DISCIPLINES LIST
DIVISION: MATH, SCIENCE, AND ENGINEERING

DISCIPLINE: AGRICULTURE

MINIMUM QUALIFICATIONS:
MASTERS DEGRE REQUIRED
Master's in agriculture, agriculture science, education with a specialization in agriculture or other agriculture area (including: agricultural business, agricultural engineering, agricultural mechanics, agronomy, animal science, enology, environmental (ornamental) horticulture, equine science, forestry, natural resources, plant science, pomology, soil science, viticulture, or other agricultural science **OR** The equivalent

COURSES:

Subject & Number		Title
AGRI	100	Fruit and Nut Production
AGRI	102	Plant Pest Control
AGRI	104	Nursery Practices
AGRI	110	Basic Landscape Design
AGRI	112	Plant and Landscape Maintenance
AGRI	130	Environmental Gardening
AGRI	132	Turf and Landscape Maintenance
AGRI	134	Plant Identification I
AGRI	153	Lands Construction –Concrete and Masonry
AGRI	155	Lands Construction –Wood and Lighting
AGRI	210	Advanced Landscape Design
AGRI	212	Interior Plantscape
AGRI	220	Landscape Irrigation
AGRI	230	Soils and Plant Nutrition
AGRI	234	Plant Identification II
AGRI	250	Landscape Management

DISCIPLINE: BIOLOGICAL SCIENCES

MINIMUM QUALIFICATIONS:
MASTERS DEGREE REQUIRED
Master's in any biological science **OR** Bachelor's in any biological science **AND** Master's in biochemistry, biophysics, or marine science **OR** The equivalent

COURSES:

Subject & Number		Title
BIOL	100	Elementary Human Anatomy & Physiology
BIOL	101	General Biology
BIOL	101L	General Biology Lab
BIOL	102	Human Biology
BIOL	103	Introduction to Botany
BIOL	104	Environmental Biology
BIOL	110	General Molecular Cell Biology
BIOL	120	General Organism, Ecological and Evolutionary Biology
BIOL	201	General Human Anatomy
BIOL	202	General Human Physiology
BIOL	204	General Microbiology
BIOL	205	Introduction to Biotechnology
BIOL	304	A Survey of Emerging and Re-emerging Infectious Diseases

DISCIPLINE: CHEMISTRY

MINIMUM QUALIFICATIONS:
MASTERS DEGREE REQUIRED
Master's in chemistry **OR** Bachelor's in chemistry or biochemistry **AND** Master's in biochemistry, chemical engineering, chemical physics, physics, molecular biology, or geochemistry **OR** The equivalent

COURSES:

Subject & Number		Title
CHEM	101	Introductory Chemistry
CHEM	102	Introductory Chemistry (Organic & Biochemistry)
CHEM	110	General Chemistry
CHEM	120	General Chemistry
CHEM	205	Quantitative Analysis
CHEM	210	Organic Chemistry
CHEM	220	Organic Chemistry

DISCIPLINE: EARTH SCIENCE

MINIMUM QUALIFICATIONS:
MASTERS DEGREE REQUIRED
Master's in geology, geophysics, earth sciences, meteorology, oceanography, or paleontology **OR** Bachelor's in geology **AND** Master's in geography, physics, or geochemistry **OR** The equivalent

COURSES:

Subject & Number		Title
GEOL	101	Physical Geology
GEOL	101L	Physical Geology Lab
GEOL	102	Historical Geology
GEOL	102L	Historical Geology Lab
ERSC	101	Introduction to Earth Science

DISCIPLINE: ENGINEERING

MINIMUM QUALIFICATIONS:
MASTERS DEGREE REQUIRED
Master's in any field of engineering **OR** Bachelor's in any of the above **AND** Master's in mathematics, physics, computer science, chemistry, or geology **OR** The equivalent

(NOTE: A Bachelor's in any field of engineering with a professional engineer's license is an alternative qualification for this discipline, pursuant to Title 5 Section 53410.1.)

COURSES:

Subject & Number		Title
ENGR	110	Engineering Orientation and Basic Skills
ENGR	115	Basic Engineering Drawing
ENGR	125	Programming and Problem-Solving in MATLAB
ENGR	130	Materials Science
ENGR	130L	Materials Science Lab
ENGR	140	Engineering 3D Graphics
ENGR	185	Digital Logic and Design
ENGR	210	Statics
ENGR	215	Dynamics
ENGR	220	Strength of Materials
ENGR	220PS	Strength of Materials Problem Solving Session
ENGR	220L	Strength of Materials Lab
ENGR	230	Circuit Analysis

DISCIPLINE: GEOGRAPHY

MINIMUM QUALIFICATIONS:
MASTERS DEGREE REQUIRED
Master's in geography **OR** Bachelor's in geography **AND** Master's in geology, history, meteorology, or oceanography **OR** The equivalent **OR** see Interdisciplinary Studies.

COURSES:

Subject & Number		Title
GEOG	101	Physical Geography: Earth's Surface Landscapes
GEOG	101L	Physical Geography Lab: Earth's Surface Landscape
GEOG	102	Physical Geography: Earth's Weather & Climate
GEOG	102L	Physical Geography Lab: Earth's Weather & Climate
GEOG	105	Cultural Geography
GEOG	106	California Geography
GEOG	110	World Regional Geography
GEOG	201	Map Interpretation and GPS
GEOG	205	Introduction to Geographic Information Systems
GEOG	220	Data Acquisition and Management in Geographic Info. Systems
GEOG	221	Spatial Analysis in Geographic Information Systems
GEOG	222	Cartography for Geographic Information Systems
GEOG	298C	Special Studies in Geographic Information Systems
GEOG	299	Special Topics-Field Geography

DISCIPLINE: MATHEMATICS

MINIMUM QUALIFICATIONS:
MASTERS DEGREE REQUIRED
Master's in mathematics or applied mathematics **OR** Bachelor's in either of the above **AND** Master's in statistics, physics, or mathematics education **OR** The equivalent

COURSES:

Subject & Number		Title
MATH	001	Individualized Self-Study Math
MATH	020	Managing Math Anxiety
MATH	021	Math Study Strategy
MATH	065	Basic Math
MATH	070	Elementary Algebra
MATH	102	Intermediate Algebra
MATH	110	Mathematics for Liberal Arts Studies
MATH	115	Statistics
MATH	116	Introduction to Statistics Using R
MATH	120	Math for Teachers
MATH	124	Finite Math
MATH	128	College Algebra for Liberal Arts
MATH	135	Plane Trigonometry
MATH	140	Precalculus
MATH	148	Calculus for Business and Economics
MATH	150	Calculus and Analytic Geometry
MATH	160	Calculus and Analytic Geometry
MATH	220	Linear Algebra
MATH	230	Introduction to Ordinary Differential Equations
MATH	250	Calculus and Analytic Geometry

DISCIPLINE: PHYSICAL SCIENCE
(Interdisciplinary Studies)

MINIMUM QUALIFICATIONS:
MASTERS DEGREE REQUIRED:
Master's in the interdisciplinary area **OR** Master's in one of the disciplines included in the interdisciplinary area and upper division or graduate course work in at least one other constituent discipline

(Note: The interdisciplinary studies discipline is provided to allow for those cases where it is locally determined that a course must be taught by someone with qualifications that exceed a single discipline. The constituent disciplines can include any disciplines found in the Master's degree list.)

COURSES:

Subject & Number		Title
PSCI	101	Physical Science
PSCI	302	Introduction to Quantitative Atmospheric Dynamics and Thermodynamics

DISCIPLINE: PHYSICS/ASTRONOMY

MINIMUM QUALIFICATIONS:
MASTERS DEGREE REQUIRED
Master's in physics, astronomy, or astrophysics **OR** Bachelor's in physics or astronomy **AND** Master's in engineering, mathematics, meteorology, or geophysics **OR** The equivalent

COURSES:

Subject & Number		Title
ASTR	101	Astronomy
ASTR	101L	Astronomy Laboratory
PHYS	101	Introductory Physics
PHYS	102	Introductory Physics
PHYS	110	General Physics
PHYS	120	General Physics
PHYS	211	General Physics