Environmental Education

I. Knowing the Content

The professional education program provides evidence that Environmental Education certification candidates complete a program of studies in environmental education the same as the academic content area courses and required electives of a major in a bachelor's degree. The program requires the candidates to demonstrate knowledge of the fundamental concepts of environmental education and competence in teaching the related academic curriculum to K-12 grade students including:

I.A. History, philosophy, and research in Environmental Education including:

- fundamental approaches, processes and goals of environmental education,
- environmental education research and prominent researchers

I.B. Principles of environment and ecology including:

- influence of human populations and individuals on the environment,
- interactions and interdependence of organisms in ecosystems,
- environmental influences, limiting factors and niches,
- energy flow and materials cycled within ecosystems,
- homeostasis and natural selection,
- ecological succession, maturity and regression,
- response of organisms to environmental stress caused by human interaction or natural systems,
- environmental laws and regulations and their influence on ecosystems

I.C. Role of the Life and Physical Sciences in understanding the interrelationship of diverse forms of life and their interaction with environmental conditions on the planet including:

Life Science topics:

- growth and development of plant, animal and micro-organisms,
- reproductive strategies of organisms,
- adaptations in plants and animals and inheritance,
- homeostasis

Physical Science topics:

- atmospheric composition and layers,
- basic principles and components of climatology,
- meteorology as it relates to the environment,
- concept and definition of biosphere,
- hydrology, water cycle, watershed and wetlands,
- geology, soil types and composition, mineral nutrient cycling, soils as an ecosystem,
- fossils, and the history and extinction of organisms,
- renewable and non-renewable resources

I.D. Functions, components and interrelationships of ecosystems including:

- aquatic and terrestrial ecosystems and interaction,
- biotic and abiotic aspects,
- bio-geochemical cycles and natural resources,
- population growth and carrying capacity

I.E. Impact of humans on the environment at the local, national and global levels including:

- influence of rate of change on adaptation and the potential for threatened, endangered or extinct species,
- importance of humans to the survival or organisms and the environment,
- influence of natural climate changes on living systems,
- availability of natural resources for agricultural systems

I.F. Local, regional, state, national and international environmental laws and regulations that influence environmental decisions including:

- economic, political, social institutions and processes,
- legal and cultural influences on societal attitudes, values, and philosophies,
- historical context of human organization, resource management and technological change

I.G. Stewardship and a healthy environment including:

- food and fiber production,
- personal rights and civic responsibility,
- pest management practices,
- recycling,
- local, national and global environmental health issues,
- biodiversity and ecological sustainability

II. Performances

The professional education program provides evidence of the candidates participation in sequential and developmental field experiences and student teaching, under the supervision of college personnel and cooperating teachers who are well trained, have interpersonal skills and demonstrated competence in teaching. The program also provides evidence that the criteria and competencies for exit from the Environmental Education certification program are assessed in coursework, field experiences and student teaching and require the candidates to demonstrate their knowledge and competence in fostering student learning through multiple instructional methodologies including:

II.A. Planning of instruction based upon:

- subject matter and models of environment and ecology curricula,
- students and the community,
- Pennsylvania Academic Standards

II.B. Managing the instructional environment in order to:

- establish an inclusive and collaborative learning environment,
- create a climate that promotes fairness,
- establish and maintain rapport with students,
- communicate challenging learning expectations to each student,
- establish and maintain consistent standards of classroom behavior,
- create a physical environment that is safe and conducive to learning

II.C. Implementing, adapting and assimilating effective instructional strategies, curriculum resources and technologies in collaboration with other educators

II.D. Selecting, analyzing and modifying instructional materials to meet the learning needs and instructional levels of diverse learners and inclusion into other areas of the school curriculum

II.E. Assessing and evaluating student's understanding of content through a variety of means, providing feedback to students to assist learning and adjusting instructional strategies

III. Professionalism

The professional education program provides evidence that Environmental Education certification candidates demonstrate knowledge and competencies that foster professionalism in school and community settings including:

III.A. Professional organizations and associations, professional publications and journals, materials and resources, professional development and life-long learning

III.B. Integrity and ethical behavior, professional conduct as stated in Pennsylvania's Code of Professional Practice and Conduct for Educators; and local, state, and federal laws and regulations

III.C. Cultivating professional relationships and collaborating with school colleagues, organizations and other community agencies to improve student learning

III.D. Communicating effectively with parents/guardians, business and industry, and other agencies, and the community-at-large to support learning by all students