

## **Agriculture**

### **I. Knowing the Content**

The professional education program provides evidence that Agriculture certification candidates complete a program of studies the same as the academic content area courses and required electives of a major in a bachelor's degree in any of the life sciences that support agriculture. The program shall require candidates to demonstrate their knowledge of and competence in teaching the fundamental concepts of agriculture to elementary, middle and secondary school students (K-12) including:

I.A. Concentrated agricultural studies in one or more areas including:  
services and supplies,  
mechanics or resources,  
production or products/processing  
horticulture or forestry/lumbering

I.B. Historical role of agriculture in the development of the political and economic systems of the United States and the world including:  
economic importance in a global economy,  
political concerns of industrialized and developing nations,  
sociological status of agriculture, small farmers and conglomerates,  
careers and trends in agriculture

I.C. Biological, physical, social and applied sciences as they relate to practical solutions of agricultural problems including:  
plant and soil science, natural resources, land capability and soil exhaustion,  
specialized crop production, germination, and ornamental agriculture,  
land management,  
community resource development and quality of life issues

I.D. Animal sciences including animal industries, anatomy and physiology, management and products and processing

I.E. Technology and mechanics applicable to several agricultural areas including:  
power machinery and equipment,  
soil and water structures and pollution,  
construction issues and safety considerations

I.F. Agricultural business management, marketing and entrepreneurship

I.G. Occupational experience programs including:  
Future Farmers of America,  
Young/adult farmer chapters,  
Other occupational experience programs for students

## II. Performances

The professional education program shall provide evidence of the candidates' participation in sequential and developmental field experiences and student teaching, in vocational agricultural programs, under the supervision of college personnel and cooperating teachers who are well trained in agriculture, have interpersonal skills and demonstrated competence in teaching. The program shall also provide evidence that the criteria and competencies for exit from the Agriculture 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:

II.A. Planning of instruction based upon knowledge of subject matter, students, the community and Pennsylvania Academic Standards which promote problem analysis, creativity and decision-making skills

II.B. Managing the instructional environment in order to:  
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,  
make the physical environment 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 reading levels of diverse learners

II.E. Monitoring students' 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 shall provide evidence that each Agriculture certification candidate demonstrates knowledge and competencies that foster professionalism in Agricultural education in school and community settings including:

III.A. Professional organizations, literature, technical resources, and student organizations

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. Collaborating with school professionals and integrating agriculture with other disciplines

III.D. Communicating effectively with parents/guardians, other agencies and the community at large to support learning and agricultural education