ERC General Education Requirements and Diversity, Equity, and Inclusion (DEI)

Fall 2021 GE and DEI Sheet

FINE ARTS

MUS 1A. Fundamentals of Music A (4)
Primarily intended for students without previous musical experience. It introduces music notation and basic music theory topics such as intervals, scales, keys, and chords, as well as basic rhythm skills. ***Prerequisites:*** *none.*

MUS 2A. Basic Musicianship (4)
Primarily intended for music majors. Development of basic skills: perception and notation of pitch and temporal relationships. Introduction to functional harmony. Studies in melodic writing. Drills in sight singing, rhythmic reading, and dictation. ***Prerequisites:*** *passing score on proficiency exam. Must be taken in sequence. Music majors must be concurrently enrolled in Music 2AK (Basic Keyboard)*

MUS 4. Introduction to Western Music (4)
A brief survey of the history of Western Music from the Middle Ages to the present. Much attention will be paid to the direct experience of listening to music and attendance of concerts. Class consists of lectures, listening labs, and live performances**.** ***Prerequisites:*** *none.*

MUS 5. Sound in Time (4)
An examination and exploration of the art and science of music making. Topics include acoustics, improvisation, composition, and electronic and popular forms. There will be required listening, reading, and creative assignments. No previous musical background required. ***Prerequisites:*** *none.*

MUS 6. Electronic Music (4)
Lectures and listening sessions devoted to the most significant works of music realized through the use of computers and other electronic devices from the middle of this century through the present. ***Prerequisites:*** *none.*

MUS 7. Music, Media, and Technology (4)
Exploration of the interactions among music, science, and technology, including the history and current development of science and technology from the perspective of music. ***Prerequisites:*** *none.*

MUS 8. American Music: Jazz Cultures (4)
Jazz is one of the primary foundations for American music in the twentieth and twenty-first centuries. This course highlights the multicultural and international scope of jazz by taking a thematic rather than a chronological approach to the subject, and by highlighting the music and lives of a diverse array of jazz practitioners from around the country and around the world. Students may not receive credit for both MUS 8 and MUS 8GS. ***Prerequisites:*** none. ***Course can overlap with Diversity, Equity, and Inclusion (DEI) University requirement.**

MUS 9. Symphony (4)
The symphonic masterworks course will consist of lectures and listening sessions devoted to a detailed discussion of a small number of recognized masterworks (e.g., Mozart, Beethoven, Berlioz, Stravinsky, Ligeti, etc.). ***Prerequisites:*** *none.*

MUS 12. Opera (4)
A study of opera masterworks that often coincide with operas presented in the San Diego Opera season. Class consists of lectures, listening labs, live performances, and opera on video. ***Prerequisites:*** *none.*

MUS 15. Popular Music (4)
A course on popular music from different time periods, covered through lectures, films, and listening sessions. Topics vary from year to year. May be repeated once for credit. ***Prerequisites:*** *none.*

FINE ARTS

MUS 19 Blacktronika: Afrofuturism/Electronic Music (4)
Explores the lineage of electronic music's Black pioneers, who have been integral but overlooked in the discussion around the creation and development of house, techno, drum and bass, and experimental music. These musics were developed with sociopolitical movements at the foundation of the sounds. We will investigate the African diaspora lens through the artists' usage of science fiction, technology, and futurist ideologies. ***Prerequisites:*** *none.* ***Course can overlap with Diversity, Equity, and Inclusion (DEI) University requirement.**

TDAC 1. Introduction to Acting (4)
A beginning course in the fundamentals of acting: establishing a working vocabulary and acquiring the basic skills of the acting process. Through exercises, compositions, and improvisations, the student actor explores the imagination as the actor's primary resource, and the basic approach to text through action. ***Prerequisites:*** *none.*

TDDE 1. Introduction to Design for the Theatre (4)
A survey of contemporary and historical concepts and practices in the visual arts of the theatre; studies in text analysis, studio processes and technical production; elementary work in design criticism, scale model making, and costume design. A course serving as an introduction to theatre design and production. ***Prerequisites:*** *none.*

TDDM 1. Introduction to Dance Making (4)
Explores the concepts and processes of dance making through creative projects, discussions, and the examination of major dance works. Recommended preparation: No prior dance experience required. Open to all levels. ***Prerequisites:*** *none.*

TDGE 1. Introduction to Theatre (4)
An introduction to fundamental concepts in drama and performance. Students will attend performances and learn about how the theatre functions as an art and as an industry in today's world. ***Prerequisites:*** *none.*

TDGE 10. Theatre and Film (4)
Theatre and Film analyzes the essential differences between theatrical and cinematic approaches to drama. Through selected play/film combinations, the course looks at how the director uses actors and the visual languages of the stage and screen to guide and stimulate the audience's responses. ***Prerequisites:*** *none.*

TDGE 11. Great Performances on Film (4)
Course examines major accomplishments in screen acting from the work of actors in films or in film genres. May be taken for credit three times. ***Prerequisites:*** *none.*

TDGE 25. Public Speaking (4)
This course is designed to establish a clear understanding of the fundamentals of effective oral communication. The methodologies explore the integration of relaxation, concentration, organization, and clear voice and diction as applied to various public speaking modes. ***Prerequisites:*** *none.*

TDHT 10. Introduction to Play Analysis (4)
An introduction to the fundamental techniques of analyzing dramatic texts. Focus is on the student's ability to describe textual elements and their relationships to each other as well as on strategies for writing critically about drama. ***Prerequisites:*** *none.*

TDHT 21. Ancient and Medieval Theatre (4)
This course explores the roots of contemporary theater in the world performance traditions of ancient history with a focus on humans' gravitation toward ritual and play. Examples come from Egypt, Greece, Rome, Mesoamerica, Japan, China, India, Indonesia, Persia, and England. ***Prerequisite:*** *none*

FINE ARTS

TDPW 1. Introduction to Playwriting (4)
Beginning workshop in the fundamentals of playwriting. Students discuss material from a workbook which elucidates the basic principles of playwriting, do exercises designed to help them put those principles into creative practice, and are guided through the various stages of the playwriting process which culminates with in-class readings of the short plays they have completed. *Prerequisite: none*

TDTR 10. Introduction to Dance (4)
An overview of dance, examining its social and cultural history and its evolution as an art form. Focus is on dance and its many genres as an expressive medium and form of communication. *Prerequisite: none*

VIS 1. Introduction to Art-Making: Two-Dimensional Practices (4)
An introduction to the concepts and techniques of art making with specific reference to the artists and issues of the twentieth century. Lectures and studio classes will examine the nature of images in relation to various themes. Drawing, painting, found objects, and texts will be employed. This course is offered only one time each year. *Prerequisites: none.*

VIS 20. Introduction to Art History (4)
This course examines history of Western art and architecture through such defining issues as the respective roles of tradition and innovation in the production and appreciation of art; the relation of art to its broader intellectual and historical contexts; and the changing concepts of the monument, the artist, meaning, style, and "art" itself. Representative examples will be selected from different periods, ranging from Antiquity to Modern. Content will vary with the instructor. *Prerequisite: none*

VIS 30. Introduction to Speculative Design (4)
Speculative design uses design methods to question and investigate material culture with critical creative purpose. This course provides a historical, theoretical, and methodological introduction to speculative design as a distinct program. Emphasis is tracing the integration of interdisciplinary intellectual and technical problems toward creative, unexpected propositions and prototypes. *Prerequisites: none.*

VIS 41. Design Communication (4)
This course provides a strong foundation in contemporary techniques of design communication, including: digital image editing, typography, vector-based illustration and diagramming, document layout, as well as basic digital video editing tools, and web-production formats. Emphasis is on mastery of craft through iteration and presentation of multiple projects. Students may not receive credit for VIS 140 or ICAM 101 and VIS 41. *Prerequisites: none.*

VIS 60. Introduction to Digital Photography (4)
An in-depth exploration of the camera, combining darkroom techniques in black and white, and color photography. Emphasis is placed on developing reliable control of the fundamental materials and procedures through lectures, field, and lab experience. Basic discussion of image making included. *Prerequisite: none. Program or materials fee may apply.*

VIS 70N. Introduction to Media (6)
Operating as both a lecture and production course, this introductory class provides a technical foundation and theoretical context for all subsequent production-oriented film and video studies. In the laboratory, the student will learn the basic skills necessary to initiate video production. Completion of Visual Arts 70N is necessary to obtain a media card. *Prerequisite: none (program or materials fee may apply).*

QUANTITATIVE/FORMAL SKILLS
For Non-Science/Math/Engineering Majors

Formal Logic

PHIL 10. Introduction to Logic (4)
Basic concepts and techniques in both informal and formal logic and reasoning, including a discussion of argument, inference, proof, and common fallacies, and an introduction to the syntax, semantics, and proof method in sentential (propositional) logic. *Prerequisite: none*

PHIL 12. Scientific Reasoning (4)
Strategies of scientific inquiry: how elementary logic, statistical inference, and experimental design are integrated to evaluate hypotheses in the natural and social sciences. *Prerequisite: none*

Statistics

COGS 14A. Introduction to Research Methods (4)
Introduction to the scientific method. Methods of knowledge acquisition, research questions, hypotheses, operational definitions, variables, control. Observation, levels of measurement, reliability, validity. Experimentation and design: between-groups, within-subjects, quasi-experimental, factorial, single-subject. Correlational and observational studies. Ethics in research.

HDS 60. Intro to Statistical Analysis (4)
Course provides an intro to descriptive and inferential statistics, core tools in the process of scientific discovery, and interpretation of research. *Prerequisite: none.*

MATH 11. Calculus-Based Introductory Probability and Statistics (5)
Events and probabilities, conditional probability, Bayes' formula. Discrete and continuous random variables: mean, variance; binomial, Poisson distributions, normal, uniform, exponential distributions, central limit theorem. Sample statistics, confidence intervals, hypothesis testing, regression. Applications. Introduction to software for probabilistic and statistical analysis. Emphasis on connections between probability and statistics, numerical results of real data, and techniques of data analysis. *Prerequisites:* AP Calculus BC score of 3, 4, or 5, MATH 10B or MATH 20B.

MGT 3. Quantitative Methods in Business (4)
Introduction to techniques to develop/analyze data for informed tactical and strategic management decisions: statistical inference, probability, regression analysis, and optimization. Using these analytic approaches, theory-based formulas, and spreadsheets, students explore managerial applications across all areas of business activity. *Prerequisites: none.*

POLI 30D Political Inquiry (4)
Introduction to the logic of inference in social science and to quantitative analysis in political science and public policy including research design, data collection, data description and computer graphics, and the logic of statistical inference (including linear regression). POLI 30 is Lecture only, and POLI 30D is Lecture plus Discussion section. These courses are equivalents of each other in regard to major requirements, and students may not receive credit for both 30 and 30D. *Prerequisites: none.*

PSYC 60. Introduction to Statistics (4)
Course provides an intro to social psychology. Topics may include emotion, aesthetics, behavior medicine, person perception, attitudes and attitude change and behavior. *Prerequisites: none.*

SOCI 60. Practice of Social Research (4)
This course introduces students to the fundamental principles of the design of social research. It examines the key varieties of evidence, sampling methods, logic of comparison, and causal reasoning researchers use in their study of social issues. Will not receive credit for SOCI 60 and SOCL 60. *Prerequisites: none.*

Computer Programming

CSE 8A. Introduction to Programming and Computational Problem-Solving I (4)
Introductory course for students interested in computer science and programming. Basics of programming including variables, conditionals, loops, functions/methods. Structured data storage such as arrays/lists and dictionaries, including data mutation. Hands-on experience with designing, writing, hand-tracing, compiling or interpreting, executing, testing, and debugging programs. Students solve relevant computational problems using a high-level programming language. CSE 8A is part of a two-course sequence (CSE 8A-B) that is equivalent to CSE 11. Students should take CSE 8B to complete this track. Students who have taken CSE 8B or CSE 11 may not take or receive credit for CSE 8A. Recommended preparation: No prior programming experience is assumed, but comfort using computers is helpful. Students should consult the "CSE Course Placement Advice" web page for assistance in choosing which CSE course to take first. *Prerequisites: none.*

CSE 8B. Introduction to Computer Science: Java II (4)
Introductory programming using an object-oriented approach with the Java programming language. Builds on basic programming constructs introduced in CSE 8A to introduce class design and use, interfaces, basic class hierarchies, recursion, event-based programming, error reporting with exceptions, and file I/O. Basics of command-line navigation for file management and running programs. Development, testing, and debugging of more complex programs. CSE 8B is part of a two-course sequence (CSE 8A-B) that is equivalent to CSE 11. No credit offered for CSE 8B if CSE 11 taken previously. Students may not receive credit for both CSE 8B and CSE 11. Students should consult the "CSE Course Placement Advice" web page for assistance in choosing which CSE course to take first. **Prerequisites:** *CSE 8A (AP credit or CSE 8A course equivalent).*

CSE 11. Introduction to Computer Science: Java (4)
Accelerated introductory programming including an object-oriented approach. Covers basic programming topics from CSE 8A including variables, conditionals, loops, functions/methods, structured data storage, and mutation. Also covers topics from CSE 8B including the Java programming language, class design, interfaces, basic class hierarchies, recursion, event-based programming, and file I/O. Basics of command-line navigation for file management and running programs. Zero units of credit offered for CSE 11 if CSE 8B taken previously or concurrently. Recommended preparation: Significant prior programming experience (for example, high school AP CSA). Students should consult the "CSE Course Placement Advice" web page for assistance in choosing a first CSE course. *Prerequisites: none.*

ECE 15. Engineering Computation (4)
Students learn the C programming language with an emphasis on high-performance numerical computation. The commonality across programming languages of control structures, data structures, and I/O is also covered. Techniques for using MathLab to graph the results of C computations are developed. *Prerequisites: a familiarity with basic mathematics such as trigonometry functions and graphing is expected but this course assumes no prior programming knowledge.*

COGS 9. Introduction to Data Science (4)
Concepts of data and its role in science will be introduced, as well as the ideas behind data-mining, text-mining, machine learning, and graph theory, and how scientists and companies are leveraging those methods to uncover new insights into human cognition. *Prerequisite: none*

COGS 18. Introduction to Python (4)
This class will teach fundamental Python programming skills and practices, including the "Zen of Python." Students will focus on scientific computing and learn to write functions and tests, as well as how to debug code using the Jupyter Notebook programming environment. Students with limited computing experience may take COGS 3 for preparation. *Prerequisite: none*

Mathematics/ Calculus

MATH 3C. Pre-Calculus (4)
Functions and their graphs. Linear and polynomial functions, zeroes, inverse functions, exponential and logarithmic, trigonometric functions and their inverses. Emphasis on understanding algebraic, numerical and graphical approaches making use of graphing calculators. (No credit given if taken after MATH 4C, 1A/10A, or 2A/20A.) Three or more years of high school mathematics or equivalent recommended. *Prerequisites:* Math Placement Exam qualifying score, or ACT Math score of 22 or higher, or SAT Math score of 600 or higher.

MATH 4C. Pre-Calculus for Science and Engineering (4)
Review of polynomials. Graphing functions and relations: graphing rational functions, effects of linear changes of coordinates. Circular functions and right triangle trigonometry. Reinforcement of function concept: exponential, logarithmic, and trigonometric functions. Vectors. Conic sections. Polar coordinates. (No credit given if taken after MATH 1A/10A or 2A/20A. Two units of credit given if taken after MATH 3C.) Three or more years of high school mathematics or equivalent recommended. *Prerequisites:* Math Placement Exam qualifying score, or MATH 3C, or ACT Math score of 25 or higher, or AP Calculus AB score (or subscore) of 2.

MATH 10A. Calculus I (4)
Differential calculus of functions of one variable, with applications. Functions, graphs, continuity, limits, derivatives, tangent lines, optimization problems. (No credit given if taken after or concurrent with MATH 20A.) *Prerequisite:* Math Placement Exam qualifying score, or AP Calculus AB score of 2, or SAT II Math 2C score of 600 or higher, or Math 3C with a grade of C or better, or Math 4C with a grade of C− or better.

MATH 10B. Calculus II (4)
Integral calculus of functions of one variable, with applications. Antiderivatives, definite integrals, the Fundamental Theorem of Calculus, methods of integration, areas and volumes, separable differential equations. (No credit given if taken after or concurrently with Math 20B.) *Prerequisite:* AP Calculus score of 3, 4, or 5 (Or equivalent AB subscore on BC exam), or Math 10A, or Math 20A.

MATH 10C. Calculus III (4)
Introduction to functions of more than one variable. Vector geometry, partial derivatives, velocity and acceleration vectors, optimization problems. (No credit given if taken after or concurrent with 20C.) *Prerequisite:* AP Calculus BC score of 3, 4, or 5, or MATH 10B, or MATH 20B.

MATH 20A. Calculus for Science and Engineering (4)
Foundations of differential and integral calculus of one variable. Functions, graphs, continuity, limits, derivative, tangent line. Applications with algebraic, exponential, logarithmic, and trigonometric functions. Introduction to the integral. *Prerequisite:* Math Placement Exam qualifying score, or test score

MATH 20B. Calculus for Science and Engineering (4)
Integral calculus of one variable and its applications, with exponential, logarithmic, hyperbolic, and trigonometric functions. Methods of integration. Polar coordinates in the plane. (Two units of credits given if taken after Math 10B or Math 10C.) *Prerequisite:* AP Calculus AB score of 4, or 5, or AP Calculus BC score of 3, or Math 20A with a grade of C− or better, or Math 10B with a grade of C− or better, or Math 10C with a grade of C− or better.

MATH 20C. Calculus and Analytic Geometry for Science and Engineering (4)
Vector geometry, vector functions and their derivatives. Partial differentiation. Maxima and minima. Double integration, Two units of credit given if taken after Math 10C. *Credit not offered for both Math 20C and 31BH. Prerequisite:* AP Calculus BC score of 4, or 5, or Math 20B with a grade of C− or better.

NATURAL SCIENCES
For Non-Science/Math/Engineering Majors

ANTH 2. Human Origins (4) An introduction to human evolution from the perspective of physical anthropology, including evolutionary theory and the evolution of the primates, hominids, and modern humans. Emphasis is placed on evidence from fossil remains and behavioral studies of living primates. *Prerequisites: none.*

BILD 10. Fundamental Concepts/Modern Biology (4)
An introduction to the biochemistry and genetics of cells and organisms; illustrations are drawn from microbiology and human biology. This course is designed for nonbiology students and open to nonbiology majors only. Note: Students may not receive credit for BILD 10 after receiving credit for BILD 1.

BILD 20. Human Genetics in Modern Society (4)
Fundamentals of human genetics and introduction to modern genetic technology such as gene cloning and DNA finger printing. Applications of these techniques, such as forensic genetics, genetic screening, and genetic engineering. Social impacts and ethical implications of these applications. This course is designed for nonbiology students and does not satisfy a lower-division requirement for any biology major. Open to nonbiology majors only. *Prerequisites: none.*

CHEM 11. The Periodic Table (4)
Introduction to the material world of atoms and small inorganic molecules. Student may not receive credit for both Chem 4 and Chem 11. *Prerequisite: none.*

COGS 11. Minds and Brains (4)
How damaged and normal brains influence the way humans solve problems, remember or forget, pay attention to things; how they affect our emotions; and language in daily life. *Prerequisite: none.*

COGS 17. Neurobiology of Cognition (4)
Introduction to the organization and functions of the nervous system. Topics include molecular, cellular, developmental, systems, and behavioral neurobiology. Specifically, structure and function of neurons, peripheral and central nervous systems, sensory, motor, and control systems, learning and memory mechanisms. Students may not receive credit for both Biology 12 and Cognitive Science 17. *Prerequisite: none.*

ENVR 30. Environmental Issues: Natural Sciences (4)
Examines global and regional environmental issues. The approach is to consider the scientific basis for policy options. Simple principles of chemistry and biology are introduced. The scope of problems includes: air and water pollution, climate modification, solid waste disposal, hazardous waste treatment, and environmental impact assessment. *Prerequisites: none.*

PHYS 5. Stars and Black Holes (4)
An introduction to the evolution of stars, including their birth and death. Topics include constellations, the atom and light, telescopes, stellar birth, stellar evolution, white dwarfs, neutron stars, black holes, and general relativity. This course uses basic algebra, proportion, radians, logs, and powers. Physics 5, 7, 9, and 13 form a four-quarter sequence and can be taken individually in any order. *Prerequisite: none.*

PHYS 7. Galaxies and Cosmology (4)
An introduction to galaxies and cosmology. Topics include the Milky Way, galaxy types and distances, dark matter, large scale structure, the expansion of the Universe, dark energy, and the early Universe. This course uses basic algebra, proportion, radians, logs and powers. PHYS 5, 7, 9, and 13 form a four-quarter sequence and can be taken individually in any order. *Prerequisites: none*

NATURAL SCIENCES
For Non-Science/Math/Engineering Majors

PSYC 2. General Psychology: Biological Foundations (4)
This course provides an introductory survey of the relationship between human behavior and brain function. Specific areas of emphasis include vision and other sensory processes, memory, motivation, attention, and cognition.

SIO 12. History of the Earth and Evolution (4)
Evolution of the Earth from its origin in the early solar system to formation of continents and ocean basins, and how the planet became habitable. It examines the geologic record of evolution, extinction, plate tectonics, and climate changes through time. **Prerequisites:** *none.*

SIO 30. The Oceans (4)
Presents modern ideas and descriptions of the physical, chemical, biological, and geological aspects of oceanography, and considers the interactions between these aspects. Intended for students interested in the oceans, but who do not necessarily intend to become professional scientists. *Prerequisites: none.*

SIO 40. Life and Climate on Earth (4)
Explores life on Earth and its relationship to the environment—past, present, and future. Topics include origins of life, earth history, elemental cycles, global climate variability and human impacts on our environment. *Prerequisites: none.*

SIO 50. Introduction to Earth and Environmental Sciences (6)
This course is an introduction to how our planet works, focusing on the formation and evolution of the solid earth, and the processes affecting both its surface and interior. Labs and field trips complement and extend the lecture material. *Prerequisite: none. Program and/or materials fee may apply.*

BILD 1. The Cell (4)
An introduction to cellular structure and function, to biological molecules, bioenergetics, to the genetics of both prokaryotic and eukaryotic organisms, and to the elements of molecular biology.

BILD 2. Multicellular Life (4)
An introduction to the development and the physiological processes of plants and animals. Included are treatments of reproduction, nutrition, respiration, transport systems, regulation of the internal environment, the nervous system, and behavior. *Prerequisites: BILD 1.*

BILD 3. Organismic and Evolutionary Biology (4)
The first principles of evolutionary theory, classification, ecology, and behavior; a phylogenetic synopsis of the major groups of organisms from viruses to primates. *Prerequisite: none.*

CHEM 4. Chemical Thinking (4)
This is a one-quarter preparatory chemistry course intended for students continuing on to general chemistry. The course will focus on the development and analysis of submicroscopic models of matter and structure-property relationships to explain, predict, and control chemical behavior. May not receive credit for both CHEM 4 and CHEM 11. Includes a laboratory/discussion each week. Recommended: concurrent enrollment in MATH 3C, 4C or 10A or higher. Restricted to first-year and sophomore enrollment.

CHEM 6A. General Chemistry I (4)
First quarter of a three-quarter sequence intended for science and engineering majors. Topics include: atomic theory, bonding, molecular geometry, stoichiometry, types of reactions, and thermochemistry. May not be taken for credit after Chem 6AH. Recommended: proficiency in high school chemistry and/or physics; concurrent or prior enrollment in Math 10A or 20A. *Prerequisite: none.*

CHEM 6B: General Chemistry II (4)
Second quarter of a three-quarter sequence intended for science and engineering majors. Topics include: covalent bonding, gases, liquids, and solids, colligative properties, physical and chemical equilibria, acids and bases, solubility. May not be taken for credit after Chem 6BH. *Prerequisites:* Chem 6A or 6AH and Math 10A or 20A. Recommended: concurrent or prior enrollment in Math 10B or 20B.

CHEM 6C. General Chemistry III (4)
Third quarter of a three-quarter sequence intended for science and engineering majors. Topics include: thermodynamics, kinetics, electrochemistry, coordination chemistry, and introductions to nuclear, main group organic, and biochemistry. May not be taken for credit after Chem 6CH. *Prerequisites:* Chem 6B or 6BH. Recommended: completion of Math 10B or 20B

PHYS 1A. Mechanics (3)
First quarter of a three-quarter introductory physics course, geared towards life-science majors. Equilibrium and motion of particles in one and two dimensions in the framework of Newtonian mechanics, force laws (including gravity), energy, momentum, rotational motion, conservation laws, and fluids. Examples will be drawn from astronomy, biology, sports, and current events. *Prerequisites:* Mathematics 10A or 20A. Corequisites: Recommended preparation: concurrent or prior enrollment in PHYS 1A and MATH 10B or 20B.

PHYS 1AL. Mechanics Laboratory (2)
Physics laboratory course to accompany PHYS 1A. Experiments in mechanics. *Prerequisites:* Mathematics 10A or 20A. Corequisites: Physics 1A and Mathematics 10B or 20B

PHYS 1B. Electricity & Magnetism (3)
Second quarter of a three-quarter introductory physics course geared towards life-science majors. Electric fields, magnetic fields, DC and AC circuitry. *Prerequisites:* PHYS 1A or 2A, 1AL or 2BL, and Math 10B or 20B. Corequisites: Physics 1BL and Math 10C or 20C or 11

PHYS 1BL. Electricity & Magnetism Laboratory (2)
Physics laboratory course to accompany PHYS 1B. Experiments in electricity and magnetism. Course materials fee may apply. *Prerequisite:* Physics 1A or 2A, 1AL or 2BL, and Mathematics 10B or 20B. Corequisites: Physics 1B and Mathematics 10C or 20C or 11

PHYS 1C. Waves, Optics & Modern Physics (3)
Third quarter of a three-quarter introductory physics course geared toward life-science majors. The physics of oscillations and waves, vibrating strings and sound, the behavior of systems under combined thermal and electric forces, and the interaction of light with matter as illustrated through optics and quantum mechanics. Examples from biology, sports, medicine, and current events. *Prerequisites:* Physics 1B or 2B, 1BL or 2CL, and Math 10C or 20C or 31BH or 11. Corequisites: Physics 1CL.

PHYS 1CL. Waves, Optics, and Modern Physics Laboratory (2)
Physics laboratory course to accompany Physics 1C. Experiments in waves, optics, and modern physics. Program or material fee may apply. *Prerequisites:* Physics 1B or 2B, 1BL or 2CL, and Math 10C or 20C or 31BH or 11. Corequisites: Physics 1C.

PHYS 2A. Physics—Mechanics (4)
A calculus-based science engineering general physics course covering vectors, motion in one and two dimensions, Newton's first and second laws, work and energy, conversation of energy, linear momentum, collisions, rotational kinematics, rotational dynamics, equilibrium of rigid bodies, oscillations, gravitation. Students may not receive credit for PHYS 2A and 4A. *Prerequisites:* Math 20A Corequisites: Math 20B

PHYS 2B. Physics—Electricity & Magnetism (4)
Continuation of PHYS 2A covering charge and matter, the electric field, Gauss's law, electric potential, capacitors and dielectrics, current and resistance, electromotive force and circuits, the magnetic field, Ampere's law, Faraday's law, inductance, electromagnetic oscillations, alternating currents and Maxwell's equations. *Prerequisites:* PHYS 2A or 4A and Math 20A-B Corequisite: Math 20C

PHYS 2C. Physics—Fluids, Waves, Thermodynamics & Optics (4)
Continuation of PHYS 2B covering fluid mechanics, waves in elastic media, sound waves, temperature, heat and the first law of thermodynamics, kinetic theory of gases, entropy and the second law of thermodynamics, geometric optics, interference and diffraction. *Prerequisites:* PHYS 2A or 4A, and Math 20A-C Corequisite: Math 20D

PHYS 2D. Physics—Relativity and Quantum Physics (4)
A modern physics course covering atomic view of matter, electricity and radiation, atomic models of Rutherford and Bohr, relativity, X-rays, wave and particle duality, matter waves, Schrödinger's equation, atomic view of solids, natural radioactivity. *Prerequisites:* Physics 2A or 4A, 2B, and Math 20D. Corequisites: Math 20E or 31CH (prior completion is sufficient).

REGIONAL SPECIALIZATION

Asia Pacific

HILD 10. East Asia: The Great Tradition (4)
The evolution of East Asian civilization from the first writing through classical Hei'an Japan and late imperial Song China. Primary and secondary readings on basic ideas, institutions and practices of the Confucian, Daoist, and Buddhist paths and of the state and family. *Prerequisites: none.*

Europe

MUS 4. Introduction to Western Music (4)
A brief survey of the history of Western music from the Middle Ages to the present. Much attention will be paid to the direct experience of listening to music and attendance of concerts. Class consists of lectures, listening labs, and live performances. **Prerequisites**: *none*

LTEN 21. Introduction to the Literature of the British Isles: Pre-1660 (4)
An introduction to the literatures written in English in Britain before 1660, with a focus on the interaction of text and history. **Prerequisites:** *none.*

PHIL 31. Introduction to Ancient Philosophy (4)
A survey of classical Greek philosophy with an emphasis on Socrates, Plato and Aristotle, though some consideration may be given to Pre-Socratic and/or Hellenistic philosophers. **Prerequisites:** *none.*

VIS 20. Introduction to Art History (4)
This course examines history of Western art and architecture through such defining issues as the respective roles of tradition and innovation in the production and appreciation of art; the relation of art to its broader intellectual and historical contexts; and the changing concepts of the monument, the artist, meaning, style, and "art" itself. Representative examples will be selected from different periods, ranging from Antiquity to Modern. Content will vary with the instructor. **Prerequisites:** *none.*

Latin America

HILD 14. Film and History of Latin America (4)
Students watch film on Latin America and compare them to historical research on similar episodes and issues. Films will vary each year but will focus on the social and psychological consequences of colonialism, forced labor, religious beliefs, and "Modernization."

LATI 50. Introduction to Latin America (4)
Interdisciplinary overview of society and culture in Latin America— including Mexico, the Caribbean, and South America: legacies of conquest, patterns of economic development, changing roles of women, expressions of popular culture, cycles of political change, and U.S.–Latin American relations. ***Prerequisites:*** *none.*

Multiculturalism in North America
Visit the [Diversity, Equity, and Inclusion (DEI) website](#) for the approved courses as Multiculturalism in North America courses overlap with the DEI requirement.

Middle East

GSS 25. Middle Eastern Literature
An introduction to Middle Eastern Literature.

DIVERSITY, EQUITY, AND INCLUSION (DEI)

The DEI is a University requirement that all UC San Diego students must complete to graduate.

- This requirement shall be satisfied by passing, with a grade no lower than C- or P, a one-quarter, four-unit course expressly approved by the Committee on Educational Policy for that purpose.

Find a lower division DEI course (courses numbered 1-99) on the [DEI Course Offerings per Quarter](#) webpage.

**DEI requirement may overlap with the General Education: Regional Specialization-Multiculturalism in North America.