Course Statistics and Evidence S1

Lemoore - Math and Science

Date: 01-26-2021
Terms: Spring 2020
Campus: West Hills College Lemoore

Summary

Statistic	Number of Courses	Courses
Courses in the Department	48	BIO001A, BIO001B, BIO010, BIO015, BIO032, BIO035, BIO035L, BIO038, CHEM001A, CHEM001B, CHEM002A, ENGR010, ENGR015, ENGR020, ENGR025, ENGR031, ENGR035, ESCI002, GEOL001, GEOL003, MATH001A, MATH001B, MATH002A, MATH002B, MATH003A, MATH010A, MATH010B, MATH015, MATH025, MATH045, MATH052, MATH061, MATH063, MATH064, MATH065, MATH100, MATH110A, MATH115, MATH125, MATH145, NUT001, PHYSCI001, PHYSCI002, PHYSICS002A, PHYSICS002B, PHYSICS004A, PHYSICS004B, PHYSICS004C
Courses with CSLOs	37	BIO010, BIO015, BIO032, BIO035, BIO035L, BIO038, CHEM001A, CHEM001B, CHEM002A, ENGR015, ENGR020, ENGR025, ENGR035, ESCI002, GEOL003, MATH001A, MATH001B, MATH002A, MATH002B, MATH003A, MATH010A, MATH010B, MATH015, MATH025, MATH045, MATH061, MATH063, MATH064, MATH065, MATH100, NUT001, PHYSCI002, PHYSICS002A, PHYSICS002B, PHYSICS004A, PHYSICS004B, PHYSICS004C
Courses without CSLOs	11	BIO001A, BIO001B, ENGR010, ENGR031, GEOL001, MATH052, MATH110A, MATH115, MATH125, MATH145, PHYSCI001
Courses with CSLOs mapped to PSLOs	0	
Courses without CSLOs mapped to PSLOs	48	BIO001A, BIO001B, BIO010, BIO015, BIO032, BIO035, BIO035L, BIO038, CHEM001A, CHEM001B, CHEM002A, ENGR010, ENGR015, ENGR020, ENGR025, ENGR031, ENGR035, ESCI002, GEOL001, GEOL003, MATH001A, MATH001B, MATH002A, MATH002B, MATH003A, MATH010A, MATH010B, MATH015, MATH025, MATH045, MATH052, MATH061, MATH063, MATH064, MATH065, MATH100, MATH110A, MATH115, MATH125, MATH145, NUT001, PHYSCI001, PHYSCI002, PHYSICS002A, PHYSICS002B, PHYSICS004A, PHYSICS004B, PHYSICS004C
Courses with direct assessment of PSLOs	0	
Courses with CSLOs mapped to ISLOs	1	GEOL001
Courses without CSLOs mapped to ISLOs	47	BIO001A, BIO001B, BIO010, BIO015, BIO032, BIO035, BIO035L, BIO038, CHEM001A, CHEM001B, CHEM002A, ENGR010, ENGR015, ENGR020, ENGR025, ENGR031, ENGR035, ESCI002, GEOL003, MATH001A, MATH001B, MATH002A, MATH002B, MATH003A, MATH010A, MATH010B, MATH015, MATH025, MATH045, MATH052, MATH061, MATH063, MATH064, MATH065, MATH100, MATH110A, MATH115, MATH125, MATH145, NUT001, PHYSCI001, PHYSCI002, PHYSICS002A, PHYSICS002B, PHYSICS004A, PHYSICS004B, PHYSICS004C
Courses with direct assessment of ISLOs	0	

Statistic	Number of Courses	Courses
Courses with at least one planned Assessment	24	BIO010, BIO015, BIO032, BIO035, BIO038, CHEM001A, CHEM001B, ENGR015, ENGR025, ESCI002, GEOL001, GEOL003, MATH001A, MATH001B, MATH002B, MATH003A, MATH010B, MATH015, MATH025, MATH045, MATH065, NUT001, PHYSICS004A, PHYSICS004C
Courses with planned Assessments scored	10	BIO015, BIO032, BIO035, MATH001A, MATH001B, MATH002B, MATH003A, MATH010B, MATH015, MATH065
Courses with some Assessments scored	0	
Courses without any Assessment scored	14	GEOL001, BIO010, BIO038, CHEM001A, CHEM001B, ENGR015, ENGR025, ESCI002, GEOL003, MATH025, MATH045, NUT001, PHYSICS004A, PHYSICS004C
Courses with no planned Assessments	24	BIO001A, BIO001B, BIO035L, CHEM002A, ENGR010, ENGR020, ENGR031, ENGR035, MATH002A, MATH010A, MATH052, MATH061, MATH063, MATH064, MATH100, MATH110A, MATH115, MATH125, MATH145, PHYSCI001, PHYSCI002, PHYSICS002A, PHYSICS002B, PHYSICS004B

BIO001A - Cell and Molecular Biology

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

BIO001B - Organismal Biology

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

BIO010 - Fundamentals of Biology

SLOs

CSLOs	» BIO010 CSLO 1: Students will be able to identify the atomic structure's relationship to chemical bonds, molecular structure, the transfer of energy, and cellular processes. » BIO010 CSLO 2: Students will be able relate concepts of cellular division, transfer of genetic information, transmission of inherited characteristics, and how this contributes to the process of evolution. » BIO010 CSLO 3: Students will be able to differentiate between natural selection and population evolution as it relates to changes in the earth and its populations over time. » BIO010 CSLO 4: Students will be able to discuss the principle of complementarity as it realtes to living organisms. » BIO010 CSLO 5: Students will be able to identify and discuss the relationship between organic and inorganic factors in ecosystems and its influence on the types of life the biosphere can sustain.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Ethical Reasoning » Describes the ethical issues present in prominent problems in politics, economics, health care, technology or the arts and shows how ethical principles or frameworks help to inform decision making with respect to such problems. Quantitative Reasoning » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Communication Competency » Demonstrates effective interactive communication through discussion, i.e., by listening actively and responding constructively and through structured oral presentations to general and specialized audiences. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question. Personal, Academic, and Career Development » Assesses personal knowledge, skills, and abilities; sets personal, educational, and career goals; works independently and in group settings; and identifies lifestyle choices that promote self-reliance, financial literacy, and physical, mental and social health.

BIO015 - Biology for Education

SLOs

CSLOs	» BIO015 CSLO 1: Student will be able to apply the scientific method to test a hypothesis using the appropriate controls. » BIO015 CSLO 2: Student will be able to explain the function of cellular structures and macromolecules that make up a cell. » BIO015 CSLO 3: The student will be able to predict the genotypic and phenotypic outcome of a potential cross using the principles of genetics. » BIO015 CSLO 4: Evaluate the impact of human activity on the biotic and abiotic features of an ecosystem. » BIO015 CSLO 5: Student will be able to identify and apply Next Generation Science Standards to K-12 learning.
Mapped PSLOs	(None)

Mapped ISLOs	**ISLO** Ethical Reasoning » Describes the ethical issues present in prominent problems in politics, economics, health care, technology or the arts and shows how ethical principles or frameworks help to inform decision making with respect to such problems. Quantitative Reasoning » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question. Personal, Academic, and Career Development » Assesses personal knowledge, skills, and abilities; sets personal, educational, and career goals; works independently and in group settings; and identifies lifestyle choices that promote self-reliance, financial literacy, and physical, mental and social health.

Assessments

Spring 2020

BIO015 Default Assessment all CSLOs 0-4 Scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
BIO015 CSLO 1: Student will be able to apply the scientific method to test a hypothesis using the appropriate controls.	36 of 75	15	13	8	0.0
BIO015 CSLO 2: Student will be able to explain the function of cellular structures and macromolecules that make up a cell.	36 of 75	21	14	1	0.0
BIO015 CSLO 3: The student will be able to predict the genotypic and phenotypic outcome of a potential cross using the principles of genetics.	36 of 75	27	5	4	0.0
BIO015 CSLO 4: Classify the wide-range of organisms on earth and identify the mechanisms of evolution that have produced biodiversity.	36 of 75	17	8	11	0.0
BIO015 CSLO 5: Evaluate the impact of human activity on the biotic and abiotic features of an ecosystem.	36 of 75	12	22	2	0.0
BIO015 CSLO 6: Student will be able to relate the principles of structure and function to cells, organs, and organ systems.	36 of 75	21	12	3	0.0
BIO015 CSLO 7: Student will be able to identify and apply Next Generation Science Standards to K-12 learning.	36 of 75	28	2	6	0.0

BIO032 - Human Anatomy

SLOs

CSLOs	» BIO032 CSLO 1: The student will recognize and translate common anatomical terminology. » BIO032 CSLO 2: The student will recognize, identify, and reconstruct the major components of the musculoskeletal and integumentary systems. » BIO032 CSLO 3: The student will recognize, identify, and reconstruct the thoracic organ arrangement, organs of the respiratory system, the lymphatic system, and the cardiovascular system. » BIO032 CSLO 4: The student will recognize, identify, and reconstruct the structures and organization of the central and peripheral nervous systems including the special sense organs and the innervations of various body parts. » BIO032 CSLO 5: The student will recognize, identify, and reconstruct the abdominopelvic visceral organ arrangement including those parts of the digestive, genitourinary, and vascular systems lying outside the domain of the ventral body cavity.
Mapped PSLOs	**Biology (AS)** » Biology (AS) PSLO 1: Students will be able to recognize and explain the individual structures and hierarchical levels of structure of living organisms. **Kinesiology, A.A- T Degree** » PSLO 1: Students will be able to demonstrate knowledge of major muscle groups and joint movements as they pertain to common demonstrations of human performance.
Mapped ISLOs	**GESLO** Natural Sciences » Demonstrate understanding and appreciation of the methodologies and tools of science » Demonstrate understanding of the influence of scientific knowledge on the development of civilization » Demonstrate appreciation and understanding of basic concepts, not just skills **ISLO** Information Competency » Identifies and defines the nature and the extent of the information needed to accomplish a specific educational, professional, or personal objective and demonstrates the ability to locate, access, manage, evaluate, understand, and use information from diverse sources ethically and legally. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

BIO032 Default CSLO Assessment (0-4 Scale)

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
BIO032 CSLO 1: The student will recognize and translate common anatomical terminology.	85 of 125	28	50	7	0.0
BIO032 CSLO 2: The student will recognize, identify, and reconstruct the major components of the musculoskeletal and integumentary systems.	85 of 125	13	41	31	0.0

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
BIO032 CSLO 3: The student will recognize, identify, and reconstruct the thoracic organ arrangement, organs of the respiratory system, the lymphatic system, and the cardiovascular system.	85 of 125	40	42	3	0.0
BIO032 CSLO 4: The student will recognize, identify, and reconstruct the structures and organization of the central and peripheral nervous systems including the special sense organs and the innervations of various body parts.	85 of 125	37	43	5	0.0
BIO032 CSLO 5: The student will recognize, identify, and reconstruct the abdominopelvic visceral organ arrangement including those parts of the digestive, genitourinary, and vascular systems lying outside the domain of the ventral body cavity.	85 of 125	47	31	6	1.0

BIO035 - Human Physiology

SLOs

CSLOs	» BIO035 CSLO 1: Students will be able to recognize and explain cellular processes and their relationship to maintaining homeostasis. » BIO035 CSLO 2: Students will be able to outline and explain the neurological origins and mechanical characteristics of skeletal muscle function. » BIO035 CSLO 3: Students will be able to explain how the interplay between hematologic factors, blood vessel diameter changes, fluctuations in systemic blood pressure, and any disruption in the normal cardiac cycle can alter the homeostasis of the cardiovascular system. » BIO035 CSLO 4: Students will be able to explain aspects of pulmonary ventilation and the control of respiration as fundamental components of respiratory physiology. » BIO035 CSLO 5: Students will be able to explain how filtration and filtrate processing in the kidneys contribute to the regulation of urine output, hydration status, and acid-base homeostasis in the body. » BIO035 CSLO 6: Students will be able to explain how mechanical and chemical (i.e. enzymatic involvement) digestion work together to effectively manage the nutritional needs of the human body and regulate the body's metabolism. » BIO035 CSLO 7: Students will recognize and explain fast and slow control of homeostatic processes related to the nervous and endocrine systems.
Mapped PSLOs	**Biology (AS)** » Biology (AS) PSLO 2: Students will be able to relate the physiological functions of living organisms to homeostasis, at multiple levels of organismal complexity. **Kinesiology, A.A- T Degree** » PSLO 1: Students will be able to demonstrate knowledge of major muscle groups and joint movements as they pertain to common demonstrations of human performance. » PSLO 3: Students will be able to understand the connection between proper nutrition and improved athletic performance.

Mapped ISLOs	**GESLO** Natural Sciences » Demonstrate understanding of the influence of scientific knowledge on the development of civilization » Demonstrate appreciation and understanding of basic concepts, not just skills **ISLO** Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

BIO035 Default Assessment all CSLOs 0-4 Scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
BIO035 CSLO 1: Students will be able to recognize and explain cellular processes and their relationship to maintaining homeostasis.	82 of 159	34	40	8	0.0
BIO035 CSLO 2: Students will be able to outline and explain the neurological origins and mechanical characteristics of skeletal muscle function.	82 of 159	49	33	0	0.0
BIO035 CSLO 3: Students will be able to explain how the interplay between hematologic factors, blood vessel diameter changes, fluctuations in systemic blood pressure, and any disruption in the normal cardiac cycle can alter the homeostasis of the cardiovascular system.	82 of 159	50	32	0	0.0
BIO035 CSLO 4: Students will be able to explain aspects of pulmonary ventilation and the control of respiration as fundamental components of respiratory physiology.	82 of 159	45	36	1	0.0
BIO035 CSLO 5: Students will be able to explain how filtration and filtrate processing in the kidneys contribute to the regulation of urine output, hydration status, and acid-base homeostasis in the body.	82 of 159	44	38	0	0.0
BIO035 CSLO 6: Students will be able to explain how mechanical and chemical (i.e. enzymatic involvement) digestion work together to effectively manage the nutritional needs of the human body and regulate the body's metabolism.	82 of 159	48	32	2	0.0

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
BIO035 CSLO 7: Students will recognize and explain fast and slow control of homeostatic processes related to the nervous and endocrine systems.	82 of 159	38	41	3	0.0

BIO035L - Human Physiology Lab

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

BIO038 - Microbiology

SLOs

CSLOs	» BIO038 CSLO 1: Recall specific historical events and developments, and relate the importance of microbes in society. » BIO038 CSLO 2: Describe and differentiate between prokaryotic and eukaryotic cells, and viruses. » BIO038 CSLO 3: Describe important metabolic pathways and their significance, and how they function within a cell. » BIO038 CSLO 4: Explain the fundamentals of microbial genetics, including human uses and manipulations. » BIO038 CSLO 5: Explain the principles of disease and epidemiology, and mechanisms of pathogenicity. » BIO038 CSLO 6: Describe the principles of microbial growth, and the control of that growth. » BIO038 CSLO 7: Describe the human immune response to infection. » BIO038 CSLO 8: Demonstrate competency in laboratory skills, including microscopy, slide preparation and staining, enumeration, biochemical determination of bacteria, and identification of unknown bacteria.
Mapped PSLOs	**Biology (AS)** » Biology (AS) PSLO 3: Students will be able to explain and apply basic chemistry principles as they relate to inorganic and organic molecules in biological systems. » Biology (AS) PSLO 2: Students will be able to relate the physiological functions of living organisms to homeostasis, at multiple levels of organismal complexity. » Biology (AS) PSLO 4: Students will be able to manipulate advanced mathematical concepts and equations that can relate to biological systems and/or research. » Biology (AS) PSLO 1: Students will be able to recognize and explain the individual structures and hierarchical levels of structure of living organisms.

Mapped ISLOs	**GESLO** Natural Sciences » Demonstrate understanding and appreciation of the methodologies and tools of science » Demonstrate understanding of the influence of scientific knowledge on the development of civilization » Demonstrate appreciation and understanding of basic concepts, not just skills **ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

BIO038 Default Assessment all CSLOs 0-4 Scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
BIO038 CSLO 1: Recall specific historical events and developments, and relate the importance of microbes in society.	0 of 59	0	0	0	0.0
BIO038 CSLO 2: Describe and differentiate between prokaryotic and eukaryotic cells, and viruses.	0 of 59	0	0	0	0.0
BIO038 CSLO 3: Describe important metabolic pathways and their significance, and how they function within a cell.	0 of 59	0	0	0	0.0
BIO038 CSLO 4: Explain the fundamentals of microbial genetics, including human uses and manipulations.	0 of 59	0	0	0	0.0
BIO038 CSLO 5: Explain the principles of disease and epidemiology, and mechanisms of pathogenicity.	0 of 59	0	0	0	0.0
BIO038 CSLO 6: Describe the principles of microbial growth, and the control of that growth.	0 of 59	0	0	0	0.0
BIO038 CSLO 7: Describe the human immune response to infection.	0 of 59	0	0	0	0.0
BIO038 CSLO 8: Demonstrate competency in laboratory skills, including microscopy, slide preparation and staining, enumeration, biochemical determination of bacteria, and identification of unknown bacteria.	0 of 59	0	0	0	0.0

CHEM001A - General Chemistry I

SLOs

CSLOs	» CHEM001A CSLO 1: Students will demonstrate proficiency for dimensional analysis problem solving. » CHEM001A CSLO 2: Students will show proficiency writing balanced chemical equations. » CHEM001A CSLO 3: Students will demonstrate proficiency using the combined and/or ideal gas laws. » CHEM001A CSLO 4: Students will perform calculations using concentrations units. » CHEM001A CSLO 5: Students will interpret graphs and/or analyze data.
Mapped PSLOs	**Biology (AS)** » Biology (AS) PSLO 3: Students will be able to explain and apply basic chemistry principles as they relate to inorganic and organic molecules in biological systems. » Biology (AS) PSLO 4: Students will be able to manipulate advanced mathematical concepts and equations that can relate to biological systems and/or research.
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

CHEM001A Default Assessment All CSLO 0-4 Scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
CHEM001A CSLO 1: Students will demonstrate proficiency for dimensional analysis problem solving.	0 of 10	0	0	0	0.0
CHEM001A CSLO 2: Students will demonstrate proficiency writing balanced chemical equations.	0 of 10	0	0	0	0.0
CHEM001A CSLO 3: Students will demonstrate proficiency using the combined and/or ideal gas laws.	0 of 10	0	0	0	0.0
CHEM001A CSLO 4: Perform calculations using concentrations units.	0 of 10	0	0	0	0.0
CHEM001A CSLO 5: Interpret graphs and/or analyze data.	0 of 10	0	0	0	0.0

CHEM001B - General Chemistry II

SLOs

CSLOs	» CHEM001B CSLO 1: Students will develop advanced concepts of solids, liquids, and solutions. » CHEM001B CSLO 2: Students will complete calculations relating to chemical kinetics and acid-base equilibria. » CHEM001B CSLO 3: Students will complete calculations using electrochemical principles, thermodynamic theory and solubility equilibria. » CHEM001B CSLO 4: Students will develop problem solving skills and strategies by understanding qualitative analysis methodology applied in a lab setting by identification of unknown ions.
Mapped PSLOs	**Biology (AS)** » Biology (AS) PSLO 3: Students will be able to explain and apply basic chemistry principles as they relate to inorganic and organic molecules in biological systems. » Biology (AS) PSLO 4: Students will be able to manipulate advanced mathematical concepts and equations that can relate to biological systems and/or research.
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. » Creates and explains graphs or other visual depictions of trends, relationships or changes in status.

Assessments

Spring 2020

CHEM01B Course Ending Assessment

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
CHEM001B CSLO 1: Development of advanced concepts of solids, liquids, and solutions.	0 of 8	0	0	0	0.0
CHEM001B CSLO 2: Complete calculations relating to chemical kinetics and acid-base equilibria.	0 of 8	0	0	0	0.0
CHEM001B CSLO 3: Complete calculations using electrochemical principles, thermodynamic theory and solubility equilibria.	0 of 8	0	0	0	0.0
CHEM001B CSLO 4: To develop problem solving skills and strategies by understanding qualitative analysis methodology applied in a lab setting by identification of unknown ions.	0 of 8	0	0	0	0.0

CHEM002A - Introductory Chemistry

SLOs

CSLOs	» CHEM002A CSLO 1: Development of dimensional analysis problem solving, physical properties of elements and atomic theory. » CHEM002A CSLO 2: Demonstrate the ability to write formulas, name compounds, write and balance chemical equations, work with quantum theory and chemical bonding. » CHEM002A CSLO 3: Use mathematical principles to solve gas law problems, mole and stoichiometry problems, and molecular geometry concepts.
Mapped PSLOs	**Agriculture Business AS-T** » PSLO 2: Students will be able to utilize mathematical and statistical tools available. **Biology (AS)** » Biology (AS) PSLO 3: Students will be able to explain and apply basic chemistry principles as they relate to inorganic and organic molecules in biological systems. » Biology (AS) PSLO 4: Students will be able to manipulate advanced mathematical concepts and equations that can relate to biological systems and/or research.
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

ENGR010 - Introduction to Engineering

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

ENGR015 - Engineering Computations

SLOs

CSLOs	» ENGR015 CSLO 1: Students will be able to summarize the evolution of programming languages, and identify the key application components of a programming language such as the source code and compiler. » ENGR015 CSLO 2: Students will be able to write computer programs with basic computation and simple I/O, using sequential, selection, and repition structures. » ENGR015 CSLO 3: Students will be able to write programs with functions, and advanced features specific to the programming language used, such as pointers for C/C++. » ENGR015 CSLO 4: Students will be able to use pseudicode and flowchart to develope computer algorithms, and use a program language to implement the algorithms to solve simple problems. » ENGR015 CSLO 5: Students will be able to demonstrate the skills to write, debug, compile, and run computer programs using a programming language.
Mapped PSLOs	(None)

Mapped ISLOs	**ISLO** Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

ENGR015 Default Assessment all CSLOs

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
ENGR015 CSLO 1: Students will be able to summarize the evolution of programming languages, and identify the key application components of a programming language such as the source code and compiler.	0 of 8	0	0	0	0.0
ENGR015 CSLO 2: Students will be able to write computer programs with basic computation and simple I/O, using sequential, selection, and repition structures.	0 of 8	0	0	0	0.0
ENGR015 CSLO 3: Students will be able to write programs with functions, and advanced features specific to the programming language used, such as pointers for C/C++.	0 of 8	0	0	0	0.0
ENGR015 CSLO 4: Students will be able to use pseudicode and flowchart to develope computer algorithms, and use a program language to implement the algorithms to solve simple problems.	0 of 8	0	0	0	0.0
ENGR015 CSLO 5: Students will be able to demonstrate the skills to write, debug, compile, and run computer programs using a programming language.	0 of 8	0	0	0	0.0

ENGR020 - Engineering Graphics

SLOs

CSLOs	» ENGR020 CSLO 1: Students will be able to apply rules of orthographic projection to create multiview drawings from 3D objects, and create 3D drawings from multiview drawings. » ENGR020 CSLO 2: Students will be able to create section views and auxiliary views of an object following correct conventions, and determine line visibility and true length. » ENGR020 CSLO 3: Students will be able to apply basic geometric dimensioning and tolerancing practices to create a complete engineering drawing. » ENGR020 CSLO 4: Students will be able to follow engineering design process, and use plane and solid geometric forms to create and communicate designs. » ENGR020 CSLO 5: Students will be able to use CAD software to create 2D technical engineering drawings including working drawings and assembly drawings, and 3D models and assemblies.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Information Competency » Identifies and defines the nature and the extent of the information needed to accomplish a specific educational, professional, or personal objective and demonstrates the ability to locate, access, manage, evaluate, understand, and use information from diverse sources ethically and legally. Quantitative Reasoning » Creates and explains graphs or other visual depictions of trends, relationships or changes in status.

ENGR025 - Electrical Circuits

SLOs

CSLOs	» ENGR025 CSLO 1: Students will be able to summarize the development of electrical engineering and its applications, identify common electronic components, and draw circuit diagrams. » ENGR025 CSLO 2: Students will be able to perform DC circuit analysis to find voltage, current, resistance, power and energy used in the circuit, applying circuits laws, superposition, and equivalent circuits. » ENGR025 CSLO 3: Students will be able to perform AC circuit analysis using phasors to determine the complex voltage, current, and power in the circuit. » ENGR025 CSLO 4: Students will be able to determine the natural and step responses of RL, RC, RLC circuits powered by a DC source. » ENGR025 CSLO 5: Students will be able to perform circuit analysis involving basic semiconductor devices, such as diodes, transistors, and operational amplifiers.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Information Competency » Identifies and defines the nature and the extent of the information needed to accomplish a specific educational, professional, or personal objective and demonstrates the ability to locate, access, manage, evaluate, understand, and use information from diverse sources ethically and legally. Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

ENGR025 Default Assessment all CSLOs 0-4 Scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
ENGR025 CSLO 1: Students will be able to summarize the development of electrical engineering and its applications, identify common electronic components, and draw circuit diagrams.	0 of 7	0	0	0	0.0
ENGR025 CSLO 2: Students will be able to perform DC circuit analysis to find voltage, current, resistance, power and energy used in the circuit, applying circuits laws, superposition, and equivalent circuits.	0 of 7	0	0	0	0.0
ENGR025 CSLO 3: Students will be able to perform AC circuit analysis using phasors to determine the complex voltage, current, and power in the circuit.	0 of 7	0	0	0	0.0
ENGR025 CSLO 4: Students will be able to determine the natural and step responses of RL, RC, RLC circuits powered by a DC source.	0 of 7	0	0	0	0.0
ENGR025 CSLO 5: Students will be able to perform circuit analysis involving basic semiconductor devices, such as diodes, transistors, and operational amplifiers.	0 of 7	0	0	0	0.0

ENGR031 - Engineering Materials

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

ENGR035 - Vector Statics

SLOs

CSLOs	» ENGR035 CSLO 1: Students will be able to employ organized and methodical techniques for formulation and solution of engineering problems, and effectively communicate legible problem solutions. » ENGR035 CSLO 2: Students will be able to perform vector analysis, and determine the equilibrium condition of a particle. » ENGR035 CSLO 3: Students will be able to perform analysis of rigid body structures under external concentrated and distributed loads, and determine friction and reaction forces at supports. » ENGR035 CSLO 4: Students will be able to determine internal forces in structural members, and draw shear and moment diagrams for beams. » ENGR035 CSLO 5: Students will be able to determine the centroid, center of mass, center of gravity, area moment of inertia and mass moment of inertia of objects with different geometry.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

ESCI002 - Introduction to Earth Science

SLOs

CSLOs	» ESCI002 CSLO 1: Student will be able to identify and analyze common rocks and minerals that make up the earth's surface and explain the importance of various rocks and minerals to humans. » ESCI002 CSLO 2: Student will be able to describe the hydrologic cycle and explain the major processes involved in the movement of water. » ESCI002 CSLO 3: Student will be able to describe the major types of tectonic plates and explain their interactions. » ESCI002 CSLO 4: Student will be able to identify the major planets and their motion relative to the sun. » ESCI002 CSLO 5: Student will be able to explain the causes of seasonal changes.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Information Competency » Identifies and defines the nature and the extent of the information needed to accomplish a specific educational, professional, or personal objective and demonstrates the ability to locate, access, manage, evaluate, understand, and use information from diverse sources ethically and legally. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

ESCI002 Default CSLO Assessment (0-4 Scale)

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
ESCI002 CSLO 1: Student will be able to identify and analyze common rocks and minerals that make up the earth's surface and explain the importance of various rocks and minerals to humans.	0 of 61	0	0	0	0.0
ESCI002 CSLO 2: Student will be able to describe the hydrologic cycle and explain the major processes involved in the movement of water.	0 of 61	0	0	0	0.0
ESCI002 CSLO 3: Student will be able to describe the major types of tectonic plates and explain their interactions.	0 of 61	0	0	0	0.0
ESCI002 CSLO 4: Student will be able to identify the major planets and their motion relative to the sun.	0 of 61	0	0	0	0.0
ESCI002 CSLO 5: Student will be able to explain the causes of seasonal changes.	0 of 61	0	0	0	0.0

GEOL001 - Physical Geology

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

Assessments

Spring 2020

GEOL001 Default CSLO Assessment (0-4 Scale)

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
GEOL001 CSLO 1: Define and demonstrate an understanding of terms and concepts that are the focus of physical geology including (but not limited to) earth interior, landforms, geomorphology, plate tectonics, weathering, erosion, rocks and minerals, earthquakes, sedimentation, glaciation, and volcanism.	0 of 92	0	0	0	0.0
GEOL001 CSLO 2: Interpret, analyze, and evaluate (using a systems approach) the variety of earth's landforms and the processes that created them.	0 of 92	0	0	0	0.0

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
GEOL001 CSLO 3: Describe and analyze rocks and minerals through the various instruments and methods used for the collection and analysis of data.	0 of 92	0	0	0	0.0
GEOL001 CSLO 4: Construct computer models of landform development based on quantifiable information as well as visual clues.	0 of 92	0	0	0	0.0
GEOL001 CSLO 5: Demonstrate an understanding of the formation of economic mineral deposits and the problems associated with their extraction.	0 of 92	0	0	0	0.0

GEOL003 - Historical Geology with Lab

SLOs

CSLOs	» GEOL003 CSLO 1: Students will be able to express an understanding of terms and concepts that focus on physical geology including, but not limited to, earth interior, landforms, geomorphology, plate tectonics, weathering, erosion, rocks and minerals, earthquakes, sedimentation, glaciation, and volcanism. » GEOL003 CSLO 2: Students will be able to interpret, analyze, and using a systems approach, evaluate the variety of earth's historical landforms and the processes that created them, demonstrating an understanding of the major geological events and time periods related to them. » GEOL003 CSLO 3: Students will be able to describe and analyze rocks and minerals through the various instruments and methods used for the collection and analysis of data, and explain the historical process of rock and landform development. » GEOL003 CSLO 4: Students will be able to construct computer models of historical landform development based on quantifiable information as well as visual cues. » GEOL003 CSLO 5: Students will be able to explain the formation of economic mineral deposits and the problems associated with their extraction.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Information Competency » Identifies and defines the nature and the extent of the information needed to accomplish a specific educational, professional, or personal objective and demonstrates the ability to locate, access, manage, evaluate, understand, and use information from diverse sources ethically and legally. Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

GEOL003 Default CSLO Assessment (0-4 Scale)

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
GEOL003 CSLO 1: Students will be able to express an understanding of terms and concepts that focus on physical geology including, but not limited to, earth interior, landforms, geomorphology, plate tectonics, weathering, erosion, rocks and minerals, earthquakes, sedimentation, glaciation, and volcanism.	0 of 56	0	0	0	0.0
GEOL003 CSLO 2: Students will be able to interpret, analyze, and using a systems approach, evaluate the variety of earth's historical landforms and the processes that created them, demonstrating an understanding of the major geological events and time periods related to them.	0 of 56	0	0	0	0.0
GEOL003 CSLO 3: Students will be able to describe and analyze rocks and minerals through the various instruments and methods used for the collection and analysis of data, and explain the historical process of rock and landform development.	0 of 56	0	0	0	0.0
GEOL003 CSLO 4: Students will be able to construct computer models of historical landform development based on quantifiable information as well as visual cues.	0 of 56	0	0	0	0.0
GEOL003 CSLO 5: Students will be able to explain the formation of economic mineral deposits and the problems associated with their extraction.	0 of 56	0	0	0	0.0

MATH001A - Introduction to Calculus

SLOs

CSLOs	» MATH001A CSLO 2: Students will use first and second derivatives to graph and analyze functions. » MATH001A CSLO 3: Students will evaluate indefinite integrals, definite integrals, calculate areas between curves. » MATH001A CSLO 1: Students will apply the appropriate rules of differentiation to calculate first and second derivatives, find equations of tangent lines, and solve related rates applications.

Mapped PSLOs	**Biology (AS)** » Biology (AS) PSLO 4: Students will be able to manipulate advanced mathematical concepts and equations that can relate to biological systems and/or research. **Mathematics, A.S- T Degree** » PSLO 4: Students will be able to use and or apply mathematical solutions to better understand the world around them. » PSLO 3: Students will be able to solve an equation or a system of linear equations. » PSLO 1: Students will be able to produce, analyze and manipulate graphs of a function. » PSLO 2: Students will be able to correctly choose and apply a theorem or procedure to produce a result.
Mapped ISLOs	**ISLO** Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

Test/Quiz

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH001A CSLO 1: Students will apply the appropriate rules of differentiation to calculate first and second derivatives, find equations of tangent lines, and solve related rates applications.	23 of 23	8	15	0	0.0
MATH001A CSLO 2: Students will use first and second derivatives to graph and analyze functions.	23 of 23	6	16	1	0.0
MATH001A CSLO 3: Students will evaluate indefinite integrals, definite integrals, calculate areas between curves.	23 of 23	3	19	1	0.0

MATH001B - Calculus With Applications

SLOs

CSLOs	» MATH001B CSLO 1: Students will apply integration to areas, volumes, arc length, and work. » MATH001B CSLO 2: Students will evaluate definite and indefinite integrals using techniques that include u-substitution, trigonometric substitution, and integration by parts. » MATH001B CSLO 3: Students will apply the appropriate technique to determine if an infinite series converges or diverges.

Mapped PSLOs	**Biology (AS)** » Biology (AS) PSLO 4: Students will be able to manipulate advanced mathematical concepts and equations that can relate to biological systems and/or research. **Mathematics, A.S- T Degree** » PSLO 4: Students will be able to use and or apply mathematical solutions to better understand the world around them. » PSLO 3: Students will be able to solve an equation or a system of linear equations. » PSLO 2: Students will be able to correctly choose and apply a theorem or procedure to produce a result.
Mapped ISLOs	**GESLO** Natural Sciences » Demonstrate understanding and appreciation of the methodologies and tools of science » Demonstrate understanding of the influence of scientific knowledge on the development of civilization » Demonstrate appreciation and understanding of basic concepts, not just skills » Demonstrate specific inquiry into mathematical concepts, quantitative reasoning and application **ISLO** Communication Competency » Develops and presents cogent, coherent and substantially error-free writing for communication to general and specialized audiences. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

Math 001B Default Assessment all CSLOs 0-4 scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH001B CSLO 1: Students will apply integration to areas, volumes, arc length, and work.	6 of 17	4	2	0	0.0
MATH001B CSLO 2: Students will evaluate definite and indefinite integrals using techniques that include u-substitution, trigonometric substitution, and integration by parts.	6 of 17	6	0	0	0.0
MATH001B CSLO 3: Students will apply the appropriate technique to determine if an infinite series converges or diverges.	6 of 17	6	0	0	0.0

MATH002A - Multivariate Calculus

SLOs

CSLOs	» MATH002A CSLO 1: Students will compute vector dot and cross products, find equations of lines and planes, and identify quadratic surfaces. » MATH002A CSLO 2: Students will apply chain rule to a function of several variables, compute gradients and directional derivatives, find equations of tangent planes to surfaces, and use partial derivatives and Lagrange multipliers to find relative extrema. » MATH002A CSLO 3: Students will set up and evaluate double integrals in rectangular and polar coordinates, and set-up and evaluate triple integrals in rectangular, cylindrical, and spherical coordinates. » MATH002A CSLO 4: Students will evaluate line integrals of scalar-valued functions, evaluate line integrals of vector-valued functions, apply line integrals to work and flow, and apply the Fundamental Theorem of Line Integrals.
Mapped PSLOs	**Mathematics, A.S- T Degree** » PSLO 4: Students will be able to use and or apply mathematical solutions to better understand the world around them. » PSLO 3: Students will be able to solve an equation or a system of linear equations. » PSLO 1: Students will be able to produce, analyze and manipulate graphs of a function. » PSLO 2: Students will be able to correctly choose and apply a theorem or procedure to produce a result.
Mapped ISLOs	**ISLO** Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

MATH002B - Differential Equations

SLOs

CSLOs	» MATH002B CSLO 1: Students will identify categories (separable, linear, homogeneous, and exact) of first order differential equations, solve first order differential equations, and create and analyze mathematical models that involve first order differential equations. » MATH002B CSLO 2: Students will solve second order homogeneous differential equations using the characteristic equation, and solve nonhomogeneous differential equations using undetermined coefficients and variation of parameters. » MATH002B CSLO 3: Students will solve and analyze linear systems of equations using eigenvalues and eigenvectors. Students will solve differential equations using power series methods. » MATH002B CSLO 4: Students will use the Laplace transform and inverse Laplace transform to solve initial value problems.
Mapped PSLOs	**Mathematics, A.S- T Degree** » PSLO 4: Students will be able to use and or apply mathematical solutions to better understand the world around them. » PSLO 3: Students will be able to solve an equation or a system of linear equations. » PSLO 2: Students will be able to correctly choose and apply a theorem or procedure to produce a result.
Mapped ISLOs	**ISLO** Communication Competency » Develops and presents cogent, coherent and substantially error-free writing for communication to general and specialized audiences. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

Math 002B Default Assessment all CSLOs 0-4 scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH002B CSLO 1: Students will identify categories (separable, linear, homogeneous, and exact) of first order differential equations, solve first order differential equations, and create and analyze mathematical models that involve first order differential equations.	11 of 11	11	0	0	0.0
MATH002B CSLO 2: Students will solve second order homogeneous differential equations using the characteristic equation, and solve nonhomogeneous differential equations using undetermined coefficients and variation of parameters.	11 of 11	8	2	1	0.0
MATH002B CSLO 3: Students will solve and analyze linear systems of equations using eigenvalues and eigenvectors. Students will solve differential equations using power series methods.	11 of 11	8	3	0	0.0
MATH002B CSLO 4: Students will use the Laplace transform and inverse Laplace transform to solve initial value problems.	11 of 11	8	1	2	0.0

MATH003A - Linear Algebra I

SLOs

CSLOs	» MATH003A CSLO 1: Students should be able to solve a system of equations by Gaussian elimination of the corresponding augmented matrix, determine whether a linear system is consistent or inconsistent, and determine the matrix of a linear transformation. » MATH003A CSLO 2: Students should be able to compute the transpose, inverse, and determinant of a matrix and use these in applications. » MATH003A CSLO 3: Students should be able to determine whether a subset of a vector space is a subspace, find the dimension and a basis for a given vector space, find the rank and nullity of a linear transformation, and construct bases for the row space, column space and null space of a matrix. » MATH003A CSLO 4: Students should be able to construct orthogonal and orthonormal bases using Gram-Schmidt, find the eigenvalues and eigenvectors of a matrix, and determine whether a matrix is diagonalizable and diagonalize those that are.

Mapped PSLOs	**Mathematics, A.S- T Degree** » PSLO 4: Students will be able to use and or apply mathematical solutions to better understand the world around them. » PSLO 3: Students will be able to solve an equation or a system of linear equations. » PSLO 1: Students will be able to produce, analyze and manipulate graphs of a function. » PSLO 2: Students will be able to correctly choose and apply a theorem or procedure to produce a result.
Mapped ISLOs	**ISLO** Communication Competency » Develops and presents cogent, coherent and substantially error-free writing for communication to general and specialized audiences. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

Math 003A Default Assessment all CSLOs 0-4 scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH003A CSLO 1: Students should be able to solve a system of equations by Gaussian elimination of the corresponding augmented matrix, determine whether a linear system is consistent or inconsistent, and determine the matrix of a linear transformation.	11 of 11	6	5	0	0.0
MATH003A CSLO 2: Students should be able to compute the transpose, inverse, and determinant of a matrix and use these in applications.	11 of 11	9	1	1	0.0
MATH003A CSLO 3: Students should be able to determine whether a subset of a vector space is a subspace, find the dimension and a basis for a given vector space, find the rank and nullity of a linear transformation, and construct bases for the row space, column space and null space of a matrix.	11 of 11	10	1	0	0.0
MATH003A CSLO 4: Students should be able to construct orthogonal and orthonormal bases using Gram-Schmidt, find the eigenvalues and eigenvectors of a matrix, and determine whether a matrix is diagonalizable and diagonalize those that are.	11 of 11	5	4	1	1.0

MATH010A - Structure & Concepts in Mathematics I

SLOs

CSLOs	» MATH010A CSLO 1: Students will explain how to teach elementary school students to simplify an expression involving addition, subtraction, multiplication, and division of integers, fractions, and decimals. » MATH010A CSLO 2: Students will sketch the graph of a Venn diagram and use it to solve operations on sets involving intersection, union, and the Cartesian product. » MATH010A CSLO 3: Students will determine divisibility by applying divisibility rules and finding the GCD and LCM of two or three whole numbers. » MATH010A CSLO 4: Students will explain how to solve application problems involving percents.
Mapped PSLOs	(None)
Mapped ISLOs	**GESLO** Natural Sciences » Demonstrate understanding and appreciation of the methodologies and tools of science » Demonstrate understanding of the influence of scientific knowledge on the development of civilization » Demonstrate appreciation and understanding of basic concepts, not just skills » Demonstrate specific inquiry into mathematical concepts, quantitative reasoning and application **ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Communication Competency » Develops and presents cogent, coherent and substantially error-free writing for communication to general and specialized audiences.

MATH010B - Structure & Concepts in Mathematics II

SLOs

CSLOs	» MATH010B CSLO 1: Students will construct tree diagrams for multistage experiments, and determine related probabilities that may require fundamental counting principles. » MATH010B CSLO 2: Students will show various techniques for designing experiments and collecting data. Measures of central tendency and variation will be successfully demonstrated, while recognizing common abuses in statistics. » MATH010B CSLO 3: Students will demonstrate an understanding of basic notation and definitions in Euclidean Geometry, specifically in the areas of lines, curves, angles, polygons, and symmetries. » MATH010B CSLO 4: Students will identify triangle congruence and similarity theorems, and provide evidence they can be applied to other figures. Students will show understanding of Euclidean constructions with a compass and straightedge. » MATH010B CSLO 5: Students will perform translations, rotations, reflections, glide reflections, and dilations of various geometric figures and describe these moves functionally within a Cartesian system. Students will identify which shapes can tessellate the plane and what properties are needed to do so.
Mapped PSLOs	(None)

Mapped ISLOs	**ISLO** Information Competency » Identifies and defines the nature and the extent of the information needed to accomplish a specific educational, professional, or personal objective and demonstrates the ability to locate, access, manage, evaluate, understand, and use information from diverse sources ethically and legally. Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Communication Competency » Develops and presents cogent, coherent and substantially error-free writing for communication to general and specialized audiences. » Negotiates with peers an action plan for a practical task and communicates the results of the negotiation either orally or in writing. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

MATH010B Default Assessment all CSLOs 0-4 scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH010B CSLO 1: Students will construct tree diagrams for multistage experiments, determine related probabilities, and odds involving example data and simulations at times requiring permutation and combinations for elements of counting.	51 of 51	20	22	9	0.0
MATH010B CSLO 2: Students will show various techniques for designing experiments and collecting data. Measures of central tendency and variation will be successfully demonstrated, and a multiply number methods for displaying data will be expressed, requiring students to recognize abuses in statistics.	51 of 51	30	13	8	0.0
MATH010B CSLO 3: Students will prove understanding of basic notation and definitions in Euclidean Geometry, specifically in the areas of lines, curves, angles, polygons, and various symmetries.	51 of 51	34	16	1	0.0

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH010B CSLO 4: Students will identify all triangle congruence and similarity theorems, and provide evidence they can apply them to other figures. Students will show proof of understanding Euclidean constructions with compass-and-straightedge.	51 of 51	15	32	4	0.0
MATH010B CSLO 5: Students will perform translations, rotations, reflections, glide reflections, dilations of various geometric figures. Students will use functionally represented changes in the Cartesian coordinate systems to solve application problems. Students will determine which shapes can tessellate the plane and what properties are needed to do so, generally.	51 of 51	30	20	1	0.0

MATH015 - Precalculus

SLOs

CSLOs	» MATH015 CSLO 1: Given a rational or polynomial function, the student will find the domain, intercepts, asymptotes, determine the end behavior, and graph it. The student will compose two or more functions. » MATH015 CSLO 2: Given a logarithmic or exponential equation, or application involving logarithmic or exponential functions, the student will correctly apply the appropriate properties of logarithms and exponents to solve it. » MATH015 CSLO 3: Given a trigonometric equation, the student will correctly apply the properties of trigonometric functions to arrive at the correct solution.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Communication Competency » Develops and presents cogent, coherent and substantially error-free writing for communication to general and specialized audiences. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

Math 0015 Default Assessment all CSLOs 0-4 scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH015 CSLO 1: Given a rational or polynomial function, the student will find the domain, intercepts, asymptotes, determine the end behavior, and graph it. The student will compose two or more functions.	11 of 32	5	6	0	0.0
MATH015 CSLO 2: Given a logarithmic or exponential equation, or application involving logarithmic or exponential functions, the student will correctly apply the appropriate properties of logarithms and exponents to solve it.	11 of 32	4	7	0	0.0
MATH015 CSLO 3: Given a trigonometric equation, the student will correctly apply the properties of trigonometric functions to arrive at the correct solution.	11 of 32	4	7	0	0.0

MATH025 - Introduction to Statistics

SLOs

CSLOs	» MATH025 CSLO 1: Given a data set, the student will calculate and interpret the sample mean, median, mode, standard deviation, and variance. » MATH025 CSLO 3: Given a confidence level, students will be able to construct a confidence interval for the population proportion, mean, variance, and standard deviation and determine the sample size required. » MATH025 CSLO 2: Given a binomial, poisson or normal probability distribution, or application involving such a distribution, the student will be able to determine the probabilities associated with given outcomes. » MATH025 CSLO 4: Given a claim, the student will use the methods of hypothesis testing to determine its validity.
Mapped PSLOs	**Psychology, A.A. Degree** » PSLO 1: Students will be able to identify various research methods used to study behavior and mental process. **Agriculture Business AS-T** » PSLO 2: Students will be able to utilize mathematical and statistical tools available. **Kinesiology, A.A- T Degree** » PSLO 3: Students will be able to understand the connection between proper nutrition and improved athletic performance. **Mathematics, A.S- T Degree** » PSLO 4: Students will be able to use and or apply mathematical solutions to better understand the world around them. » PSLO 3: Students will be able to solve an equation or a system of linear equations. » PSLO 2: Students will be able to correctly choose and apply a theorem or procedure to produce a result.

Mapped ISLOs	**ISLO** Information Competency » Identifies and defines the nature and the extent of the information needed to accomplish a specific educational, professional, or personal objective and demonstrates the ability to locate, access, manage, evaluate, understand, and use information from diverse sources ethically and legally. Quantitative Reasoning » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

MATH025 Default Assessment all CSLOs 0-4 scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH025 CSLO 1: Given a data set, the student will calculate and interpret the sample mean, median, mode, standard deviation, and variance.	0 of 283	0	0	0	0.0
MATH025 CSLO 2: Given a binomial, poisson or normal probability distribution, or application involving such a distribution, the student will be able to determine the probabilities associated with given outcomes.	0 of 283	0	0	0	0.0
MATH025 CSLO 3: Given a confidence level, students will be able to construct a confidence interval for the population proportion, mean, variance, and standard deviation and determine the sample size required.	0 of 283	0	0	0	0.0
MATH025 CSLO 4: Given a claim, the student will use the methods of hypothesis testing to determine its validity.	0 of 283	0	0	0	0.0

MATH045 - Contemporary Math

SLOs

CSLOs	» MATH045 CSLO 1: Students will evaluate a voting system according to one of the voting methods presented. » MATH045 CSLO 2: Students will determine when a "fair division" has occurred, by applying a fair-division protocol or a method of apportionment. » MATH045 CSLO 3: Students will demonstrate an understanding of graph concepts and terminology through an illustration of a "traveling-salesman problem" using one of the methods for finding Hamilton Circuits presented. » MATH045 CLSO 4: Students will be able to design, identify, and interpret a growth/symmetry sequence (e.g. Fibonacci, golden-ratio, arithmetic, geometric, or logistic); and demonstrate a clear understanding of the related recursive and explicit definitions (where they are relevant). » MATH045 CSLO 5: Students will be able to distinguish statistically sound data collection methods, and compute examples from items of descriptive statistics.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Ethical Reasoning » Describes the ethical issues present in prominent problems in politics, economics, health care, technology or the arts and shows how ethical principles or frameworks help to inform decision making with respect to such problems. Information Competency » Identifies and defines the nature and the extent of the information needed to accomplish a specific educational, professional, or personal objective and demonstrates the ability to locate, access, manage, evaluate, understand, and use information from diverse sources ethically and legally. Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

MATH045 Course Ending Assessment

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH045 CLSO 4: Students will be able to design, identify, and interpret a growth/symmetry sequence (e.g. Fibonacci, golden-ratio, arithmetic, geometric, or logistic); and demonstrate a clear understanding of the related recursive and explicit definitions (where they are relevant).	0 of 42	0	0	0	0.0
MATH045 CSLO 1: Students will evaluate a voting system according to one of the voting methods presented.	0 of 42	0	0	0	0.0

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH045 CSLO 2: Students will be capable of determining when a "fair division" has occurred, by applying a fair-division protocol or a method of apportionment.	0 of 42	0	0	0	0.0
MATH045 CSLO 3: Students will demonstrate an understanding of graph concepts and terminology through an illustration of a "traveling-salesman problem" using one of the methods for finding Hamilton Circuits presented.	0 of 42	0	0	0	0.0
MATH045 CSLO 5: Students will be able to distinguish statistically sound data collection methods, and compute examples from items of descriptive statistics.	0 of 42	0	0	0	0.0

MATH052 - Statistical Literacy

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

MATH061 - Elementary Algebra

SLOs

CSLOs	» MATH061 CSLO 1: Students will simplify expressions using order of operations and solve linear equations. » MATH061 CSLO 2: Students will graph linear equations, find slopes, determine equations for lines, and solve linear systems of equations. » MATH061 CSLO 3: Students will simplify exponents, add, subtract, multiply and divide polynomials. » MATH061 CSLO 4: Students will factor polynomials and solve quadratic equations by factoring.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

MATH063 - Intermediate Algebra

SLOs

CSLOs	» MATH063 CSLO 1: Students will simplify rational expressions and solve rational equations. » MATH063 CSLO 2: Students will simplify radical expressions, use rational exponents, rationalize denominators, and solve radical equations. » MATH063 CSLO 3: Students will solve quadratic equations using the quadratic formula, and graph quadratic equations. » MATH063 CSLO 4: Students will add, subtract, multiply and compose functions.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

MATH064 - Elementary and Intermediate Algebra

SLOs

CSLOs	» MATH064 CSLO 1: Students will be able to solve polynomial, radical, and rational equations. » MATH064 CSLO 2: Students will be able to simplify radical, rational, and exponential expressions. » MATH064 CSLO 3: Students will be able to graph linear and quadratic equations and solve inequalities.
Mapped PSLOs	(None)
Mapped ISLOs	(None)

MATH065 - Algebra for STEM

SLOs

CSLOs	» MATH065 CSLO 1: Students will solve polynomial, radical, and rational equations. » MATH065 CSLO 2: Students will analyze and simplify radical, rational, and exponential expressions. » MATH065 CSLO 3: Students will graph linear and quadratic equations and solve inequalities.
Mapped PSLOs	(None)
Mapped ISLOs	(None)

Assessments

Spring 2020

Math 65 Course Ending Assessment

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH065 CSLO 1: Students should be able to solve polynomial, radical, and rational equations.	27 of 57	6	21	0	0.0
MATH065 CSLO 2: Students should be able to simplify radical, rational, and exponential expressions.	27 of 57	6	21	0	0.0

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
MATH065 CSLO 3: Students should be able to graph linear and quadratic equations and solve inequalities.	27 of 57	7	20	0	0.0

MATH100 - Pre-Algebra

SLOs

CSLOs	» MATH100 CSLO 1: Given a problem involving integers, fractions, decimals, or whole number exponents, students will use the order of operations to evaluate the expression without the use of a calculator. » MATH100 CSLO 2: Students will simplify algebraic expressions and solve simple linear equations, including real word problems that can be modeled by a simple linear equation. » MATH100 CSLO 3: Given two fractions, students will compute their sum, difference, product, or quotient. Given a real-life situation involving fractions, students will use an appropriate operation or operations to answer the question posed.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

MATH110A - Support Course for Structure and Concepts in Mathematics I

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

MATH115 - Support Course for Precalculus

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

MATH125 - Support Course for Introduction to Statistics

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

MATH145 - Support for Contemporary Math

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

NUT001 - Basic Nutrition

SLOs

CSLOs	» NUT001 CSLO 1: The student will exhibit knowledge of the six basic nutrient groups--carbohydrates, lipids, proteins, vitamins, minerals, water--identify dietary sources of them, and understand disease processes associated with deficiencies or excesses of the nutrient. » NUT001 CSLO 4: The student will be able to explain the role of nutrition and physical activity on chronic disease prevention. » NUT001 CSLO 3: Students will be able to identify the structures of the human digestive system, describe their function and the process of digestion, absorption of the end products of digestion, and elimination of the end products of digestion.
Mapped PSLOs	(None)

Mapped ISLOs	**ISLO** Ability to Engage Diverse Perspectives » Students will be able to describe how knowledge from different cultural perspectives might affect interpretations of prominent problems in politics, society, the arts and global relations. Ethical Reasoning » Describes the ethical issues present in prominent problems in politics, economics, health care, technology or the arts and shows how ethical principles or frameworks help to inform decision making with respect to such problems. Information Competency » Identifies and defines the nature and the extent of the information needed to accomplish a specific educational, professional, or personal objective and demonstrates the ability to locate, access, manage, evaluate, understand, and use information from diverse sources ethically and legally. Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Communication Competency » Develops and presents cogent, coherent and substantially error-free writing for communication to general and specialized audiences. » Demonstrates effective interactive communication through discussion, i.e., by listening actively and responding constructively and through structured oral presentations to general and specialized audiences. » Negotiates with peers an action plan for a practical task and communicates the results of the negotiation either orally or in writing. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question. Personal, Academic, and Career Development » Assesses personal knowledge, skills, and abilities; sets personal, educational, and career goals; works independently and in group settings; and identifies lifestyle choices that promote self-reliance, financial literacy, and physical, mental and social health.

Assessments

Spring 2020

NUT001 Default Assessment all CSLOs 0-4 scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
NUT001 CSLO 1: The student will exhibit knowledge of the six basic nutrient groups--carbohydrates, lipids, proteins, vitamins, minerals, water--identify dietary sources of them, and understand disease processes associated with deficiencies or excesses of the nutrient.	0 of 154	0	0	0	0.0

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
NUT001 CSLO 2: Students will use the Dietary Guidelines for Americans, the DRI, Food Guide Pyramid, Exchange List, and interpretation of food labels to evaluate and plan healthy meals and diet.	0 of 154	0	0	0	0.0
NUT001 CSLO 3: Students will be able to identify the structures of the human digestive system, describe their function and the process of digestion, absorption of the end products of digestion, and elimination of the end products of digestion.	0 of 154	0	0	0	0.0
NUT001 CSLO 4: The student will be able to explain the role of nutrition and physical activity on chronic disease prevention.	0 of 154	0	0	0	0.0
NUT001 CSLO 5: The student will explain the importance and nature of good nutritional practices during the various phases of life.	0 of 154	0	0	0	0.0
NUT001 CSLO 6: The student will demonstrate knowledge of food sources and food preparation techniques.	0 of 154	0	0	0	0.0

PHYSCI001 - Survey of the Physical Sciences

SLOs

CSLOs	(None)
Mapped PSLOs	(None)
Mapped ISLOs	(None)

PHYSCI002 - Chemistry and Physics for Educators

SLOs

CSLOs	» PHYSCI002 CSLO 1: Student will employ dimensional analysis to convert units. » PHYSCI002 CSLO 2: Student will explain and complete problems involving force, motion, energy and waves. » PHYSCI002 CSLO 3: Student will identify and explain the function for each of the six types of machines. » PHYSCI002 CSLO 4: Student will employ chemical formula writing and nomenclature. » PHYSCI002 CSLO 5: Student will be able to use the periodic table to identify trends in chemical and physical properties.
Mapped PSLOs	(None)

Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. » Creates and explains graphs or other visual depictions of trends, relationships or changes in status. Communication Competency » Develops and presents cogent, coherent and substantially error-free writing for communication to general and specialized audiences. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

PHYSICS002A - Mechanics and Thermodynamics

SLOs

CSLOs	» PHYSICS002A CSLO 1: Students will be able to identify physical properties and their units, and convert between British and SI unit systems. » PHYSICS002A CSLO 2: Students will be able to perform vector analysis of projectile motion, draw free-body diagrams, and apply Newtonian Mechanics on linear motion of point mass, rotational motion, and equilibrium of rigid body. » PHYSICS002A CSLO 3: Students will be able to solve problems involving work and energy, momentum and center of mass, and apply conservation laws of energy and momentum. » PHYSICS002A CSLO 4: Students will be able to identify different thermodynamic processes and apply ideal gas laws and first and second laws of thermodynamics to solve problems involving heat transfer and heat engines. » PHYSICS002A CSLO 5: Students will be able to acquire, analyze and present real-world experimental data with appropriate use of units, significant figures, tables and figures, and relate the results of experimental data to the physical concepts tested.
Mapped PSLOs	**Biology (AS)** » Biology (AS) PSLO 5: Students will be able to explain and apply basic physics concepts that can relate to biological systems and/or research. » Biology (AS) PSLO 4: Students will be able to manipulate advanced mathematical concepts and equations that can relate to biological systems and/or research. **Kinesiology, A.A- T Degree** » PSLO 2: Students will be able to demonstrate the proper technique for performing exercises essential to improving general fitness levels.
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

PHYSICS002B - Electricity, Magnetism, Optics, and Modern Physics

SLOs

CSLOs	» PHYSICS002B CSLO 1: Students will be able to determine the force, the electric field, and the electric potential due to simple static charge distributions, and predict the movement of a charged particle in uniform electric and magnetic fields. » PHYSICS002B CSLO 2: Students will be able to analyze a DC circuit involving resistors and capacitors in series and parallel configurations powered by an emf device. » PHYSICS002B CSLO 3: Students will be able to determine images formed from plane and spherical mirrors as well as convex and concave lenses, calculate image properties such as image distance and magnification factor, and analyze interference and diffraction of light using wave theories. » PHYSICS002B CSLO 4: Students will be able to identify different subatomic particles, formulate the nuclear reactions, calculate energy released from nuclear reactions, and apply theory of relativity. » PHYSICS002B CSLO 5: Students will be able to acquire, analyze and present real-world experimental data with appropriate use of units, significant figures, tables and figures, and relate the results of experimental data to the physical concepts tested.
Mapped PSLOs	**Biology (AS)** » Biology (AS) PSLO 5: Students will be able to explain and apply basic physics concepts that can relate to biological systems and/or research. » Biology (AS) PSLO 4: Students will be able to manipulate advanced mathematical concepts and equations that can relate to biological systems and/or research.
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings.

PHYSICS004A - Classical Mechanics

SLOs

CSLOs	» PHYSICS004A CSLO 1: Students will be able to identify physical properties and their units, and convert between British and SI unit systems. » PHYSICS004A CSLO 2: Students will be able to use vector analysis and calculus to determine displacement, velocity, and acceleration of a point mass under constant forces, draw free-body diagrams, and apply Newtonian Mechanics on rotational motion and equilibrium of rigid body. » PHYSICS004A CSLO 3: Students will be able to solve problems involving work and energy, momentum and center of mass, and apply conservation laws of energy and momentum. » PHYSICS004A CSLO 4: Students will be able to solve problems involving elastic deformation of solids, the pressure and bouyance force developed in fluids, and simple harmonic motion. » PHYSICS004A CSLO 5: Students will be able to acquire, analyze and present real-world experimental data with appropriate use of units, significant figures, tables and figures, and relate the results of experimental data to the physical concepts tested.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

PHYSICS004A Default Assessment all CSLOs 0-4 Scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
PHYSICS004A CSLO 1: Students will be able to identify physical properties and their units, and convert between British and SI unit systems.	0 of 15	0	0	0	0.0
PHYSICS004A CSLO 2: Students will be able to use vector analysis and calculus to determine displacement, velocity, and acceleration of a point mass under constant forces, draw free-body diagrams, and apply Newtonian Mechanics on rotational motion and equilibrium of rigid body.	0 of 15	0	0	0	0.0
PHYSICS004A CSLO 3: Students will be able to solve problems involving work and energy, momentum and center of mass, and apply conservation laws of energy and momentum.	0 of 15	0	0	0	0.0
PHYSICS004A CSLO 4: Students will be able to solve problems involving elastic deformation of solids, the pressure and bouyance force developed in fluids, and simple harmonic motion.	0 of 15	0	0	0	0.0
PHYSICS004A CSLO 5: Students will be able to acquire, analyze and present real-world experimental data with appropriate use of units, significant figures, tables and figures, and relate the results of experimental data to the physical concepts tested.	0 of 15	0	0	0	0.0

PHYSICS004B - Electricity, Magnetism, and Waves

SLOs

CSLOs	» PHYSICS004B CSLO 1: Students will be able to determine the force, the electric field, and the electric potential due to simple static charge distributions, and predict the movement of a charged particle in uniform electric field. » PHYSICS004B CSLO 2: Students will be able to perform DC and AC circuit analysis involving capacitors, inductors and resistors in series and parallel configurations attached to an emf device. » PHYSICS004B CSLO 3: Students will be able to determine the magnetic field induced by current in a wire including solenoids and toroids, and determine the force on a moving electric charge and a wire with current in uniform magnetic field. » PHYSICS004B CSLO 4: Students will be able to identify various electromagnetic waves, calculate properties of waves, and determine the relationship between wavelengths and frequencies of standing waves in varying elastic media. » PHYSICS004B CSLO 5: Students will be able to acquire, analyze and present real-world experimental data with appropriate use of units, significant figures, tables and figures, and relate the results of experimental data to the physical concepts tested.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

PHYSICS004C - Thermodynamics, Optics and Modern Physics

SLOs

CSLOs	» PHYSICS004C CSLO 1: Students will be able to identify different thermodynamic processes and apply ideal gas laws and first and second laws of thermodynamics to solve problems involving heat transfer and heat engines. » PHYSICS004C CSLO 2: Students will be able to determine images formed from plane and spherical mirrors as well as convex and concave lenses, calculate image properties such as image distance and magnification factor, and analyze interference and diffraction of light using wave theories. » PHYSICS004C CSLO 3: Students will be able to apply theory of special relativity to physical situations involving time dilation, lenth contraction, Lorentz transformation, and relativistic momentum and energy. » PHYSICS004C CSLO 4: Students will be able to apply quantum mechanics to explain atomic structure, identify different subatomic particles, formulate nuclear reactions, and calculate energy released from nuclear reactions. » PHYSICS004C CSLO 5: Students will be able to acquire, analyze and present real-world experimental data with appropriate use of units, significant figures, tables and figures, and relate the results of experimental data to the physical concepts tested.
Mapped PSLOs	(None)
Mapped ISLOs	**ISLO** Quantitative Reasoning » Presents accurate interpretations of quantitative information on political, economic, health-related or technological topics and explains how both calculations and symbolic operations are used in those offerings. Analytical Inquiry » Identifies and frames a problem or question in selected areas of study and distinguishes among elements of ideas, concepts, theories or practical approaches to the problem or question.

Assessments

Spring 2020

PHYSICS004C Default Assessment all CSLOs 0-4 Scale

SLO	Scored	Exceeds expectations	Meets expectations	Does not meet expectations	N/A
PHYSICS004C CSLO 1: Students will be able to identify different thermodynamic processes and apply ideal gas laws and first and second laws of thermodynamics to solve problems involving heat transfer and heat engines.	0 of 7	0	0	0	0.0
PHYSICS004C CSLO 2: Students will be able to determine images formed from plane and spherical mirrors as well as convex and concave lenses, calculate image properties such as image distance and magnification factor, and analyze interference and diffraction of light using wave theories.	0 of 7	0	0	0	0.0
PHYSICS004C CSLO 3: Students will be able to apply theory of special relativity to physical situations involving time dilation, lenth contraction, Lorentz transformation, and relativistic momentum and energy.	0 of 7	0	0	0	0.0
PHYSICS004C CSLO 4: Students will be able to apply quantum mechanics to explain atomic structure, identify different subatomic particles, formulate nuclear reactions, and calculate energy released from nuclear reactions.	0 of 7	0	0	0	0.0
PHYSICS004C CSLO 5: Students will be able to acquire, analyze and present real-world experimental data with appropriate use of units, significant figures, tables and figures, and relate the results of experimental data to the physical concepts tested.	0 of 7	0	0	0	0.0