

SPRINGFIELD TECHNICAL COMMUNITY COLLEGE

**ACADEMIC AFFAIRS**

Course Number: BIOL 100 Department: Biology

Course Title: Natural History Semester: Spring Year: 1997

**Objectives/Competencies**

<b>Course Objective</b>	<b>Competencies</b>
1. Understand and be able to utilize the currently approved pedagogy for teaching science in Massachusetts.	1. Understand history of AAAS-NRC recommendations. 2. Utilize the PALMS approach, constructivism, and open-ended questions. 3. Apply principles of cooperative learning. 4. Have introductory understanding of alternative assessments (rubrics, morphological models, portfolios). 5. Participate in "The Egg: A PALMSian Experience."
2. Understand how to begin nature study/natural history/environmental education.	1. Explain why nature study should be conducted with preschoolers. 2. Know how to begin nature study activities. 3. Be familiar with nature study guidelines. 4. Be able to carry out suggested initial activities.
3. Understand the relationship of the sun, earth, and moon to each other.	1. Understand and be able to diagram out the relationship of the sun, earth, moon, and ecliptic. 2. Be able to lead seasonal and daily shadow play activities. 3. Understand and be able to explain the moon's phases.

Course Objective	Competencies
<p>4. Understand and observe daily and seasonal weather patterns.</p>	<p>4. Understand the distances and scales used to describe the solar system.</p> <p>1. Be able to describe the structure of our planet’s lower atmosphere.</p> <p>2. Understand and be able to explain the water cycle.</p> <p>3. Able to list and describe the four key weather elements.</p> <p>4. Able to interpret a weather map and explain fronts, air masses, and pressure systems.</p>
<p>5. Understand the basic principles and processes behind local geology and topography.</p>	<p>1. Understand principles of uniformitarianism and superposition.</p> <p>2. Explain formation of and differences between the three kinds of rocks.</p> <p>3. Understand basic backyard geological processes.</p> <p>4. Able to understand and explain local topographic features.</p>
<p>6. Understand the principles of ecology.</p>	<p>1. Familiar with basic ecological concepts and terminology.</p> <p>2. Able to lead “Web of Life” activity.</p> <p>3. Familiar with thirty species of southern New England wildlife.</p> <p>4. Understand roles/relationships of plants and animals in ecosystem.</p> <p>5. Understand watershed concept and its local applications.</p> <p>6. Understand and able to explain annual wildlife cycles and activities (phenology); includes winter wildlife survival strategies and life cycles.</p>

Course Objective	Competencies
7. Demonstrate competence in leading early childhood nature study activities.	<ol style="list-style-type: none"><li>1. Able to develop a dichotomous key.</li><li>2. Able to lead an interpretive walk.</li><li>3. Able to develop and carry out an investigation.</li><li>4. Familiar with at least fifteen early childhood nature study activities.</li></ol>