram.
- Connect a reversing starter wiring diagram.
- Connect a single-phase dual voltage motor.
- Connect a tank level annunciator wiring diagram.
- Connect a three-phase dual voltage motor.
- Connect a three-phase manual motor starter.
- Connect a three-wire control magnetic motor starter.
- Connect a three-wire control wiring diagram.
- Connect a two-wire control magnetic motor starter.
- Demonstrate chemical safety.
- Demonstrate honesty.
- Design a five motor control circuit.
- Design a five motor conveyor control circuit.
- Design a four motor control circuit.
- Design a machine tool control circuit.
- Design a material processing drive control circuit.
- Design a three motor control circuit.
- Design a two motor control circuit.
- Design a two motor conveyor control circuit.
- disassemble a single-phase motor.
- Disassemble a three-phase motor.
- Display dependability.
- Encourage cooperation.
- Exhibit safe work practices.
- Inspect a single-phase motor.
- Inspect a three-phase motor.
- Install wire lugs.
- Insulate three-phase motor windings.
- Measure single-phase motor current.
- Measure single-phase motor speed.

- Measure three-phase motor current.
- Measure three-phase motor speed.
- Perform single-phase motor final tests.
- Perform single-phase motor preliminary tests.
- Perform three-phase motor final tests.
- Perform three-phase motor preliminary tests.
- Reassemble a single-phase motor.
- Reassemble a three-phase motor.
- Replace a single-phase motor starting switch.
- Replace single-phase motor bearings.
- Replace three-phase motor bearings.
- Reverse a single-phase dual voltage motor.
- Reverse a three-phase dual voltage motor.
- Show initiative.
- Test single-phase motor capacitor condition.
- Troubleshoot a basic circuit - 8 advanced faults.
- Troubleshoot a basic circuit - 8 basic faults.
- Troubleshoot a basic control circuit - 4 genius faults.
- Troubleshoot a basic control circuit - 8 advanced faults.
- Troubleshoot a basic control circuit - 8 basic faults.
- Troubleshoot a basic control circuit - 8 intermediate faults.
- Troubleshoot a motor control circuit - 8 advanced faults.
- Troubleshoot a motor control circuit - 8 basic faults.
- Troubleshoot a motor control circuit - 8 intermediate faults.
- Use common sense.
- Wire a auxiliary contact interlock reversing starter control circuit.
- Wire a compelling relay pushbutton control circuit.
- Wire a forward-reverse jogging control circuit.
- Wire a Hand-Off-Auto control circuit.
- Wire a pushbutton interlock reversing control circuit.
- Wire a sequence control circuit.
- Wire a Star-Delta starter control circuit.
- Wire a start-stop-jog control circuit using two-position selector switch.
- Wire a start-stop-jog control circuit.
- Wire a start-stop-jog relay controlled circuit.
- Wire a three-speed pushbutton control circuit.
- Wire a three-wire control circuit.
- Wire a timed plugging control circuit.
- Wire a two motor control circuit.
- Wire a two motor control time delay circuit.
- Wire a two motor starter control circuit with time delay on Start and Stop.
- Wire a two pushbutton station control circuit.

- Wire a two step timed acceleration control circuit.
- Wire a two-wire control circuit.

EIMT50 - Solid State Control

- Analyze capacitor filtering.
- Analyze diode circuits.
- Analyze SCR applications.
- Analyze zener diode applications.
- Assess SCR cooling.
- Assess transistor power dissipation.
- Calculate rectifier output voltage.
- Classify photoelectric transducers.
- Compare PLC and relay control circuits.
- Define PLC terms.
- Describe basic PLC operation.
- Describe PC board construction.
- Describe rectifier testing.
- Describe SCR mounting.
- Describe SCR operation.
- Describe thermistor operation.
- Describe triac operation.
- Diagram PLC scan.
- Diagram transistor biasing.
- Diagram voltage dividers.
- Explain basic data moves and arithmetic functions.
- Explain basic PLC applications.
- Explain bit sequencer circuits.
- Explain counter circuits.
- Explain diac operation.
- Explain diode installation.
- Explain full-wave bridge rectifier operation.
- Explain full-wave rectifier operation.
- Explain half-wave rectifier operation.
- Explain jump circuit.
- Explain liquid crystal display (LCD) operation.
- Explain master control relay circuits.
- Explain PC board repair.
- Explain relational functions.
- Explain retentive circuits.
- Explain SCR construction.
- Explain sealing circuits.
- Explain semiconductor construction.
- Explain timer circuits.

- Explain transistor basics.
- Explain UJT operation.
- Explain variable declarations.
- Explain voltage regulation.
- Explain zener diode ratings.
- Identify diode terminals.
- Interpret basic PLC ladder diagrams.
- Interpret diode tests.
- Interpret SCR tests.
- Interpret transistor characteristic curves.
- Interpret transistor tests.
- List light emitting diode (LED) applications.
- List PLC advantages.
- List PLC applications.
- List PLC input devices.
- List PLC output devices.
- Perform AC value mathematical conversions.
- State diode operating characteristics.
- State Hall effect applications.
- State workplace safety practices.
- State zener diode operation.

EIMT52 - Solid State Control Lab

- Apply resistor color code.
- Assemble full-wave bridge rectifier.
- Assemble full-wave rectifier.
- Assemble half-wave rectifier.
- Assemble light controlled transistor switch circuit.
- Assemble photocell transistor controlled relay circuit.
- Assemble rectifier ripple filter circuits.
- Assemble SCR annunciator circuit.
- Assemble SCR trigger circuit.
- Assemble shunt voltage regulator.
- Assemble simple SCR alarm circuit.
- Assemble transistor switch circuit.
- Assemble transistor timed switch circuit.
- Assemble UJT circuit.
- Assemble UJT relaxation oscillator.
- Assemble UJT trigger circuit.
- Calculate percentage of voltage regulation.
- Calculate ripple factor.
- Configure a GE Series 90-30 PLC.
- Construct germanium diode characteristic curve.

- Construct silicon diode characteristic curve.
- Construct transistor power dissipation curve.
- Construct zener diode characteristic curve.
- Determine SCR gate firing current.
- Enter GE Series 90-30 variable declarations.
- Exhibit basic electrical safety practices.
- Exhibit electrical safety equipment inspection procedures.
- Explain basic PLC operation.
- Explain PN semiconductor construction.
- Identify symbols.
- Identify transistor leads.
- Inventory trainer.
- Use equipment Lock Out procedure.
- Measure transistor current.
- Operate oscilloscope.
- Program Baldor Series 10 inverter.
- Program GE Series 90-30 basic relay circuits.
- Program GE Series 90-30 bit sequencer function.
- Program GE Series 90-30 counter circuits.
- Program GE Series 90-30 data moves and arithmetic functions.
- Program GE Series 90-30 jump function.
- Program GE Series 90-30 master control relay.
- Program GE Series 90-30 PLC annunciator alarm circuit.
- Program GE Series 90-30 PLC commercial washer control circuit.
- Program GE Series 90-30 PLC Fishertechnik simulation model control circuit.
- Program GE Series 90-30 PLC momentary input sequence control circuit.
- Program GE Series 90-30 PLC pulse generator cookie filling control circuit.
- Program GE Series 90-30 PLC single motor Start- Stop pushbutton control circuit.
- Program GE Series 90-30 PLC single motor timer-counter control circuit.
- Program GE Series 90-30 PLC three conveyor control circuit.
- Program GE Series 90-30 PLC two-motor interlocking control circuit.
- Program GE Series 90-30 relational functions.
- Program GE Series 90-30 Start-Stop sequence control circuit.
- Program GE Series 90-30 timer circuits.
- Start GE Fanuc Series 90-30 software.
- Test SCR's.
- Test semiconductor diodes.
- Test transistors.
- Troubleshoot bridge rectifier power supply with a oscilloscope.
- Troubleshoot bridge rectifier power supply with a voltmeter.
- Troubleshoot full-wave rectifier power supply with a oscilloscope.
- Troubleshoot full-wave rectifier power supply with a voltmeter.

- Troubleshoot half-wave rectifier power supply with a oscilloscope.
- Troubleshoot half-wave rectifier power supply with a voltmeter.
- Use digital multimeter.

Fire and Environmental Emergency Response

CLO

FIRE100 - Intro to Fire Protections

- Analyze careers in fire and emergency services.
- Compare and contrast the components and development of the fire and emergency services.
- Illustrate the history of the fire service.

FIRE102 - Fundments of Fire Prevention

- Define laws, rules, regulations, codes, and jurisdiction authorities that are relevant to fire prevention.
- Define the national fire problem and the fire prevention functions, including by relevant organizations, associations, and bureaus.
- Describe inspection practices and procedures.
- Describe the history and philosophy of fire prevention.
- Identify and describe the standards for professional qualifications for Fire Marshal, Plans Examiner, Fire Inspector, Fire and Life Safety Educator, as well as Fire Investigator.
- List opportunities in professional development for fire prevention personnel.

FIRE104 - Fire Inspector I

- Analyze the administrative and general knowledge, skill requirements, and job performance requirements covered in NFPA 1031, Standard for Fire Inspector and Plan Examiner.
- Demonstrate a knowledge of fire protection and building systems.
- Demonstrate an understanding of life safety.
- Identify storage handling and use of flammable hazardous Substances and materials.

FIRE107 - Fire Fighting Tactics & Strat

- Describe the steps taken during size-up.
- Discuss fire behavior as it relates to strategies and tactics.
- Examine the significance of fire ground communications.
- Explain the main components of pre-fire planning and identify steps needed for a pre-fire plan review.
- Identify the basics of building construction and how they interrelate to pre-fire planning, strategy, and tactics.
- Identify the various roles and responsibilities of the National Incident Management System (NIMS) and Incident Management System (ICS) as it relates to strategy and tactics.

FIRE111 - Management in the Fire Service

- Articulate the importance of the public process, responsibility, and authority.
- Describe the basic theories of public sector management.
- Recognize the importance of ethics and communication skills.

FIRE117 - Basic Rescue in the Fire Srvc

- Articulate confined space search and rescue, and their vital role of structural collapse.
- Articulate the concept of fire service search and rescue.
- Describe and evaluate elevator and machinery rescue.
- Describe search and rescue incident management, vehicles, and equipment.
- Explain rope rescue.
- Explain wilderness and fireground search and rescue, as well as special rescues.
- Identify requirements for water and ice search and rescue.

- Illustrate trench search and rescue.

FIRE119B - Emrgncy Med Tech Part A

- Develop a patient care report, including a summation of treatment provided to the receiving facility or transporting ambulance.
- Discuss patients with their own prescribed medications.
- Explain cardiopulmonary resuscitation (CPR), both one and two person for the adult, child, and infant to the Healthcare Provider standards of the American Heart Association.
- Illustrate the assessment, management, and stabilization of patients of all ages and demographics with medical emergencies and traumatic injuries.
- Outline the process of triage and assessment of patients to the appropriate receiving facility.
- Recall the steps in preparing the patient for transport while limiting or aggravating any injuries.
- Select the proper technique of donning and doffing protective gear appropriate for the EMT and situation.
- Show basic airway management techniques, including insertion of adjuncts intended to go into the oropharynx or nasopharynx.
- Summarize interaction as a member of a team and with other responders appropriately, including giving and receiving advice related to patient care.

FIRE119C - Emrgncy Med Tech Part B

- Apply the proper technique of donning and doffing protective gear appropriate for the EMT and situation.
- Assess, manage, and stabilize patients of all ages and demographics with medical emergencies and traumatic injuries.
- Assist patients with their own prescribed medications.
- Complete a patient care report, including a summation of treatment provided to the receiving facility or transporting ambulance.
- Execute basic airway management techniques, including insertion of adjuncts intended to go into the oropharynx or nasopharynx.
- Interact as a member of a team and with other responders appropriately, including giving and receiving advice related to patient care.
- Perform cardiopulmonary resuscitation (CPR), both one and two person for the adult, child, and infant to the Healthcare Provider standards of the American Heart Association.
- Prepare the patient for transport while limiting or aggravating any injuries.
- Triage and assign patients to the appropriate receiving facility.

FIRE151 - Intro Wild Land Fire Control

- Classify the principal environmental elements and current expected parameters affecting wildland behavior.
- Define commonly used cutting tools, and how to use and carry them for wildland fire suppression.
- Describe the wildland fire environment indicators that can produce problems and how to implement the 10-Standard Firefighting Orders and 18 watch out situations.
- Explain what personal protective equipment (PPE) is required for wildland firefighting, and the proper care, use and limitations.
- Explain when and where to properly deploy a fire shelter.
- List the parts of a wildland fire, the methods of attacking a fire, and the four kinds of control lines used during wildland fire suppression.
- List the types of portable pumps used on wildland fires.
- Recall how to inspect, identify hazards, and use a fuse and drip torch.

FIRE207 - Haz Mat Awareness & Operations

- Apply baseline knowledge of advanced operations to include tasks.
- Define the role of a first responder.
- Describe basic chemistry of hazardous materials and the hazards associated with each class.
- Explain operation under Incident Command System.
- Operate safely and effectively at hazardous material incidents.
- Recognize hazardous materials.

FIRE280A - Firefighter I and II

- Analyze fire ground operations activities.

- Define fire prevention, preparedness, and maintenance activities.
- Explain fire department communication procedures.
- Outline rescue operations.
- Recall knowledge, skills, and job performance requirements covered in NFPA 1001.

FIRE280B - Firefighter I and II Lab

- Apply fire ground operations activities.
- Apply knowledge, skills, and job performance requirements covered in NFPA 1001.
- Demonstrate fire department communication procedures.
- Employ fire prevention, preparedness, and maintenance activities.
- Perform rescue operations.

Industrial Education

CLO

IEDB100 - Blueprint Reading

- Add and subtract dimensions and express results in feet and inches.
- Calculate to find the missing dimensions.
- Distinguish between waste pipes and soil pipes.
- Draw simple objects to a given scale.
- Explain importance of plumbing traps and vents.
- Explain the common uses and limitations of typical construction materials.
- Explain the differences between plans, sections, and elevations.
- Explain the principles of orthographic drawing and read drawings presented orthographically.
- Explain the sheet numbering system and information contained in title blocks.
- Explain the standard arrangement of Drawings and Specifications in a set of blueprints.
- Give the names of wood frame building components.
- Identify common Civil Plan symbols.
- Identify common Floor Plan symbols.
- Identify common materials by reading symbols in construction drawings.
- Identify several pipe materials, fittings, and appropriate joining methods.
- Identify the common electrical wiring symbols.
- Make a freehand sketch of a simple mechanical object that is clear enough for another tradesperson to understand without excessive notes or other explanation.
- Name at least three types of building foundations.
- Use architectural scales to obtain approximate sizes of items from blueprints.
- Use the system of schedules in drawings, to reference particular objects.

Occupational Environmental Safety Management

CLO

OESM101 - Intro to Occup Safety & Health

- Assess the overall effects of workplace accidents and the benefit of preventing work-related accidents.
- Demonstrate an ability to work together through various group assignments.
- Discuss the roles of governmental agencies, businesses, and safety professionals in ensuring the safe and healthful work environment.
- Examine potential ethical issues for health and safety professionals.

- Identify and evaluate common work-related hazards as well as recommend appropriate control measures.

OESM102 - Standards and Codes

- Apply appropriate laws, rules, regulations and standards to reduce occupational injuries illnesses.
- Communicate information from laws, rules and standards to superiors, co-workers and subordinates.
- Explain the concepts of laws, rules, regulations, and standards.
- Identify and locate applicable safety and health standards.
- Reasonably and practically interpret laws, rules and standards.

OESM103 - Intro to Ergonomics

- Apply the NIOSH lifting guide and other guides developed to assess safe lifting limits.
- Conduct an ergonomics survey and recommend corrective actions to eliminate or minimize ergonomic injuries.
- Discuss the benefits of an effective ergonomics program in addressing work-related injuries.
- Identify OSHA's and the safety community's roles in reducing ergonomic injuries.
- Recognize the impact of poor ergonomics in the workplace.

OESM104 - Occupational-Related Diseases

- Apply an epidemiological approach to assess exposure pathways linking the job to an occupational disease.
- Describe etiology, body's defense mechanisms, and common symptoms of major occupational diseases.
- Discuss effective medical surveillance methods.
- Discuss hazards causing major occupational diseases in the US and identify control measures to reduce workers' exposures.
- Explain epidemiological study methods and identify each study design's advantages/disadvantages .

OESM105 - Intro to Industrial Hygiene

- Apply the industrial hygiene principles to identify causes and recommend control measures.
- Compute relevant industrial hygiene parameters.
- Describe the key elements of an industrial hygiene program and explain their relationships to other aspects of a company's overall safety program.
- Discuss the application and limitations of workplace exposure limits.
- Explain mechanisms of toxin distribution, transformation, and excretion.

OESM106 - Intro to Environmental Health

- Assess U.S. environmental legislation and its significance to the human health.
- Demonstrate an ability to minimize health impacts from environmental pollutants through the use of prevention techniques and policies.
- Describe types of biological and chemical weapons and their potential for disease causation.
- Discuss the use of environmental epidemiology methodology to assess health risks.
- Recognize types, sources, pathways and adverse health effects of environmental pollutants.

OESM145 - Occ Safety & Hlth in Construct

- Analyze various construction situations to identify hazards and recommend preventive/corrective measures.
- Apply relevant HIOSH/OSHA construction standards to given construction scenarios.
- Design and conduct a "toolbox" safety meeting.
- Discuss major health and safety issues common to the construction work environments.
- Identify specific HIOSH/OSHA construction standards.

OESM147 - Electrical Safety

- Apply appropriate OSHA's electrical standards.
- Conduct a safety inspection according to OSHA's and consensus electrical standards utilizing basic electrical safety tools.
- Conduct an electrical safety training program.

- Discuss basic electrical theory.
- Identify electrical hazards and appropriate abatement techniques.

OESM150 - Industrial Fire Protection

- Determine occupancy classifications and fire protection needs for various occupancies and processes.
- Discuss considerations for safe egress from various occupancies.
- Explain the relationship between building systems and fire protection as well as advantages/disadvantages of each protection system.
- Identify HIOSH requirements on fire safety.
- Perform a basic fire safety inspection.

OESM153 - Accident Investigation Tech

- Apply various accident investigation techniques including the root cause analysis.
- Describe the accident investigation process.
- Develop a written comprehensive accident report.
- Develop and implement an accident investigation checklist.
- Discuss the importance of accident investigations and identifying root causes.

OESM160 - Labor & Mgmt: Safety Partners

- Analyze cases involving labor relations, work injuries, and safety/health practices.
- Analyze conflicting claims in laws and union contractual grievances and hearings, and provide advice, counsel, or testimony.
- Analyze current global events and controversies involving workers' safety/ health, labor & environmental issues.
- Demonstrate conflict resolution, listening, and negotiation skills.
- Explain relevant Hawaii labor laws, their historical/cultural background, as well as management's and labor's roles (unions and/or workers) in addressing health and safety issues.

OESM200 - Managing Workers Compensation

- Apply techniques to combat workers' compensation fraud.
- Describe the Workers' Compensation system and functions of various officials involved in administering the system, including the claims coordinator.
- Develop a Modified Duty program.
- Discuss factors that influence workers' compensation premiums and identify measures to avoid claims through safety management.
- Perform a workers' compensation loss control survey.

OESM205 - Physical Hazards Controls

- Apply class materials to real-world environment via a Field Trip to Hawaiian Electric Co.
- Conduct hazard assessments to determine appropriate PPE.
- Describe accident prevention through design within common physical hazards including electrical safety, flammables and combustible liquids, fire protection systems, and lock out/tag out principals.
- Develop a safety inspection checklist, conduct an inspection, and present the findings as well as recommendations for hazard controls.
- Identify relevant regulatory requirements and consensus standards as well as governmental agencies responsible for workplace safety.

OESM208 - Tech of Industrial Hygiene

- Discuss appropriate industrial hygiene sampling and monitoring strategies.
- Evaluate hazardous conditions based on monitoring results.
- Explain uses and limitations of major industrial hygiene monitoring instruments.
- Identify situations where sampling and monitoring are needed to further evaluate workplace hazards.
- Select appropriate monitoring instruments and methods specific substances.

OESM210 - Safety Program Mgmt

- Conduct, document, and orally present a Job Safety Analysis (JSA).

- Develop a safety training plan and conduct the training.
- Devise an accident reduction plan that includes specific and measurable objectives.
- Examine techniques for measuring safety performance including both the leading and trailing indicators.
- Identify components of an effective safety management system.

OESM218 - Emergency Response for HazMat

- Appropriately respond to hazardous material incidents.
- Correctly select, use, and maintain personal protective equipment.
- Describe operating modes, use, calibration, and limitations of monitoring instruments used in hazardous waste operations.
- Develop and implement a site-specific safety and health plan that includes appropriate spill containment and personnel decontamination.
- Recognize and assess hazards associated with hazardous waste operations and chemical emergency response.

Refrigeration and Air Conditioning

CLO

RAC21 - Basic Refrigeration

- Apply safety standards and work with technical developments in the industry.
- Demonstrate the ability to do technical work in a variety of heating, cooling, and refrigeration fields.
- Identify and demonstrate correct use of tools, materials, and equipment used in the trade.

RAC32 - Commercial Refrigeration

- Apply safety standards and work with technical developments in the industry.
- Demonstrate knowledge of basic electrical theory.
- Demonstrate skills needed to assemble a basic refrigeration system.
- Demonstrate the ability to do technical work in a variety of heating, cooling, and refrigeration fields.
- Perform basic system checks to make sure it is operating correctly and perform leak checks/repairs as necessary to eliminate leaks in the system.

RAC40 - Air Conditioning I

- Apply safety standards and work with technical developments in the industry.
- Demonstrate the ability to do technical work in a variety of heating, cooling and refrigeration fields.
- Identify and demonstrate correct use of tools, materials, and equipment used in the trade.
- Identify types of electric motors, state their typical applications, sketch a diagram showing how they are wired into circuits, evaluate a motor in a hermetic compressor to determine if it is electrically sound and safe to start.
- Identify, describe, and follow high- and low-voltage circuit of a typical electric air-conditioning system and its components.

RAC50 - Air Conditioning II

- Apply safety standards and work with technical developments in the industry.
- Determine proper charging procedures for various air conditioning systems and the setting of low pressure control for low-charge protection.
- Take wet- and dry-bulb temperature readings, determine relative humidity from the psychrometric chart, and use information to determine the level of comfort from the ASHRAE generalized comfort chart.
- Troubleshoot basic electrical and mechanical problems in a typical air conditioning system.

Sheet Metal and Plastics

CLO

SMP20 - Hand Tool & Machine Processes

- Identification and installation of common fasteners used in sheet metal work.
- Identify and properly use personal safety equipment.
- Identify the different gauges of sheet metal, forming methods, and connection processes after layout.

- Identify the proper use, care, and safety concerns of shop equipment.
- Show proper use and care of sheet metal hand tools.
- Understand the need for safety equipment in the shop & field.

SMP21 - Shop Problems

- Identify the base rules for order of operation in fabrication.
- Produce basic fitting layout using any of the three methods.
- Produce orthographic drawings for items requiring fabrication.
- State the three forms of metal fabrication.

SMP22 - Fabrication Process-Architect

- Identify and install common fasteners used in sheet metal work.
- Identify the base rules for order of operation in fabrication.
- Identify the different gauges of sheet metal, forming methods, and connection processes after layout.
- Layout, cut, notch, and bend in proper order, fittings and components used in sheet metal and plastic.
- Produce orthographic drawings for items requiring fabrication.
- Produce soldered joints on galvanized iron.
- Properly mix and apply acids used in soldering.

SMP23 - Intro to Surface Development

- Identify the base rules for order of operation in fabrication.
- Layout, cut, notch, and bend in proper order, fittings and components used in sheet metal and plastic.
- Produce basic fitting layout using any of the three methods.
- Produce orthographic drawings for items requiring fabrication.
- State the three forms of metal fabrication.

SMP24 - Adv Fabrication Process-Arch

- Identify and install common fasteners used in sheet metal work.
- Identify the base rules for order of operation in fabrication.
- Identify the different gauges of sheet metal, forming methods, and connection processes after layout.
- Layout, cut, notch, and bend in proper order, fittings and components used in sheet metal and plastic.
- Produce orthographic drawings for items requiring fabrication.
- Produce soldered joints on galvanized iron.
- Properly mix and apply acids used in soldering.
- Use SMACNA tables and charts to mathematically calculate component sizes.
- Use the Sheet Metal Workers Calculator for distance, area, volume and conversions.

SMP25 - Air Conditioning Fabrication

- Explain the use of short-cut layout methods and when they apply.
- Identify Air Conditioning ductwork fittings, their uses, the connection types, and their fabrication methods.
- Identify and properly use personal safety equipment.
- Identify the base rules for order of operation in fabrication.
- Identify the different gauges of sheet metal, forming methods, and connection processes after layout.
- Identify the proper use, care, and safety concerns of shop equipment.
- Layout, cut, notch, and bend in proper order, fittings and components used in sheet metal and plastic.
- Produce orthographic drawings for items requiring fabrication.
- Show proper use and care of sheet metal hand tools.

- Understand the need for safety equipment in the shop and field.

SMP26 - Pattern Development

- Explain the use of short-cut layout methods and when they apply.
- Identify and install common fasteners used in sheet metal work.
- Identify the base rules for order of operation in fabrication.
- Identify the proper use, care, and safety concerns of shop equipment.
- Layout, cut, notch, and bend in proper order, fittings and components used in sheet metal and plastic.
- Produce basic fitting layout using any of the three methods.
- Produce orthographic drawings for items requiring fabrication.
- Show proper use and care of sheet metal hand tools.
- State the three forms of metal fabrication.

SMP41 - Advan Air Condition Fabricatio

- Have been introduced to the use of power equipment.
- Have developed skills in fabricating complex fittings using various types of seams and/or connections.
- Understand the theory and application of the use of various types of fittings for conventional A/C systems.

SMP43 - Pattern Development II

- Employ the application of the parallel line, radial line, and triangulation methods in developing patterns for fittings for conventional A/C systems.
- Select appropriate combinations of methods to produce correct patterns.

SMP44 - Blow Pipe Fabrication

- Fabricate and develop patterns for round work.
- Have developed the understanding of the technical data needed to design air conditioning and blow pipe systems.

SMP45 - Advanced Fabrication (General)

- Develop all patterns using standard shop procedure.
- Layout patterns on the metal emphasizing the (3) standard layout methods.

SMP46 - Pattern Development III

- Developed the learner's ability to correctly interpret blueprints that deal with the sheet metal trade in building construction by stressing the application of mathematics and mechanical drawings.

SMP49 - Advanced Shop Problems

- Acquire extensive specialized knowledge and the latest methods employed by the sheet metal industry to solve the higher technological problems currently encountered by the modern sheet metal shop.
- Solve advanced shop problems related to sheet metal work through technical analyses and complex multi-faceted mathematical calculations.

Small Vessel Fabrication and Repair

CLO

No CLOs

Welding

CLO

WELD100 - Welding for Trades & Industry

- Demonstrate basic use and operation of shielded metal arc welding equipment according to industry standards.
- Demonstrate basic use of oxy-fuel welding and cutting according to industry standards.
- Select and use the proper safety clothing and equipment.

WELD121 - Hand and Shop Tools

- Operate and maintain the drill press, band saw, abrasive sander, abrasive grinder, metal shears, hydraulic press, plasma cutter, and ironworker shearing machine.
- Select and use the proper safety clothing and equipment.
- Use various hand and measuring tools with proficiency.

WELD152 - Intro to Arc Welding I

- Demonstrate basic use and operation of shielded metal arc welding according to industry standards in a flat position.
- Demonstrate basic use of oxy-fuel cutting according to industry standards.
- Select and use the proper safety clothing and equipment.

WELD154 - Intro to Arc Welding II

- Demonstrate basic use and operation of shielded metal arc welding equipment according to industry standards in the horizontal position.
- Select and use the proper safety clothing and equipment.

WELD156 - Intro to Arc Welding III

- Demonstrate basic use and operation of shielded metal arc welding equipment according to industry standards in the vertical position.
- Select and use the proper safety clothing and equipment.

WELD158 - Intro to Arc Welding IV

- Demonstrate basic use and operation of shielded metal arc welding equipment according to industry standards in the overhead position.
- Select and use the proper safety clothing and equipment.

WELD160 - Advanced Arc Welding I

- Demonstrate advanced use and operation of shielded metal arc welding equipment according to industry standards in the flat and horizontal positions on groove welds.
- Select and use the proper safety clothing and equipment.

WELD162 - Advanced Arc Welding II

- Demonstrate advanced use and operation of shielded metal arc welding equipment according to industry standards in the vertical position on groove welds.
- Select and use the proper safety clothing and equipment.

WELD164 - Advanced Arc Welding III

- Demonstrate advanced use and operation of shielded metal arc welding equipment according to industry standards in the overhead position on groove welds.
- Select and use the proper safety clothing and equipment.

WELD166 - Plasma & Air Carbon Arc Cut

- Demonstrate Care and use of plasma arc and air arc cutting process.
- Select and use the proper safety clothing and equipment.

WELD168 - Blueprint Reading for Welders

- Demonstrate proper use of terminology and symbols, blueprint reading and interpretation and sketching.
- Select and use the proper safety clothing and equipment.

WELD170 - Oxyacetylene Welding I

- Demonstrate basic oxy-fuel welding techniques according to industry standards in the flat and horizontal positions.
- Select and use the proper safety clothing and equipment.

WELD172 - Oxyacetylene Welding II

- Demonstrate basic braze welding techniques according to industry standards in the flat and horizontal positions.
- Select and use the proper safety clothing and equipment.

WELD174 - TIG Welding I

- Demonstrate TIG Welding on carbon steel and stainless steel according to industry standards in the flat and horizontal positions.

- Select and use the proper safety clothing and equipment.

WELD176 - TIG Welding II

- Demonstrate TIG Welding techniques with aluminum materials according to industry standards in the flat and horizontal positions
- Select and use the proper safety clothing and equipment.

WELD178 - Fabrication Techniques

- Demonstrate welding layout and fabrication from sketches and blueprints, with safe and appropriate operation of hand tools, power tools and equipment according to industry standards with instructor supervision.
- Select and use the proper safety clothing and equipment.

WELD180 - Gas Metal & Flux Core Arc Weld

- Demonstrate use of gas metal arc (GMAW) and flux cored arc (FCAW) welding techniques on carbon steel and aluminum material.
- Select and use the proper safety clothing and equipment.

WELD182 - Welding Inspection & Testing

- Demonstrate knowledge of welding codes, qualifications and testing methods according to industry standards
- Select and use the proper safety clothing and equipment.

WELD184 - Advanced Fabrication Technique

- Demonstrate welding layout and fabrication from sketches and blueprints, with safe and appropriate operation of hand tools, power tools and equipment according to industry standards.
- Perform practical projects with minimum supervision.
- Select and use the proper safety clothing and equipment.