Unit Name	PLO Name	PLO
ADT - ADJ: Administration of Justice	PLO 1	Demonstrate an applicable knowledge of the many facets of the American Justice System and the interrelationship of functions among them.
	PLO 2	Demonstrate a working knowledge of the theory and practice of law enforcement, community policing, criminal law , judicial procedure, criminal investigation, and corrections within the American Justice System.
	PLO 3	Demonstrate the ability to interact with the public and members of the American Justice System in a manner to reflect professionalism in speaking, reading,writing, and the ability to compile, integrate, and disseminate diverse
ADT - ANT: Anthropology	PLO 1	Apply the holistic and comparative perspective inherent in anthropological knowledge to real world problems.
	PLO 2	Use information resources and technology to research current issues in all four subfields of anthropology.
	PLO 3	Synthesize and integrate theoretical perspectives specific to anthropology and general to the social and natural
ADT - ART: Studio Arts	PLO 1	Demonstrate proficient technical and creative skills with a variety of art materials.
	PLO 2	Understand works of art and design and the artistic contributions of diverse peoples through critical discussion and written assignments.
	PLO 3	Demonstrate, through the analysis of aesthetic and cultural values, an understanding of the contribution of art and design to human experience.
ADT - BIO: Biology	PLO 1	Be able to identify and explain fundamental biological concepts and principles on the molecular, cellular, organismal, population, ecological, environmental and evolutionary levels.
	PLO 2	Apply knowledge of biological concepts to formulate questions and hypotheses for research and demonstrate ability to find, read, understand, and critically evaluate scientific papers.
	PLO 3	Develop experimental skills and techniques used in laboratory and field research and use the scientific method in develop hypotheses, design and execute experiments.
ADT - BUS: Business Administration	PLO 1	Demonstrate use of technology and application software to analyze and solve business decisions .
	PLO 2	Demonstrate mathematical and accounting procedures used for business specific calculations and decisions .
	PLO 3	Demonstrate the application of economic and business theories to develop effective business processes .
ADT - CHE: Chemistry	PLO 1	Master content in inorganic and organic chemistry by describing chemical and physical structures and nomenclature, stoichiometry and solving of chemical equations, and analyzing and describing the nature of chemical reactions and energy .
	PLO 2	Measure and characterize properties of matter using a variety of research-level chemical instrumentation, laboratory techniques, statistical and computational methods.
	PLO 3	Display effective cooperation with others on projects and clearly communicate experimental results through oral and written means .
	PLO 4	Demonstrate professional integrity, safety, and environmental stewardship .
ADT - COM: Communications	PLO 1	Synthesize communication principles and theories to develop communication competence to improve human interaction.
	PLO 2	Apply and analyze rhetorical principles for a variety of purposes adapting to audience and context.
	PLO 3	Understand the theoretical and practical relationships between and among symbols, culture and gender to competently create, interpret and/or evaluate messages.
ADT - CSC: Computer Science	PLO 1	Write programs utilizing the following data structures: arrays, records, strings, linked lists, stacks, queues, and hash tables.
	PLO 2	Write and execute programs in assembly language illustrating typical mathematical and business applications.
	PLO 3	Demonstrate different traversal methods of trees and graphs.
ADT - EAR: Child and Adolescent Development	PLO 1	Compare and contrast typical and atypical development of children and adolescents in the biophysical, cognitive, and psychosocial domains
	PLO 2	Relate developmental theory to the observation and assessment of children and teaching practices.
	PLO 3	Identify the correct ECE observation method for gathering authentic assessments on children.
	PLO 4	Understand and apply Developmentally Appropriate Practice in the creation of curriculum and the use of specific teaching strategies to enhance learning

	PLO 5	Evaluate the role that context (i.e., family, peers, schools, communities, cultures, diversity) and individual experience plays in development
	PLO 6	Describe the scientific approach to research in the social and behavioral sciences.
	PLO 7	Describe and defend current guidelines for the ethical treatment of children and adolescents
	PLO 8	Apply basic research methods, including research design, qualitative and quantitative analysis, and the interpretation of data.
ADT - EAR: Early Childhood Education	PLO 1	Develop, implement, and evaluate developmentally appropriate thematic and emergent curriculum for children who are typical and atypical in the areas of physical, cognitive, language, creative and social/emotional growth.
	PLO 2	Develop and apply appropriate practices and effective techniques that respect the cultural diversity of young children and their families.
	PLO 3	Integrate an educational philosophy into classroom practices that reflects a personal belief supportive of theoretical principles regarding how and why young children should receive early educational experiences.
	PLO 4	Develop and implement a system of ongoing observational practices that contributes toward the creation of learning environments conducive to the emergence of curriculum that adapts to the evolving needs of children.
ADT - ENG: English	PLO 1	Read a variety of literary texts (fiction, poetry, drama, literary non-fiction) with understanding and insight.
	PLO 2	Demonstrate critical thinking skills about literary texts, including the ability to construct and test interpretive hypotheses, analyze rival hypotheses, and recognize interpretive problems to which literary texts give rise.
	PLO 3	Write analytical or argumentative essays on literary texts that demonstrate effective stylistic, organizational, and rhetorical control, support claims with sound textual evidence, and employ correct MLA citation methods.
	PLO 4	Demonstrate an awareness of the relationship between literature and culture, including a recognition of literature as a product as well as a contribution to human history.
ADT - HIS: History	PLO 1	Describe, interpret, and evaluate a variety of sources of historical information.
	PLO 2	Demonstrate an understanding of the nature of historical processes.
	PLO 3	Describe and analyze economic, intellectual, political, and social developments in history.
	PLO 4	Evaluate the role of individuals, institutions, and cultures in view of historical events in a global context.
ADT - KIN: Kinesiology	PLO 1	Identify and investigate career pathways in the discipline of Kinesiology
	PLO 2	Utilize fitness principles and training guidelines to plan and practice an individualized cardiorespiratory endurance, strength training, and flexibility program
	PLO 3	Demonstrate an understanding of basic anatomical and physiological principles.
ADT - MAT: Mathematics	PLO 1	Reason mathematically both abstractly and computationaly.
	PLO 1 Previous	Create and analyze mathematical models.
	PLO 2	Create and analyze mathematical models.
	PLO 2 Previous	Demonstrate knowledge of concepts and applications of single and multivariable differential and integral
ADT - PHI: Philosophy	PLO 1	Analyze and critically evaluate the work of major figures in philosophy.
	PLO 2	Compare and contrast different philosophical views across historical periods and contexts of human experience.
	PLO 3	Evaluate the most important topics in key areas of philosophy: theory of knowledge, metaphysics, ethics.
	PLO 4	Demonstrate the ability to apply philosophical ideas to philosophical problems.
	PLO 5	Express philosophical ideas and defend them in argument, both in writing and orally.
ADT - PHY: Physics	PLO 1	Apply appropriate physical laws and mathematical techniques to analyze various physical situations.
	PLO 2	Perform various scientific experiments and to analyze data to check agreement with theoretical predictions.
ADT - POL: Political Science	PLO 1	Describe, explain, and evaluate American political institutions, political systems, policies and processes.
	PLO 2	Identify and analyze the major current global and domestic political theories and ideologies.
	PLO 3	Objectively explain critical issues in American, Comparative and World politics and be able to use theories and debates to argue convincingly in defense of a position, selecting examples to illustrate points and organizing
	PLO 4	Employ a variety of current social scientific methodologies in the research analysis and evaluation of data.
	PLO 5	Demonstrate critical thinking ability including the understanding of alternative explanations and the forming of conclusions from the data presented.
ADT - PSY: Psychology	PLO 1	Apply the basic tenets of psychology to the study of more in depth topics in upper division courses.

	PLO 2	Distinguish between the main theoretical perspectives in psychology.
	PLO 3	Analyze the primary subfields of psychology and gauge their contributions to the understanding of behavior, cognition, and emotion.
ADT - SOC: Sociology	PLO 1	Demonstrate an awareness and understanding of the historical and contemporary theoretical frameworks that form the basis of Sociological study.
	PLO 1 Previous	Demonstrate a knowledge and understanding that the development, maintenance, and adaptation of the individual self and the personality is a product of the interaction between the
	PLO 2	Demonstrate the utility of past and present sociological research and the research methodologies that form the basis of sociological inquiry.
	PLO 2 Previous	Demonstrate a breadth of knowledge of the social and cultural environments at the local, regional and global level environments at the local, regional and global levels.
	PLO 3	Demonstrate the ability to be academically proficient in at least two specific areas of sociological emphasis, i.e., Marriage and Family, Race/Ethnicity, Culture, Crime and Deviance, Social Problems.
	PLO 3 Previous	Demonstrate a working knowledge of the many facets and intricacies of social interaction from the intrapersonal, to the interpersonal to the societal levels.
	PLO 4	Demonstrate an understanding of the basic principles for at least one of the social sciences beyond Sociology, i.e., Anthropology or Psychology.
	PLO 4 Previous	Demonstrate an ability to apply the theories and principles of human development, human interaction, cultural diversity, and global awareness to their everyday lives.
ADT - SPA: Spanish	PLO 1	Demonstrate critical thinking skills in Spanish by interpreting and articulating ideas, questions, opinions and information at the high-intermediate level, both orally and in writing.
	PLO 2	Analyze the practices, products and perspectives of the Spanish-speaking countries and peoples throughout the world through a comparison of Hispanic cultures and their own.
AOE - ART: Fine & Applied Arts	PLO 1	Demonstrate basic knowledge and skills (technique) in one discipline of the fine and applied arts. These include fundamentals of the field in terms of practice, history, analysis and their applications and technical ability in one discipline to create, sustain and evolve a personal vision and/or purpose.
	PLO 2	Develop a personal vision and/or purpose--sometimes called "artistic voice"--that is evident in terms of work produced and manifested in a portfolio, performance, exhibition,, or other presentation.
	PLO 3	Generate and apply original ideas and methods to discover, create and communicate specific artistic content.
	PLO 4	Demonstrate conceptual acuity, clarity, imagination, and technical ability to combine, integrate, and synthesize elements into works in ways that enhance their communicative powers.
AOE - BUS: Business Administration & Information	PLO 1	Categorize basic administrative terms,theories and principles.
	PLO 2	Demonstrate basic understanding of economic systems; i.e., the manner in which goods are produced and distributed in a society and the means by which economic growth is achieved and
	PLO 3	Understand and apply fundamental management principles, such as profit/loss, balancing accounts, conflict resolution, effective customer relations and time management.
	PLO 4	Perform functions such as preparation of memoranda, utilization of spreadsheets, adherence to schedules and responding effectively to changes in the work environment.
	PLO 5	Implement the fundamental concepts from courses in business, public administration, economics and/or information systems
	PLO 6	Locate, process, and utilize information effectively.
AOE - COM: Communications, Media & Languages	PLO 1	Analyze college level texts to understand and apply themes and evidence in appropriate communication formats.
	PLO 2	Evaluate purpose and audience to create well-developed, supported, and stylistically fluent responses in written or verbal form.
	PLO 3	Evaluate and apply appropriate evidence in support of arguments made in different forms of communication.
	PLO 4	Recognize and understand the role of nonverbal, verbal, interpersonal, visual, mass media, and cultural indicators inherent in different communication mediums.
	PLO 5	Understand how socioeconomic and cultural factors work in construction knowledge in different forms of communication.

	PLO 6	Use a variety of research methods to collect and evaluate sources and evidence to apply in various forms of communications.
AOE - HUM: Humanities, Philosophy & Arts	PLO 1	Interpret key philosophical, religious and literary texts, as well as creative works, in historical and cultural contexts and express that interpretation persasively in oral and/or written form.
	PLO 2	Analyze the role and use of language, rhetoric and/or the arts in informing and contextualizing human
	PLO 3	Analyze the role and use of the arts (literature, music, theater, dance, and the fine arts) as a reflection of the culture in which it appears.
	PLO 4	Evaluate the role of individual human agency in history.
	PLO 5	Research and write critical interpretive essays demonstrating a high skill level.
AOE - KIN: Kinesiology, Health, and Wellness	PLO 1	Demonstrate understanding of the impact life choices have on overall human health and apply this knowledge to maintain healthful living appropriate to the situation.
	PLO 2	Recognize the positive impact of physical activity in fostering optimal health and apply this knowledge to lifestyle
	PLO 3	Recognize and understand the role of individual decision-making processes to the development of strategies concerning personal health and wellness.
AOE - MAT: Math and Science	PLO 1	Apply the basic operations of mathematics on the set of real and complex numbers, expressions, and equations.
	PLO 2	Apply the principles of the scientific method, including the use of inductive and deductive reasoning to pose, test, and accept or reject hypotheses.
	PLO 3	Recognize and determine the role of mathematics and the sciences as investigative and reasoning tools of human societies.
AOE - SOC: Social & Behavioral Studies	PLO 1	Demonstrate a knowledge and understanding that the development, maintenance, and adaptation Sof the individual self and the personality is a product of the interaction between the individual and their social
	PLO 2	Demonstrate a breadth of knowledge of the social and cultural environments at the local, regional and global
	PLO 3	Demonstrate a working knowledge of the many facets and intricacies of social interaction from the intrapersonal, to the interpersonal to the societal levels.
	PLO 4	Demonstrate an ability to apply the theories and principles of human development, human interaction, cultural diversity, and global awareness to their everyday lives
Program - ARE: Architecture Graphics	PLO 1	Complete a set of residential working drawings, which may include first floor drawings, second floor drawings, foundation drawings, elevations, cross-sections, framing, electrical drawings, and structural detail.
	PLO 2	Demonstrate an ability to apply and integrate computer technology into the design process to achieve a desired
Program - BUS: Business Administration	PLO 1	Use technology to analyze business decisions and to enhance business communications.
	PLO 2	Apply basic busines and accounting calculations and analyses.
	PLO 3	Have an understanding of legal practices relating to business.
	PLO 4	Apply sound management practices.
Program - BUS: Business Administration: Management Concentration	PLO 1	Apply sound management practices.
	PLO 2	Analyze and apply appropriate managerial practices in one or more areas of ethics, human resources, quality management, operations, motivation, etc..
Program - BUS: Business Administration: Accounting Concentration	PLO 1	Apply accounting principles related to a variety of accounting specialties, such as payroll accounting, cost accounting, income tax accounting, and computerized accounting.
	PLO 2	Analyze and solve accounting issues and problems for a variety of business entities.
	PLO 3	Analyze and interpret data and reports for a variety of business entities.
	PLO 4	Develop and apply principles of moral judgment and ethical behavior to business situations.
	Previous PLO 1 2012	Explain the managerial applications of accounting reports and ratios to the business enterprise.
	Previous PLO 2 2012	Understand the major role financial reporting plays in fulfilling government's duty to be publicly accountable in a democratic society.
	Previous PLO 3 2012	Apply cost accounting principles to manufacturing and service enterprises within a global society.

	Previous PLO 4 2012	Analyze and solve problems associated with the calculations and reporting of payroll.
	Previous PLO 5 2012	Analyze data and apply appropriate principles of federal income tax law.
	Previous PLO 6 2012	Analyze and solve accounting problems with application software.
	Previous PLO 7 2012	Analyze and solve accounting problems with application software.
	Previous PLO 8 2012	Develop and apply principles of moral judgment and ethical behavior to business situations.
Program - BUS: Business Administration: Business Information Worker	PLO 1	Demonstrate computer literacy with respect to computer hardware and software applications.
	PLO 2	Apply standard rules of business conduct and customer service.
	PLO 3	Develop specialized keyboarding skills at an employable level of accuracy and speed.
	PLO 4	Use word processing, spreadsheet, presentation graphics, and scheduling software to perform business and office tasks
	PLO 5	Apply oral and written communication skills in various business and office environments.
	PLO 6	Design, modify, query, and manipulate lists (database and information in workbooks) using common formulas, data and what if scenario tools to organize and convey information.
Program - BUS: Business Administration: General Business Concentration	PLO 1	Explain the managerial applications of accounting reports and ratios to the business enterprise.
	PLO 2	Analyze the law as it pertains to business organizations and to determine the legal management of the various forms of law.
	PLO 3	Analyze the business elements that comprise the logistics function.
	PLO 4	Develop and apply principles of moral judgment and ethical behavior to business situations.
	PLO 5	Anticipate and pose problems relative to understanding and supervising personnel.
	PLO 6	Identify and analyze human relations techniques appropriate to a managerial role.
	PLO 7	Explain and develop the marketing mix, including an analysis of the marketing mix variables-product, place, price, and promotion.
Program - BUS: Business Administration: Logistics Management Concentration	PLO 1	Compare roles and objectives of the logistics disciplines.
	PLO 2	Understand how logistics functions can interact to efficiently use total personnel, facilities and equipment.
	PLO 3	Contribute knowledge needed by multidisciplinary teams to effectively integrate and exceed end user (customer) expectations.
	PLO 4	Analyze, prepare, file and process claims when unavoidable freight disputes arise.
	PLO 5	Explain how the overall flow of goods, services and information can be optimized to satisfy customer and
	PLO 6	Identify 3rd party logistics provider and client needs in negotiations, bidding and contracts, as well as legal and regulatory constraints to integrated logistics.
	PLO 7	Describe roles and value added by global logistics intermediaries.
Program - BUS: Business Administration: Real Estate Concentration	PLO 1	Demonstrate the ability to analyze ethical and procedural problems that arise in residential real estate sales transactions from the prospective of buyers, sellers, brokers, appraisers, lenders, and escrow officers.
	PLO 2	Discuss and evaluate real estate marketing and sales techniques.
	PLO 3	Discuss and calculate real estate taxes and solve basic real estate mathematics problems.
	PLO 4	Explain and evaluate methods of financing real estate purchases and securing loans with real estate.

	PLO 5	Demonstrate the ability to analyze the factors that affect real estate values.
	PLO 6	Discuss and evaluate real estate marketing and sales techniques.
Program - BUS: Business Administration: Small Business Payroll Accounting	PLO 1	Analyze, synthesize, and evaluate payroll principles as defined by Social Security Act and understand laws relating to the payment of wages and salaries.
	PLO 2	Analyze and solve problems associated with the calculation and reporting of payroll.
	PLO 3	Accurately apply accounting principles to computerized and manual payroll systems.
Program - BUS: Logistics Management	PLO 1	Compare roles and objectives of the logistics disciplines.
	PLO 2	Understand how logistics functions can interact to efficiently use total personnel, facilities and equipment
	PLO 3	Contribute knowledge needed by multidisciplinary teams to effectively integrate and exceed end user (customer) expectations.
	PLO 4	Analyze, prepare, file and process claims when unavoidable freight disputes arise.
	PLO 5	Explain how the overall flow of goods, services and information can be optimized to satisfy customer and business goals
	PLO 6	Identify 3rd party logistics provider and client needs in negotiations, bidding and contracts, as well as legal and regulatory constraints to integrated logistics.
	PLO 7	Describe roles and value added by global logistics intermediaries.
Program - CIS: Computer Programming	PLO 1	Design structured programs using C++, Javascript, or Java.
	PLO 2	Design and use object-oriented programs in one of these languages: C++, Java or PHP.
	PLO 3	Design and use advanced programming techniques in C++ or Java.
Program - CIS: Graphic Design	PLO 1	Design and create images used for printed media in advertising and web design.
	PLO 2	Understand and apply the techniques used to create and modify artwork using a vector based program or bit mapped program.
	PLO 3	Integrate text and graphics in a document layout program tocreate professional-quality, full-color documents.
	PLO 4	Format and combine text, numerical data, photographs, charts, and other visual graphic elements to produce publication-ready material.
	PLO 5	Demonstrate the knowledge of workflow process in the creation of printed media in advertising.
	PLO 6	Demonstrate the knowledge of design principles in advertising and layout design, type, and lettering applications.
	PLO 7	Incorporate two dimensional design visual media of printed media in advertising.
Program - CON: Construction Technology	PLO 1	Identify and describe the materials and methods currently being employed in today's construction industry.
	PLO 2	Interpret the major construction codes currently adopted by the state, county, and city which regulate construction installations.
	PLO 3	Evaluate the basic concepts of engineering and soil design as they relate to structures.
Program - DFT: Drafting Technology	PLO 1	An ability to apply and integrate computer technology in the design process, exhibiting skills necessary for entry-level employment, as a designer in the drafting industry.
	PLO 2	Knowledge of engineering drawing skills and practice in the solution of industry related design projects.
Program - EAR: Early Childhood Education	PLO 1	Develop, implement, and evaluate developmentally appropriate thematic and emergent curriculum for children who are typical and atypical in the areas of physical, cognitive, language, creative and social/emotional growth.
	PLO 1 Previous	Use observation to assess child development, curriculum success, an environmental standards of quality, and then implement program adjustments based on assessment outcomes.
	PLO 2	Develop and apply appropriate practices and effective techniques that respect the cultural diversity of young children and their families.
	PLO 2 Previous	Identify the patterns of development for children ages zero to three in the areas of physical, cognitive and psychosocial domains.
	PLO 3	Integrate an educational philosophy into classroom practices that reflects a personal belief supportive of theoretical principles regarding how and why young children should receive early educational experiences.

	PLO 3 Previous	Understand and implement health and safety practices in environmental concerns and in individual child cleansing and feeding routines.
	PLO 4	Develop and implement a system of ongoing observational practices that contributes toward the creation of learning environments conducive to the emergence of curriculum that adaps to the evolving needs of children.
	PLO 4 Previous	Create and maintain an environment of care and learning specific to young infants and newly mobile children.
	PLO 5 Previous	Select equipment and materials conducive to the physical, cognitive and psychosocial needs of infants and
	PLO 6 Previous	Plan and implement a curriculum based on a blend of routine and play activities.
Program - EAR: Early Childhood Intervention Asst	PLO 1	Demonstrate an understanding of family function and structure, along with familial need for information and support that respects and values diverse cultures, values, beliefs and behaviors.
	PLO 2	Demonstrate basic knowledge of laws and regulations pertaining to and protecting children with disabilities and their families. Understand and identify the process of accessing community agencies, referral systems and procedures for specialized support, specialized documents, resources and placement options.
	PLO 3	Describe the typical child development milestones of children birth to adolescence and identify the strengths and special needs of the child in the context of his/her family, early childhood classroom, or early intervention
	PLO 4	Describe the developmental assessment process and outline its role in identifying, planning and intervening for a child with special needs and his/her family, including the process of curriculum development.
	PLO 5	Demonstrate an understanding of the purpose and intent of an inclusive environment that supports the whole child while meeting the individual needs of children with disabilities.
Program - ELE: Electrician	PLO 1	Demonstrate the installation maintenance and troubleshooting of electrical devices (switches, sensors, motor, controllers, and lights)
	PLO 2	Explain how the electrical grid works, from generation to the end user.
	PLO 3	Solve electrical design criteria by using formula, and tables for proper electrical installation
	PLO 4	Demonstrate electrical raceway sizing and installation, meeting NEC requirements for sizing, location requirements, distances, supports, and bending
	PLO 5	Demonstrate quantitative analysis of electrical circuits for blueprints
	PLO 6	Demonstrate electrical wiring of circuits or devices to meet the standards and requirement of the NEC.
Program - ELE: Electrician Apprenticeship	PLO 1	Apply a working knowledge of math formulas and complex solution methods related to the electrical trades, along with blueprint symbols and drawings of wiring diagrams with common schematic symbols, including troubleshooting of common system faults, detection and repair, while properly applying OSHA construction site safety standards to all practices.
	PLO 2	Properly apply all pertinent National Electric Code (NEC) to all workplace practices involving DC, AC single and poly-phase systems, utilizing proper grounding, bonding, lightning protection, wire sizing, conduit fill, overload protection, layout, connections, installations, troubleshooting, fault isolation, repairs or modifications
	PLO 3	• Demonstrate appropriate leadership and expertise in applying special control and monitoring functions related to layout, installation, testing, and troubleshooting of digital and analog systems involving such ancillary equipment as CATV, CCTV, telephone circuits, Programmable Logic Controllers (PLCs), sensors, actuators, low-voltage and high-voltage, transformation, interfacing, hardware, setup, and programming services needed to comply with all NFPA-70E (NEC) and OSHA regulations for safety and fitness.
Program - ELE: Electronics Digital	PLO 1	Fluently read and write electronic symbols of schematics, and develop schematic diagrams to guide the simulation, construction, maintenance, troubleshooting or repair of DC, AC, microcontrollers & digital circuits
	PLO 2	Explain the operation of electronic components and predict their behavior in given circuit designs, and calculate solutions to complex networks, and justify the formulas and calculations.
	PLO 3	Capture a schematic of a mixed-signals circuit, using the appropriate electronics computer-aided-design (CAD) software, and simulate the behavior of it, and then create a PCB design for that circuit. Then, after fabrication of a Printed Circuit Board (PC), "stuff" and solder components to it, test and contrast with simulation predictions.
	PLO 4	Fluently read and write Boolean Algebra logic equations, symbols, truth-tables and circuits, then synthesize logic forms, simplify to lowest terms, and implement circuits using only NAND or NOR logic gates.

	PLO 5	Design, program, compile, install, wire, test, verify and explain the proper operation of a microcontroller with respect to given specifications, then explain the purpose and methods whereby a microcontroller may perform math, logic or conversions between analog and digital forms.
Program - ELE: Sound and Communication Systems Installed Apprenticeship	PLO 1	Analysis a circuit of electrical device(s) with the appropriate meters or testing equipment so that troubleshooting of common system faults can be detected and repair
	PLO 2	Demonstrate electrical wiring of circuits or devices to meet the standards and requirement of the NEC
	PLO 3	Residents within Riverside/San Bernardino/ Mono/Inyo counties will be able to jointly apply to the Riverside and San Bernardino Joint Electrical Apprenticeship Training Committees via the International Brotherhood of Electrical Workers. Applicants must submit proof of high school diploma or GED, be at least 18 years of age, and official unopened transcripts showing successful completion of one year of high school or College Algebra 1 or higher. The applicant will then complete a written aptitude test and oral interview to be placed on the
Program - ENE: Engineering Graphics	PLO 1	Demonstrate proficiency sufficient to apply for and obtain entry-level employment in the field of engineering by completing a portfolio, which may include sketches, Computer Aided Drafting (CAD), 3-D models, and rapid
Program - ENE: Pre-Engineering	PLO 1	Demonstrate the standard methods of mathematical analysis including trigonometry and analytic geometry, differential and integral calculus, and the solutions to differential equations.
	PLO 2	Demonstrate a working knowledge of the theories and principles of physics.
	PLO 3	Conduct experiments and analyze and interpret data collected.
Program - GAM: Game Art: Character Modeling	PLO 1	Understand and utilize the production pipeline and workflow between Maya and ZBrush for modeling characters for use in Game, Animation and Simulation.
	PLO 2	Analyze and construct bipedal, quadruped and anthropomorphic character models for use in Game, Animation and Simulation.
	PLO 3	Utilize the industry standard techniques of Maya and ZBrush to create both low poly and high poly models for use in Game, Animation and Simulation.
	PLO 4	Produce industry quality character models that demonstrate a thorough understanding of anatomy and proportion as well as proper topology flow as it pertains to modeling characters for use in Game, Animation and
	PLO 5	Analyze, differentiate, and construct character models that demonstrate an understanding of standard industry artistic styles such as hyper-realism, cartoony and stylized design.
	PLO 6	Demonstrate mastery of interdisciplinary communication and team skills while working with colleagues in an industry standard production project.
	PLO 7	Create an industry standard portfolio and demo reel containing 3D character models developed in class projects.
Program - GAM: Game Art: Environments and Vehicles	PLO 1	Employ the proper use of industry standard terminology to describe geometry and scenes in a 3D environment.
	PLO 2	Utilize both polygonal and nurbs modeling to create 3D hard surface and organic objects for use in game, animation and simulation environments.
	PLO 3	Create digital vehicles, terrains and environments to scale according to a specific art style direction containing aspects of realism, futuristic and fantasy based design and function.
	PLO 4	Demonstrate mastery of interdisciplinary communication and team skills while working with colleagues in an industry standard production project.
	PLO 5	Create an industry standard portfolio and demo reel containing 3Denvironments and vehicle models developed in class projects.
Program - GAM: Game Design	PLO 1	Apply the principles of theoretically sound game design including gameplay, core mechanics, game balancing, and iterative rapid prototyping to produce both non-digital and digital original games.
	PLO 2	Contribute to a comprehensive game design document which facilitates team management including communication, milestones/deadlines and responsiveness.
	PLO 3	Develop content that contributes to a milestone based studio pipeline.

	PLO 4	Demonstrate mastery of interdisciplinary communication and team skills while working with colleagues on an industry standard production project.
	PLO 5	Create an industry standard portfolio utilizing games and class projects.
Program - GAM: Game Programming	PLO 1	Assemble multimedia assets into a single project and provide meaning and structure to those assets through programmatic solutions.
	PLO 2	Construct complex systems to facilitate game rules, mechanics, and simulations.
	PLO 3	Build games or applications driven by mathematics and physics concepts in an architecturally sound software
	PLO 4	Apply concepts and techniques in game programming to create complete modules and game experiences at an advanced level.
	PLO 5	Create an industry-standard portfolio containing code samples from class projects.
	PLO 6	Demonstrate professional communication skills effectively with colleagues on an industry production project.
Program - MAG: Retail Management/WAFC	PLO 1	Use Generally Accepted Accounting Principles or International Accounting Standards guidelines to review and interpret financial documents.
	PLO 2	Calculate pricing models for mark-ups, profit margins for perishable and lost goods, discounts, and sinking funds.
	PLO 3	Prepare and deliver effective oral and written communications through multiple modes in multiple situations.
	PLO 4	Create and use basic word processing documents, spread sheets and visual (power point) presentations.
	PLO 5	Create and present a research paper on selected topics.
	PLO 6	Effectively apply basic management principles to actual and role-played work situations.
	PLO 7	Analyze and assess the legal and productivity implications of work conflicts.
	PLO 8	Effectively communicate in small groups.
	PLO 9	Analyze the effectiveness of marketing decisions and use marketing principles to assess market potential.
Program - MAN: Computer Numerical Control (CNC) Operator	PLO 1	Create a steam or stirling engine based on blueprints that involves parts using both the mil and the lathe.
	PLO 2	Create five-axis part drawing files using Computer Aided Manufacturing program such as Mastercam, numerical code files and Solid Works.
	PLO 3	Compose written assignments on occupation safety in general industry.
	PLO 4	Solve mathematical formulas by using unknowns and apply this knowledge to solve problems for the industry.
	PLO 5	Establish a systematic approach to recognizing the essential information given on a blueprint.
Program - MAN: Facility Maintenance	PLO 1	Demonstrate knowledge of maintenance techniques
	PLO 2	Apply maintenance fundamentals to simulated and actual workplace applications.
	PLO 3	Recognize, identify, and describe the functions of hand and power tools.
	PLO 4	Troubleshoot and repair a given, complex configuration of maintenance equipment and create a thorough report, including necessary interactions with tools and safety standards.
Program - MAN: Industrial Automation	PLO 1	Demonstrate the installation maintenance and troubleshooting of Programmable Logic Control systems (PLCs) and PLC modules.
	PLO 2	Set-up and operate fluid powered valves, cylinders, controls, filters, and actuators.
	PLO 3	Solve formulas by using unknowns and apply this knowledge to solve problems encountered in technological areas and various fields of engineering.
	PREVIOUS PLO 3	Establish a systematicv approach to recognizing the essential information given on a blueprint.
	PREVIOUS PLO 5	Write descriptive and operational instructions for nontechnical users of technical information, including occupational safety concerns.
Program - MIS: Audio Production	PLO 1 - previous	Understand the basic elements of game development and design including group working processes, game strategy, theory and gameplay.
	PLO 2	Employ music technology to create and refine musical product.
	PLO 2 - Previous	Diagram and describe the major elements of video games from its beginning through the present.
	PLO 3	Sensitively enhance multitrack recordings and live performances as a mixing engineer.

	PLO 3 - Previous	Create multi-track MIDI and auto recordings utilizing basic and advanced editing techniques in Pro Tools.
	PLO 4	Collaborate effectively with peers to create new musical works that exhibit quality and craftsmanship.
	PLO 4 - Previous	Create an industry-standard portfolio containing audio samples from class projects.
	PLO 5	Demonstrate a fundamental understanding of intellectual property law as it applies to music.
	PLO 5 - Previous	Demonstrate professional communication skills effectively with colleagues in an industry production project.
	PLO1	Demonstrate an understanding of musicianship and music theory.
Program - MIS: Performance	PLO 1	Demonstrate an understanding of musicianship and music theory.
	PLO 1 - Previous	Understand and employ fundamentals of music and musicianship such as melody, harmony, chord structure, rhythm, key signatures, phrasing, sight-singing and scalar patters.
	PLO 2	Employ music technology to create and refine musical product.
	PLO 2 - Previous	Identify and discuss the origins of commercial music and explain how it relates to society today.
	PLO 3	Sensitively interpret and communicate musical literature as a performer or studio musician.
	PLO 3 - Previous	Create and manipulate vocal or instrumental technique in a studio and live performance setting such as fingerings, dynamics, diction, breathing, rhythm, phrasing and vowel or finger placement.
	PLO 4	Collaborate effectively with peers to create new musical works exhibiting quality and craftsmanship.
	PLO 4 - Previous	Memorize and recall standard commercial music literature in a live ensemble performance.
	PLO 5	Demonstrate a fundamental understanding of intellectual property law as it applies to music.
Program - MUC: Commercial Music	PLO 1	Understand and employ fundamentals of music and musicianship such as melody, harmony, chord structure, rhythm, key signatures, phrasing, sight-singing and scalar patterns
	PLO 2	Identify and discuss the origins of commercial music and explain how it relates to society today.
	PLO 3	Create and manipulate vocal or instrumental technique in a studio and live performance setting such as fingerings, dynamics, diction, breathing, rhythm, phrasing and vowel or finger placement.
	PLO 4	Memorize and recall standard commercial music literature in a live ensemble performance.
Program - SCT: Supply Chain Technology	PLO 1	Demonstrate troubleshooting procedures to diagnose and repair hydraulic and pneumatic systems used in automated processes and robotic assemblies.
	PLO 2	Demonstrate the installation, maintenance and troubleshooting of Programmable Logic Controllers systems (PLCs) and PLC modules.
	PLO 3	Solve arithmetic problems and formulas using unknowns that are typical to solving problems in engineering and industrial settings.
	Previous PLO 1	Application of routing problems and algorithms related to transportation and delivery of goods and services.
	Previous PLO 2	Description of the role of transportation in the economy and supply chain using ArcGIS.
	Previous PLO 3	Application of Programmable Logic Control (PLCs) and Radio Frequency Identification systems to design, configure and drive conveyor belt systems.
	Previous PLO 4	Compose written assignments on occupation safety in general industry on an advanced level to help companies prevent industrial accidents.
	PREVIOUS PLO 4 2018	Establish a systematic approach to recognizing the essential information given on a blueprint.
	Previous PLO 5	Formal presentations as required by technicians working the field of supply chain technology.
	PREVIOUS PLO 5 2018	Discuss and demonstrate occupational safety and technical communications related to working in a distribution