

SLOs for BusCSAppliedTech Division - Active Only

Course/Service Owning Unit	Student Learning Outcome (SLO) Name	Student Learning Outcome (SLO)
Dept - (B/CS) Accounting	ACCT105_SLO_1	Analyze basic business transactions and record them using double-entry accounting and post journal entries to the general ledger and prepare relevant internal and external financial statements and evaluate and record merchandising transactions using perpetual and periodic inventory systems, incorporating various cost flow methods.
	ACCT1A_SLO_1	Demonstrate a knowledge of double entry accounting for business transactions and adjustments and prepare, explain and analyze financial statements using GAAP.
	ACCT1A_SLO_2	Analyze fundamental business concepts, how businesses operate, how accounting serves them and identify ethical issues in an accounting context.
	ACCT1B_SLO_1	Demonstrate a knowledge of the users of accounting information and forms or business ownership, risks and capitalization of each and prepare, analyze and evaluate the financial structure of a firm using corporate financial statements (and include the statement of cash flows).
	ACCT1B_SLO_2	Analyze and evaluate the capitalization of a firm using debt and equity and apply net present value methodology to the analysis.
	ACCT1C_SLO_1	Identify elements of cost for a business and explain and analyze how costs are allocated and assessed for various users. Compare and contrast the cost acct system for a manufacturer, merchandiser and service firm and distinguish the differences and similarities between financial reporting and cost accounting and utilize npv and irr for evaluating the financial viability of a business decision.
	ACCT51A_SLO_1	Assess in a comprehensive manner the conceptual foundations and rationale that underlie accounting applications and critique the effects of transactions and events on an entity's financial condition.
	ACCT51B_SLO_1	Demonstrate the ability to apply professional knowledge of the role of accountants in providing and ensuring the integrity of financial and other information primarily related to liabilities, equity, financial statement disclosure, and the statement of cash flows.
	ACCT52_SLO_1	Demonstrate knowledge of business combinations; prepare, explain and analyze consolidating workpapers and financial statements.
	ACCT52_SLO_4	Demonstrate knowledge of governmental, not-for-profit, and partnership accounting; and demonstrate an ability to properly record related transactions and prepare related financial statements.
	ACCT58_SLO_1	List the 10 GAASs (Generally Accepted Auditing Standards) and explain how and why they are followed.
	ACCT58_SLO_2	Demonstrate knowledge of how GAAS are integrated throughout the financial audit examination process.
	ACCT58_SLO_3	Demonstrate knowledge of a systematic audit approach using the three major underlying and interlinked concepts: audit risk, audit materiality, and audit evidence.
	ACCT64_SLO_1	Research payroll tax laws and evaluate accounting options to comply with these laws and produce payroll tax reports and related journal entries.
	ACCT66_SLO_5	Identify, describe, and explain the way managers use cost accounting information to create value, to make decisions, and to evaluate performance in organizations and identify current trends in cost accounting and how they affect organizational decisions.
	ACCT66_SLO_6	Define basic cost behaviors and explain how material, labor, and overhead costs are applied to a product at each stage of the production process and explain the concept of activity-based cost management and demonstrate its use for operational decisions.
	ACCT67A_SLO_1	Demonstrate knowledge of how to assess and evaluate information required to file a federal tax return and be able

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	ACCT67A_SLO_1	to prepare and analyze an individual income tax return from various income sources, adjustments to income, itemized deductions and tax credits.
	ACCT67B_SLO_1	Demonstrate a knowledge of how to apply tax law for the preparation of individual tax returns for gross income and taxable income purposes, depreciation, depletion and amortization and classify and determine federal and state tax treatment for individuals with gains, losses, employee and self-employment income and expense.
	ACCT68_SLO_1	Explain, differentiate, analyze and evaluate the differences between the taxation of individuals, partnerships, corporations and trusts and prepare and analyze a corporate, partnership, trust and gift tax federal return.
	ACCT73_SLO_1	Demonstrate competency in critical thinking by deconstructing various frauds to determine how the frauds could be perpetrated, detected, and mitigated.
	ACCT74_SLO_1	Demonstrate competency in identifying, assessing and interpreting ethical issues in accounting and explain the costs and risks of unethical practices in business from the point of view of all relevant stakeholders.
	ACCT75_SLO_3	Demonstrate knowledge of the accounting cycle from transactions through financial statement preparation and analysis for governmental and nonprofit organizations.
	ACCT86_SLO_1	Convert a manual accounting system to a computerized system and analyze the differences between the two.
	ACCT86_SLO_2	Using a generic accounting software, demonstrate the understanding of accounting and accounting software needed to enter transactions and complete the accounting cycle.
	ACCT87AH_SLO_1	Using an existing Accounting Software Program, demonstrate the understanding of accounting and the accounting software program necessary to enter transactions and complete the accounting cycle.
	ACCT87AI_SLO_1	Using an existing Accounting Software Program, demonstrate the understanding of accounting and the accounting software program necessary to enter transactions and complete the accounting cycle.
	ACCT87AJ_SLO_1	Using an existing Accounting Software Program, demonstrate the understanding of accounting and the accounting software program necessary to enter transactions and complete the accounting cycle.
	ACCT88_SLO_1	Evaluate accounting problems; then design and construct Excel spreadsheets to solve those problems.
Dept - (B/CS) Automotive Technology	AUTO50A_SLO_1	Student will be able to accurately describe engine theory..
	AUTO50B_SLO_1	Student will be able to answer correctly, selected questions on the final exam concerning engine service, cooling system maintenance and battery testing.
	AUTO51A_SLO_1	Student will be able to answer correctly, selected questions on the final exam concerning drive line theory, clutch and transmission service and diagnosis.
	AUTO51B_SLO_1	Student will be able to answer correctly, selected questions on the final exam concerning tire service including balancing, disc and drum brake service, and front and rear suspension service.
	AUTO53A_SLO_1	Demonstrate the ability to diagram and construct compound mechanical and pneumatic machines, calculating the mechanical advantage for the individual components as well as the complete system.
	AUTO57A_SLO_1	After studying the various parts of the automotive industry and learning job interview skills, the student will participate in an 'in-class' job interview.
	AUTO60_SLO_1	Demonstrate the ability to diagram and construct simple electrical circuits, calculating and measuring voltage, amperage, and resistance using Ohm's Law and a digital multimeter.
	AUTO60_SLO_2	Develop a testing sequence to diagnose inoperative charging, cranking, and battery circuits.
	AUTO60A_SLO_1	Student will diagnose an open circuit problem in which all or part of the circuit is inoperative. Student will interpret the work order description, apply basic circuit theory concepts using logical circuit tracing techniques and accurate prediction of voltage drops. Student will correctly navigate supporting documents prescribe a recommended

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	AUTO60A_SLO_1	repair.
	AUTO60A_SLO_2	Student will diagnose an electrical feedback circuit problem in a lighting circuit using a logical diagnostic process. Student will interpret a customer based symptom that does not reveal the causal system in order to apply a logical diagnostic process for this type of problem.
	AUTO60B_SLO_1	Student will identify and appraise the operation of engine control systems where computer management is prevalent. Student will apply basic electrical fundamentals for the purpose of diagnostic troubleshooting. Student will interpret and analyze digital computer input and output signals. Student will select the appropriate diagnostic test equipment based on system symptom and design. Student will integrate the results of diagnostic tests and measurements.
	AUTO60C_SLO_1	Student will identify major ignition and fuel system components. Student will assess the function of an ignition system as associated with a drive symptom. Student will analyze a fuel delivery system based on diagnostic test results. Student will distinguish the cause of a drivability symptom based on the interpretation of diagnostic results. Student will differentiate the consequence of a failed emission device or system. Student will conclude a repair using the appropriate protocol.
	AUTO60D_SLO_1	Student will identify the purpose of an automotive ignition system. Student will demonstrate the correct application and usage of ignition system diagnostic equipment. Student will predict the results of an inappropriately adjusted ignition system. Student will categorize the results of ignition system diagnostics. Student will formulate a diagnosis based on interpretation of provided data values. Student will prioritize required repairs based on effectiveness.
	AUTO60E_SLO_1	Student will describe the principles of electronic fuel injection. Student will explain common designs of fuel injection systems. Student will distinguish specific fuel injection diagnostic equipment. Student will analyze a fuel injection system based on diagnostic test data. Student will solve a drivability scenario as related to a fuel injection system failure. Student will determine the applicable service procedure based on a given circumstance.
	AUTO60F_SLO_1	Student will identify basic internal combustion principles for the gasoline engine. Student will diagnose a no-start condition in which the storage battery, starter, or charging system is faulted. Student will differentiate ignition system primary and secondary faults. Student will apply the appropriate diagnostic steps for a given no-start symptom. Student is able to formulate a diagnostic plan based on provided data parameters. Student will assess the performance of a fuel delivery system.
	AUTO60G_SLO_1	Student will identify the purpose of an automotive scan tool. Student will recognize the various functions of a scan tool. Student will calculate a diagnostic approach based on scan data. Student will differentiate the status of DTCs (diagnostic trouble codes). Student will evaluate a given set of data for the purpose of diagnostics. Student will categorize data values based on specific symptoms.
	AUTO60H_SLO_1	Student will describe the onboard self-test and diagnostic capabilities of various manufacturers' vehicle control systems. Student will apply diagnostic self-tests as applicable for a given symptom. Student will assess generic scan tool data as compared to proprietary data. Student will select the appropriate diagnostic test procedure. Student will distinguish the results of mode \$06 test results.
	AUTO60J_SLO_1	Student will understand the various designs and applications of the diagnostic oscilloscope and power graphing meter. Student will interpret a diagnostic waveform as applicable to a drive fault. Student will summarize the functions of a lab scope. Student
	AUTO60K_SLO_1	The student will show an understanding of a resistive multiplexed switch circuits operation and diagnosis through a written essay.
	AUTO61A_SLO_1	Students will understand proper brake inspection procedures.
	AUTO61B_SLO_1	The student will be able to describe the differences in the two major types of wheel speed sensors used on cars and

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	AUTO61B_SLO_1	light trucks as well as how they function, and how to diagnose a failure of the component.
	AUTO62A_SLO_1	Students will understand proper under car inspection procedures.
	AUTO62A_SLO_2	Students will understand proper vehicle wheel alignment procedures.
	AUTO62B_SLO_1	The learner will understand the concepts and be able to diagnose vehicle wander, drift, pull, hard steering, bump steer, memory steer, torque steer, and steering return concerns; determine necessary action.
	AUTO63_SLO_1	The student will show an understanding of how a torque converter works.
	AUTO63_SLO_2	The student will will show an understanding of the inputs to transission that create both up and downshifts.
	AUTO63A_SLO_1	The student will understand the workings of a manual transission clutch assembly.
	AUTO63D_SLO_1	The student will show an understanding of the operation of transmission solenoids and the corresponding voltage values for diagnostic purposes.
	AUTO64_SLO_1	Student should be able to answer selected questions on the final concerning engine theory, valve events, engine diagnostics, and engine assembly.
	AUTO64HP_SLO_1	Student will answer correctly, selected questions on the final exam concerning blueprinting operations, engine theory, camshaft design, parts reliability upgrades. These are areas essential to the understanding of performance engines.
	AUTO65P_SLO_1	Student will be able to answer correctly, selected questions on the final exam concerning Bureau of Automotive Repair rules, regulations, and proper procedures to perform a smog check in the state of CA.
	AUTO65W_SLO_1	Student will be able to answer correctly, selected questions on the final exam concerning repairs to lower Oxides of Nitrogen (Nox) failures and procedures to perform an acceleration simulation mode (ASM) smog inspection using a dynamometer.
	AUTO66_SLO_1	Students will understand proper refrigerant recovery, recycling, and handling procedures.
	AUTO67A_SLO_1	Student will identify the function of an automotive hybrid propulsion system. Student will apply the recommended safety practices as outlined in the shop manual and ERG (emergency response guide). Student will follow recommended maintenance practices as applicable to a hybrid electric vehicle. Student will outline the service aspects of hybrid electric vehicles. Student will classify the different types of hybrid propulsion systems. Student will define the various components of a hybrid electric vehicle. Student will demonstrate the basic operation of regenerative braking.
	AUTO67B_SLO_1	Demonstrates the ability to safely maintain and service a vehicle that uses a high voltage battery as a fuel source for the main propulsion.
	AUTO67J_SLO_1	Demonstrate the ability to understand diesel theory
	AUTO67J_SLO_2	Develop a testing system to systematically trouble shoot diesel fuel systems
	AUTO91A_SLO_1	Given a vehicle and tools, you are to remove one dual servo brake assembly from the vehicle, inspect and lubricate the brake assembly as needed, and reinstall the dual servo brake assembly in the vehicle, according to recognized industry standards in 30 minutes.
	AUTO91A_SLO_2	Given a vehicle and tools, you are to remove one tire, wheel, and brake caliper assembly from the vehicle, turn one rotor on the car as needed, and reinstall the tire, wheel, and brake caliper assembly on the vehicle, according to recognized industry stan
	AUTO91A_SLO_3	Given a brake drum and tools, you are to setup the brake drum on the bench lathe, measure and turn the drum as needed according to recognized industry standards in 30 minutes.
	AUTO91A_SLO_4	Given a vehicle and tools, you are to perform a complete brake inspection, according to recognized industry

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	AUTO91A_SLO_4	standards in 30 minutes.
	AUTO92A_SLO_1	Given a vehicle and tools, you are to remove the strut assembly from the vehicle, remove and replace the strut from the coil spring, and reinstall the strut assembly in the vehicle, according to recognized industry standards in 30 minutes.
	AUTO92A_SLO_2	Given a vehicle and tools, you are to perform a chassis inspection on a front wheel drive vehicle according to recognized industry standards in 30 minutes.
	AUTO92A_SLO_3	Given a vehicle and tools, you are to perform a chassis inspection on a rear wheel drive vehicle according to recognized industry standards in 30 minutes.
	AUTO92A_SLO_4	Given a vehicle and tools, you are to remove, mount and balance, and reinstall two tire and wheel assemblies, according to recognized industry standards in 30 minutes.
	AUTO92B_SLO_1	Given a vehicle and tools, you are to hook up the John Bean Alignment Machine to the vehicle, obtain alignment readings, determine corrective action, set front toe, and disconnect the alignment equipment, according to recognized industry standards in 30 minutes.
	AUTO92B_SLO_2	Given a vehicle and tools, you are to hook up the Hunter Alignment Machine to the vehicle, obtain alignment readings, determine corrective action, set front toe, and disconnect the alignment equipment, according to recognized industry standards in 30 minutes.
	AUTO92C_SLO_1	The learner will be able to test and diagnose components of electronically controlled suspension systems using a scan tool; determine necessary action.
	AUTO93A_SLO_1	The student will be able to demonstrate the ability to measure the critical elements of a selected differential, analyze the readings, make the nec adjustments as well as the skill to dis and reassemble the unit.
	AUTO93B_SLO_1	The student will show their understanding of the powerflow through a standard transaxle.
	AUTO93C_SLO_1	The student will be able to describe in an essay form, the function of an automatic transmission torque converter. They must show a knowledge of the components and their function as well as an understanding of of the relationship between them. A description of what each component does during acceleration, cruise, and converter lock up must be included.
	AUTO93C_SLO_2	The student will completely disassemble an automatic transmission and then reassemble the same unit replacing any needed parts. The transmission will then have to function as designed on the transmission dynamometer in the shop.
	AUTO93D_SLO_1	The student will show an understanding of how a torque converter works.
	AUTO93D_SLO_2	The student will will show an understanding of the inputs to transission that create both up and downshifts.
	AUTO93E_SLO_1	The student will be able to retrieve a transmission related fault code from the on board computer system and determine a course of action to institue a repair.
	AUTO93F_SLO_1	The student will perform a transmission service as required by factory maintenance schedule.
	AUTO94A_SLO_1	After studying the theory of a 4-stroke cycle, internal combustion engine, the student will be able to explain in detail each of the four strokes, valve overlap, and blowdown. This will be done using a cut-away engine.
	AUTO94B_SLO_1	Student will set up and grind a valve face with the proper surface finish, while maintaining a margin thickness of no less than 1/16".
	AUTO94C_SLO_1	Student will set up and hone a cylinder to a specified size, with the proper surface finish depending on the type of piston rings being used.
	AUTO94D_SLO_1	Student will equalize the weight of the rotating ends and reciprocating ends of connecting rods within 1 gram of

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	AUTO94D_SLO_1	each other.
	AUTO94E_SLO_1	Student will prepare a written estimate for a vehicle repair including all pertinent customer information on the repair order.
	AUTO94F_SLO_1	Student will prepare a detailed checklist for an engine being assembled, including assembly of all subsystems.
	AUTO99A_SLO_1	The student will demonstrate the ability to perform a battery load test, a starter draw test, a charging system test and analyze the readings.
	AUTO99B_SLO_1	The student will demonstrate the ability to repair a copper strand wire, perform a parasitic draw test, and measure the resistance of various components.
	AUTO99C_SLO_1	The student will be able to demonstrate the ability to properly install a distributor into an engine, install spark plug wires in the proper firing order and set ignition timing to specifications.
	AUTO99D_SLO_1	The student will be able to examine a vehicle with a no-start condition, and using analytical skills learned in class, be able to deduce the malfunctioning component(s) within 15 minutes.
	AUTO99E_SLO_1	The student will be able to demonstrate how to properly retrieve DTC's from a Powertrain Control Module (PCM), retrieve Freeze Frame Data from a PCM, and retrieve Inspection/Maintenance (I/M) Readiness Status from a PCM.
	AUTO99F_SLO_1	The student will be able to perform a Smog Inspection (Acceleration Simulation Mode), a visual inspection and functional inspection per CA State guidelines.
Dept - (B/CS) Business	BUS10_SLO_1	Distinguish among the primary functions within a business, such as marketing, operations, human resources, accounting, and finance, and identify the interests and roles of key business stakeholders, such as employees, management, owners, and society.
	BUS10_SLO_2	Demonstrate a working vocabulary of business terms
	BUS18_SLO_1a	Demonstrate a basic knowledge of the legal system, legal terminology, and the fundamental principles of tort, constitutional, criminal, administrative, and contract law.
	BUS18_SLO_2a	Identify ethical issues in a business law context and apply basic legal concepts to evaluate factually simple contract issues.
	BUS21_SLO_5	Master the essential vocabulary of business ethics, corporate social responsibility, and business lobbying.
	BUS21_SLO_6	Discuss and evaluate the meaning of business ethics, the major sources of ethical values in business, business ethics in other cultures, and factors that influence managerial ethics.
	BUS21_SLO_7	Examine and assess the role of government in regulating business, the history of government regulation of business from the Industrial Revolution to the present, and the influence of business on the political process.
	BUS54_SLO_1	Demonstrate an understanding of the "Time Value of Money" concept in business.
	BUS54_SLO_2	Demonstrate a basic knowledge of the mathematics of pricing.
	BUS54_SLO_3	Calculate performance measures for investments such as stocks, bonds or mutual funds.
	BUS55_SLO_1	Examine the steps required, the support available, and the tactics commonly employed by entrepreneurs starting a business.
	BUS55_SLO_2	Critically evaluate business plans in terms of feasibility, investment potential, risk, and completeness.

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	BUS56_SLO_1	Apply human relations theories to varied workplace situations and discuss the likely results.
	BUS56_SLO_2	Describe the impact of employees' human relations skills, ethical choices, attitudes, diversity, physical and mental well-being, and the impact of an organization's social responsibility on the success of an organization.
	BUS57_SLO_1	Compare HR functions to formulate critical written and oral analysis of current global HR challenges.
	BUS57_SLO_2	Appraise the impact of HR as a strategic partner with corporate executive leadership to achieve competitive advantage in the marketplace.
	BUS57_SLO_3	Examine Human Resources (HR) practices and how they affect employee performance, motivation, and the firm.
	BUS58_SLO_1	Develop and conduct a feasibility study analysis for a business plan.
	BUS58_SLO_2	Write a business plan and deliver an effective presentation to potential investors.
	BUS59_SLO_4	Analyze relationship building with target customers and diverse partners and design a social media plan likely to produce favorable outcomes.
	BUS59_SLO_5	Examine a wide variety of cost-effective promotion tools.
	BUS60_SLO_1	Examine a country's economic, political, legal, social and cultural conditions and assess its business risks and opportunities.
	BUS60_SLO_2	Explain the roles of international trade, investment and the global monetary system.
	BUS60_SLO_3	Evaluate a global business scenario and determine the best courses of action.
	BUS65_SLO_1	Compare, contrast and demonstrate leadership behaviors.
	BUS65_SLO_2	Distinguish the roles, interaction and impact of the leader, the follower and the situation in the leadership model.
	BUS70_SLO_1	Analyze and evaluate e-commerce business models including B2C, B2B, P2P, and others.
	BUS70_SLO_2	Compare and contrast e-commerce marketing strategies and tactics.
	BUS70_SLO_3	Create a functional e-commerce website.
	BUS85_SLO_1	Describe and apply the principles of written and verbal business communications.
	BUS85_SLO_2	Develop and use a variety of communication strategies that are effective in different business situations.
	BUS85_SLO_3	Identify the most effective written and oral communication skills that fit personal communication style and situation.
	BUS87_SLO_1	Communicate to others not just the details, but the benefits of an idea, product or service.
	BUS87_SLO_2	Negotiate in a way that allows resolution of disagreements based on mutual interests, not win-lose positions.
	BUS87_SLO_3	Explain how business to business sales transactions are constructed and executed.
	BUS89_SLO_1	Relate contemporary advertising to the classic human communication model.
	BUS89_SLO_2	Distinguish advertising from other elements of integrated marketing communications (IMC) and explain its role in an organization's marketing strategy.
	BUS89_SLO_3	Identify the major social and economic aspects of advertising in the U.S. and contrast those with the role of advertising in other countries.

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	BUS90_SLO_1	Analyze the effectiveness of the marketing mix (product, price, promotion and distribution) for a particular organization.
	BUS90_SLO_2	Determine appropriate market segments and target markets and describe the major components of a fundamental model of consumer behavior.
	BUS90_SLO_3	Identify global forces external to the organization that affect marketing strategies.
	BUS91_SLO_1	Demonstrate a knowledge of opportunity costs and the time value of money.
	BUS91_SLO_2	Prepare, explain and analyze personal financial statements including the balance sheet and cash flow statement.
	BUS91_SLO_3	Analyze and evaluate various savings, investment, and insurance options.
	BUS96_SLO_1	Examine the functions of planning, organizing, leading, staffing and controlling.
	BUS96_SLO_2	Evaluate and anticipate the potential effectiveness of various management styles, communications and decisions for a given situation.
Dept - (B/CS) Computer Information Systems	CIS102_SLO_1	Demonstrate the ability to attack and defend a network.
	CIS104_SLO_1	Demonstrate data recovery and cybercrime forensics investigation techniques.
	CIS108_SLO_1	Determine the best plan of action to stop malware based on security breach scenarios.
	CIS14A_SLO_1	Design a graphical user interface in Visual Basic .NET implementing basic controls including text boxes, labels, list boxes, buttons, radio buttons, and checkboxes.
	CIS14A_SLO_2	Design the algorithm, write, document, debug and test the code for event procedures and sub procedures of a Visual Basic application incorporating elementary coding constructs.
	CIS14A_SLO_3	Read, analyze and explain introductory level Visual Basic code.
	CIS170F_SLO_1	Install and upgrade Windows Operating System, and manage disks and file systems.
	CIS170F_SLO_2	Configure Windows security features, networking and application support, and troubleshoot system.
	CIS18A_SLO_1	Use the Unix/Linux Operating System utilities and shell features for basic file manipulation, networking, and communication.
	CIS18B_SLO_1	Use the Unix/Linux Operating System utilities, shell features, and regular expressions for advanced text file manipulation.
	CIS18C_SLO_1	Create programs in the Bourne Again, Bourne, Korn, and C shells, that interact with the Unix/Linux operating system.
	CIS2_SLO_1	Analyze the effect of the Internet, computers, and cellular communications on individuals, culture, and society.
	CIS2_SLO_2	Analyze the effects of the Internet, computers, and cellular communications on institutions, including education, business, economics, and politics.
	CIS2_SLO_3	Judge the effect of the the Internet and computers on law and ethics.
	CIS21JA_SLO_1	Investigate architectural components and design of microprocessors as well as evaluate and formulate computer and numeric data representation.
	CIS21JA_SLO_2	Design, code, document, analyze, debug, and test introductory level assembly programs for the x86 family of

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	CIS21JA_SLO_2	processors.
	CIS21JB_SLO_1	Design, code, document, analyze, debug, and test advanced level assembly programs for the x86 family of processor, including linkage to high level languages and floating point processing.
	CIS22A_SLO_1	Design solutions for introductory level problems using appropriate design methodology incorporating elementary programming constructs.
	CIS22A_SLO_2	Create algorithms, code, document, debug, and test introductory level C++ programs.
	CIS22A_SLO_3	Read, analyze and explain introductory level C++ programs.
	CIS22B_SLO_1	Read, analyze and explain intermediate level C++ programs and their efficiency.
	CIS22B_SLO_2	Design solutions for intermediate level problems using appropriate design methodology incorporating intermediate programming constructs including structures and objects.
	CIS22B_SLO_3	Create algorithms, code, document, debug, and test intermediate level C++ programs.
	CIS22C_SLO_1	Read, analyze and explain advanced data structures programs.
	CIS22C_SLO_2	Design solutions for advanced problems using appropriate design methodology incorporating advanced data structures programming constructs.
	CIS22C_SLO_3	Create and analyze efficiency of advanced level data structures algorithms, code, document, debug, and test advanced data structures programs using multiple source and header files.
	CIS26B_SLO_1	Read, analyze and explain advanced C programs.
	CIS26B_SLO_2	Design solutions for advanced problems using appropriate design methodology incorporating advanced programming constructs.
	CIS26B_SLO_3	Create algorithms, code, document, debug, and test advanced level C programs using multiple source and header files.
	CIS27_SLO_1	Create object oriented programs using the C++ language.
	CIS28_SLO_1	Design and develop complex software solution from raw requirements using Object Oriented Analysis and Design techniques.
	CIS28_SLO_2	Synthesize major architectural patterns and frameworks and apply them to create software solutions.
	CIS29_SLO_1	Create C++ programs using standard classes, advanced operators, multiple inheritance, and exception handling.
	CIS29_SLO_2	Create and use libraries with the C++ language.
	CIS29_SLO_3	Create and use templates, including the Standard Template Library, in C++ programs.
	CIS3_SLO_1	Create a plan to improve a business using software and hardware.
	CIS3_SLO_2	Produce a word processing document utilizing columns, formatting, outline, and numbering.
	CIS3_SLO_3	Design a model for business decision making utilizing spreadsheet software and incorporating charts, formulas, and formatting.
	CIS3_SLO_4	Create a presentation utilizing presentation software incorporating graphics and text.
	CIS3_SLO_5	Apply database technology to a business problem.
	CIS31_SLO_1	Analyze the functionality of a modern operating system in terms of different management functions.
	CIS31_SLO_2	Describe the algorithm implementation of modern operating systems.

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	CIS33A_SLO_1	Design, code, document, analyze, debug, and test introductory level Perl programs that include Perl modules and use operating system features.
	CIS33B_SLO_1	Design, code, document, analyze, debug, and test advanced level Perl programs that include object oriented Perl modules and access to database, TCP/IP, and system processes
	CIS35A_SLO_1	Read, analyze and explain intermediate level Java programs.
	CIS35A_SLO_2	Design solutions for intermediate level problems using appropriate design methodology incorporating object-oriented intermediate programming constructs.
	CIS35A_SLO_3	Create algorithms, code, document, debug, and test intermediate level Java programs.
	CIS35B_SLO_1	Read, analyze and explain advanced Java programs.
	CIS35B_SLO_2	Design solutions for advanced problems using appropriate design methodology incorporating object oriented programming constructs and advanced Java concepts.
	CIS35B_SLO_3	Create algorithms, write, document, debug, and test advanced Java programs.
	CIS36A_SLO_1	Design solutions for introductory level problems using appropriate design methodology incorporating elementary programming constructs.
	CIS36A_SLO_2	Create algorithms, code, document, debug, and test introductory level Java programs.
	CIS36A_SLO_3	Read, analyze and explain introductory level Java programs.
	CIS36B_SLO_1	Read, analyze and explain intermediate level Java programs.
	CIS36B_SLO_2	Design solutions for intermediate level problems using appropriate design methodology incorporating intermediate programming constructs.
	CIS36B_SLO_3	Create algorithms, code, document, debug, and test intermediate level Java programs.
	CIS4_SLO_1	Manipulate data in a spreadsheet
	CIS4_SLO_2	Manage file and folder properties in the operating system.
	CIS4_SLO_3	Extract information from a database program.
	CIS40_SLO_1	Design, code, document, analyze, debug, and test introductory level Python programs
	CIS41A_SLO_1	Design, code, document, analyze, debug, and test introductory level Python programs that include Python modules.
	CIS41B_SLO_1	Design, code, document, analyze, debug, and test advanced level Python programs that include Python modules for database, networking, graphics, and extensions
	CIS53_SLO_1	Design web applications using object-oriented methodology and advanced Java concepts using Java Enterprise Edition.
	CIS53_SLO_2	Create algorithms, code, document, debug, and test distributed Java programs.
	CIS55_SLO_1	Design mobile applications using object-oriented methodology and advanced Objective C concepts using iOS Development Kit.
	CIS55_SLO_2	Create algorithms, code, document, debug, and test mobile applications.

Course/Service Owning Unit	Student Learning Outcome (SLO) Name	Student Learning Outcome (SLO)
	CIS56_SLO_1	Determine methods to protect network against security vulnerabilities.
	CIS64A_SLO_1	Prepare database design using database normalization theory and appropriate database schema representation techniques.
	CIS64A_SLO_2	Code, document, debug, and test introductory level SQL programs.
	CIS64B_SLO_1	Design solutions for introductory level problems using appropriate design methodology incorporating interpreted database constructs.
	CIS64B_SLO_2	Create algorithms, code, document, debug, and test introductory level SQL programs.
	CIS64E_SLO_1	Design, implement and debug a distributed system using technology like Web Services.
	CIS64F_SLO_1	Design, implement and debug a large scale database system using technology like Hadoop or Cassandra.
	CIS66_SLO_1	Describe the various components, protocols, architectures, and applications of current communication and networking technologies, which are used in LANs, WANs, and the Internet.
	CIS66_SLO_2	Define the basic properties of the TCP/IP, local area, wide area, and fiber optic networks.
	CIS67A_SLO_1	Define fundamental concepts of local area networks (LANs) architecture and protocols with emphasis on the first two layers, physical and data link layer, of the OSI model.
	CIS67A_SLO_2	Design a local-area network.
	CIS67B_SLO_1	Define fundamental concepts of TCP/IP protocol suite with emphasis on the network layer, transport layer, and application layer of the suite.
	CIS67B_SLO_2	Design a small wide-area network.
	CIS73_SLO_1	Design, code, document, analyze, debug, and test client/server application programs for network communications.
	CIS74_SLO_1	Write a formal Test Design Specification and associated Test Case Specification using IEEE templates.
	CIS74_SLO_2	Create bug reports using a defect-tracking tool.
	CIS74_SLO_3	Create, execute, and track test cases using a test case management (TCM) tool.
	CIS75A_SLO_1	Define fundamental concepts of TCP/IP architecture and protocols, with emphasis on the network layer, transport layer, and application layer of the suite.
	CIS75A_SLO_2	Describe the applications of TCP/IP to the Internet.
	CIS75B_SLO_1	Design and construct client and server applications using TCP/IP protocol suite and applying algorithms for enabling servers.
	CIS75B_SLO_2	Create algorithms, code, document, debug, and test client/server applications.
	CIS75D_SLO_1	Create and refine enterprise security policy and procedures.
	CIS75D_SLO_2	Create tools to track risks, document and mitigate them.
	CIS75E_SLO_1	Create and refine emergency response plan for responding and recovering from disasters.
	CIS79_SLO_1	Determine and fulfill the expectations of the client and complete the steps of a technology project.
	CIS79_SLO_2	Master the systematic approach to project design and management.

Course/Service Owning Unit	Student Learning Outcome (SLO) Name	Student Learning Outcome (SLO)
	CIS79_SLO_2	
	CIS80A_SLO_1	Create a process map for an organizational process.
	CIS80A_SLO_2	Optimize a mapped process to eliminate redundancies which in return can improve process efficiency.
	CIS89A_SLO_1	Create a web site using XHTML and CSS and publish to a web server.
	CIS89C_SLO_1	Write functions and scripts using JavaScript.
	CIS89C_SLO_2	Create web pages using Extensible Hypertext Markup Language (XHTML), Cascading Style Sheets (CSS), JavaScript, and the Document Object Model (DOM), and demonstrate how they interact together within a web document.
	CIS89D_SLO_1	Create rich internet application using features in tools like HTML5.
	CIS95A_SLO_1	Manage projects using five bodies of knowledge including initiation, planning, control, execution and closing.
	CIS95A_SLO_2	Manage project risks by identifying them and mitigating them.
	CIS95B_SLO_1	Create a detailed project plan complete with schedule, budget, risk mitigation plan, data and communication management plan for medium to large size projects.
	CIS95B_SLO_2	Create a detailed plan to control budget, scope, quality, schedule and team risks.
	CIS95C_SLO_1	Manage risks using tools and techniques learned in the course.
	CIS95C_SLO_2	Develop procedures and techniques to pro-actively reduce threats for project objectives.
	CIS95D_SLO_1	Create a RFP for a given set of requirements.
	CIS95D_SLO_2	Accept and analyze bids for an RFP.
	CIS95D_SLO_3	Manage the outsourced vendor inline to the contractual requirements.
	CIS95E_SLO_1	Complete a CAPM or PMP application.
	CIS95E_SLO_2	Prepare for CAPM and PMP exam by exploring Project Management Book of Knowledge (PMBOK).
	CIS95F_SLO_1	Create cloud strategy within a business context being mindful of governance issues and business processes.
	CIS95G_SLO_1	Illustrate usage of Agile Software practices in product delivery, tracking and monitoring projects.
	CIS95G_SLO_2	Demonstrate creation of project plans with Agile Development methodology while understanding business value and planning feature iterations.
	CIS97_SLO_1	Students will be able to develop, with accuracy, use of Flash animation by using filters, tools, vectors, bitmaps, digital video and graphics within software to achieve clients goals of dynamic, interactive website.
	CIS97_SLO_2	Students will be able to develop and program inverse Kinematics, build and program interactivity, program and use video, program and control sound.
	CIS97_SLO_3	Students will be able to program optimal playback and publishing settings for major platforms.
	CIS98_SLO_1	Demonstrate correct use of Photoshop tools to alter existing graphics for Internet, print applications, scientific research imaging, and medical imaging.
	CIS98_SLO_2	Convert Photoshop files into HTML documents for practical use as interactive web pages.
	CIS99_SLO_1	Demonstrate correct format for creating letters using a word processing software.
	CIS99_SLO_2	Create spreadsheets to solve business problems.
	CIS99_SLO_3	Use of database software to create, search, modify and retrieve information.

Course/Service Owning Unit	Student Learning Outcome (SLO) Name	Student Learning Outcome (SLO)
	CIS99_SLO_4	Create an effective text/graphics presentation using presentation software.
Dept - (B/CS) Design & Manufacturing Technologies	DMT52_SLO_1	The student will create an document package containing components modeled using CAD design tools in accordance with ASME standards and engineering drawings compliant with ASME Y14.5. CATALYST Course Management System is used to assign, receive & grade student assignments throughout the quarter.
	DMT53_SLO_1	Students who complete this course will be able to apply their knowledge of 3D Printing (AM) to analyze, compare, explain and utilize the various processes to prototyping and fabricate new mechanical designs and tools for industry.
	DMT60A_SLO_1	Create an entry-level Document Package which includes (as assigned) Solid Parts, Assemblies, and Basic Drawings for Parts and Assemblies, using SolidWorks.
	DMT61A_SLO_1	Create an entry-level Document Package which includes (as assigned) Solid Parts, Assemblies, and Basic Drawings for Parts and Assemblies, using SolidWorks.
	DMT62A_SLO_1	Create and edit/maintain large & complex SolidWorks Assemblies using Advanced 3D Solid Modeling techniques & methods.
	DMT63A_SLO_1	Create and edit/manipulate complex SolidWorks Surfacing design using Advanced 3D Surfacing Modeling techniques & methods.
	DMT65A_SLO_1	Create an entry-level Document Package which includes Solid Parts, Assemblies, and Basic Drawings for Parts and Assemblies, using Creo Parametric.
	DMT66A_SLO_1	Create an intermediate-level Document Package which includes (as assigned) Solid Parts, Assemblies, and Basic Drawings for Parts and Assemblies, using Creo Parametric.
	DMT73A_SLO_1	Create an entry-level Design Document Package which includes (as assigned) Solid Parts, Assemblies, and Basic Drawings for Parts and Assemblies, using AutoDesk Inventor.
	DMT75A_SLO_1	Create an entry-level Design Document Package which includes (as assigned) Solid Parts, Assemblies, and Basic Drawings for Parts and Assemblies, using Siemens NX.
	DMT80_SLO_3	Understand the fundamental procedure of the primary manufacturing equipment used in most local shops. Be able to operate equipment safely for the primary tools used in industry.
	DMT84C_SLO_1	Demonstrate the set up and operation of lathes, horizontal machining centers, and rotary axis.
	DMT84C_SLO_2	Create word-address programs to successfully construct projects using lathes, horizontal machining centers, and rotary axis.
	DMT87D_SLO_1	Produce tool paths from advanced surface geometry to create word address programs.
	DMT89A(B-E)_SLO_1	Produce tool paths from advanced surface geometry to create word address programs.
	DMT89A(B-E)_SLO_2	Produce tool paths from advanced part geometry to create word address programs for multi-axis machining centers.
	DMT90_SLO_1	Demonstrate the ability to interpret multi-view drawings and prints
	DMT90_SLO_2	emonstrate the ability to solve common calculations found in machine shop applications.
	DMT91_SLO_1	Demonstrate the ability to utilize common guages, measurement instruments, and calibration tools.
	DMT91_SLO_2	Demonstrate the applications of precision measurement instruments.
	DMT93_SLO_1	Demonstrate an understanding of quality assurance objectives, methods, and processes.
	DMT93_SLO_2	Demonstrate a working knowledge of calibration systems, inspection methodology, statistical process control

Course/Service Owning Unit	Student Learning Outcome (SLO) Name	Student Learning Outcome (SLO)
	DMT93_SLO_2	indices, and quality sampling techniques.
	DMT93_SLO_3	Explain quality improvement concepts and a working knowledge of continuous improvement programs.
	DMT95_SLO_3	Investigate and understand material property analysis to determine appropriate material selection and use in industry manufacturing processes.
	MCNC64_SLO_1	Conduct material property analysis to determine appropriate material selection and use.
	MCNC64_SLO_2	Analyze, compare, and explain manufacturing processes such as molding, forming, forging and casting.
	MCNC72_SLO_1	Apply geometric dimensioning and tolerancing standards to interpret drawings and inspect manufactured parts.
	MCNC72_SLO_2	Demonstrate basic operation of the coordinate measuring machine to inspect manufactured parts.
	MCNC75A_SLO_1	Demonstrate the set up and basic operation of vertical machining centers.
	MCNC75A_SLO_2	Create basic word-address programs to successfully construct projects using vertical machining centers.
	MCNC75B_SLO_1	Demonstrate the set up and advanced operation of vertical machining centers.
	MCNC75B_SLO_2	Create advanced word-address programs to successfully construct projects using vertical machining centers.
	MCNC76A_SLO_3	Construct basic part geometry using Mastercam.
	MCNC76A_SLO_4	Produce tool paths from basic part geometry to create word address programs.
	MCNC76C_SLO_2	Produce tool paths from advanced part geometry to create word address programs for multi-axis machining centers.
	MCNC76F_SLO_1	Construct advanced surface geometry using Mastercam.
	MCNC76F_SLO_2	Produce tool paths from advanced surface geometry to create word address programs.
	MCNC76L_SLO_1	Construct and import advanced part geometry using Mastercam.
	MCNC76L_SLO_2	Produce tool paths from advanced part geometry to create word address programs for lathes and multi-axis machining centers.
	MCNC77_SLO_1	Analyze, construct, and inspect assigned machined projects using advanced principles of machining.
	MCNC77_SLO_2	Demonstrate safe operation of specialized machining equipment to construct advanced assemblies.
Dept - (B/CS) Real Estate	REST50_SLO_1	Demonstrate a knowledge of how real property is described, acquired, appraised, financed, encumbered and leased; how title to real property is held in California, evaluate factually simple real estate contract issues from a buyer's, seller's and real estate agent's perspective and identify and evaluate ethical issues in a California real estate context.
	REST51_SLO_1	Explain and interpret real estate licensing laws in California and how they apply to the major areas of specialization in the real estate field and explain, interpret and evaluate the various types of California listing agreements and real estate sales agreements used in California and evaluate factually simple California real estate profession issues and explain how the Commissioner's Code of Ethics is applied to those issues.
	REST52A_SLO_1	Demonstrate a knowledge of the basic workings of the legal system in California and the United States as it applies to California real estate and demonstrate a knowledge of the various types of listing agreements, how title is held to real property, various tenancies in the rental of real property and the primary legal issues in appraising and financing real property in California and explain and evaluate the real estate licensing process and the administrative agencies that regulate the California real estate industry.
	REST53_SLO_1	Demonstrate a knowledge of how real estate is financed in California from a lending, regulatory and borrowers perspective and the real estate lending process from underwriting and qualifying through funding and loan retirement and demonstrate an understanding of the key players in California real estate finance.

Course/Service Owning Unit	Student Learning Outcome (SLO) Name	Student Learning Outcome (SLO)
	REST61_SLO_1	Identify, analyze and evaluate real estate investments to include residential, commercial, industrial properties and land development while considering taxation and financing issues in the acquisition, ownership and sale of real estate investments and construct cash flow models utilizing discounted cash flows for analysis of economic viability of investment property.