

**Newport-Mesa Unified School District
Office of Secondary Curriculum and Instruction
High School Course of Study**

Department	Science			Course Title	Global Ecology		
Course Code			Grade Level	10-12		Course Length	1 semester
Credits/Semester	5	Required for Graduation		no		Elective Credit	yes
Prerequisites	Earth Science or Biology or any 9 th grade intro science course						
Community College Articulation			Name of College				
UC/CSU Articulation			Name of University				
Meets UC/CSU “a-g” Requirement			Meets NCAA Requirement			Honors Grading Differentiation	no

COURSE DESCRIPTION

Global Ecology is a hand on science elective covering biological, chemical, and some earth science. Students interested in global issues, chemistry, biology or a career in any of the sciences will have an introductory knowledge of the field and the basic techniques used in the laboratory. The course will cover Ecology from the basics of Pyramids and Webs to the complex issues facing society today such as Ozone Depletion, Global Warming and overpopulation. Texts will include Biology by Miller and Levine and Environmental Science by Botkin. Both are already district approved texts.

GOALS: (Expected performance outcomes for students)

Mastery of all standards identified as high and medium frequency standards on the California Standards Tests, with a concerted effort to encourage mastery of low frequency standards as well. These standards include are 6a-g, 7a-d, 8a-e all from the biology/life science standards, and standard 3b from the Earth Science standards.

California Content Standards

The following abbreviations are included to indicate the assessments used to measure a student’s proficiency in each of the appropriate standards: California Standards Test (CST); Practice Scholastic Aptitude Test/National Merit Scholarship Qualifying Test (PSAT/NMQST). Standards that are underlined and in bold are identified as high frequency standards on the CST. Standards that are in bold are identified as medium frequency standards on the CST.

Evaluation

Student achievement will be measured using multiple assessment tools, included but not limited to benchmark test results, final exams, end-of-unit tests, quizzes, homework, classwork, notebooks, Case studies, authentic performance assessments, and written assessments using the district’s rubric. District-wide benchmark assessments will be assessed using the following chart:

Performance Standards - Benchmark Assessments				
Far Below Basic = F	Below Basic = D	Basic = C	Proficient = B	Advanced Proficient = A

Course Outline

Unit 1	Course Title				
	Key Terms	Standards*		Model Tasks**	Tools & Text
Basic Ecological Principles (6 weeks) • Energy Flow • Predator Prey/ Relationships • Bioaccumulation • Biogeochemical Cycles • Surface Area to Volume	Pyramid Web Bioaccumulation Carrying Capacity Predator/Prey Biogeochemical Energy Flow	Biology 6a-f	H M L	1. Notes and guided practice on energy flow 2. Predator/Prey notes/ labs 3. Succession notes/ Labs 4. Notes on Bioaccumulation and Play 5. Notes and Labs on Carbon/Water/Nitrogen Cycle 6. Agar and Potato lab on Surface Area 7. Extensive case studies on all topics	D Environmental Science, Botkin B Biology , Miller and Levine A DVD, LCD Projector Computer simulations Lab stations for multiple labs throughout units
Differentiation	Support -- for students struggling with content	Content: Science tutoring, online support for the text. Teacher notes done in Power Point presentation for easy access Process: Lab practice and Case studies will be very helpful for any struggling student in this course Product: Increased student success			
	Extension – for high achieving students. Required activities for all honors courses.	Content: Advanced Case studies for students that need extensions beyond the regular curriculum.			
Evaluation	Formative Assessments: Laboratory write-ups and short quizzes to check for understanding, case studies will be a significant type of assessment in this class. Power point presentations done by students.				

Unit 3	Course Title					
	Key Terms	Standards*		Model Tasks**	Tools & Text	
Global Issues • Overpopulation • Air Quality • Water Quality • Sustainable Farming • Ozone Depletion • Global Warming • Energy Sources	Carrying Capacity Soil degradation Fission Fusion Biodiesel Ozone Sustainable	Biology 6 a-f	H M L	1. Power Point notes overpopulation 2. Labs in both air and water quality 3. Notes and outside readings on Ozone and Global warming 4. Biodiesel lab. 5. Case studies provided by text for all topics	D C B A	Environmental Science, Botkin Biology, Miller and Levine DVD, LCD Projector Computer simulations Lab stations for multiple labs throughout units
Differentiation	Support -- for students struggling with content	Content: Science tutoring, online support for the text. Teacher notes done in Power Point presentation for easy access Process: Lab practice and Case studies will be very helpful for any struggling student in this course Product: Increased student success				
	Extension – for high achieving students. Required activities for all honors courses.	Content: Advanced Case studies for students that need extensions beyond the regular curriculum.				
Evaluation	Formative Assessments: Laboratory write-ups and short quizzes to check for understanding, case studies will be a significant type of assessment in this class. Summative Assessments: Lab practical tests as well as conventional multiple choice and essay exams					

