

# Career –Technical Baccalaureate Agriscience

## 2008 Ohio Program Standards Grades 4 and Beyond

The provisional career-technical license may be obtained by an individual who holds the baccalaureate degree, who has successfully completed an approved program of preparation, who has successfully completed an examination prescribed by the State Board of Education, who has been recommended by the dean or head of teacher education at an institution approved to prepare career technical teachers, and who evidences two years of recent and successful related work experience or the equivalent in the teaching area. Career-technical licenses shall be issued for specific programs or taxonomies.

# Ohio Educator Licensure Standards for Career-Technical Baccalaureate Agriscience

## Introduction

The Ohio Educator Licensure Program Standards for the Career Technical Education Agriscience Route A Teacher Licensure program were developed by an advisory committee after a thorough review of the following documents: Agricultural and Environmental Systems Content Standards, Quality Program Standards for Agricultural Education, National Science Education Standards, American Association for Agricultural Education, and the Ohio Performance-Based Teacher Licensure Standards. The advisory committee consisted of representatives from public and private teacher preparation institutions of higher education and consultants from the Ohio Department of Education.

We wish to acknowledge the following individuals who served on the advisory committee:

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## Performance-based standards

Ohio requires performance-based programs and program reports which must include candidate performance assessments. Performance-based assessments should be appropriate for the standards including multiple forms of measurement, and measurement at multiple points over a candidate's progression through a program.

## Licensure Rule 3301-24-05 (D) (7) (a)

The career-technical license, valid for teaching the subjects named in such license to learners ages eight and beyond and grades four and beyond. The career-technical license may be obtained by the following route: (a) the provisional career-technical license may be obtained by an individual who holds the baccalaureate degree, who has successfully completed an approved program of preparation, who has successfully completed an examination prescribed by the State Board of Education, who has been recommended by the dean or head of teacher education at an institution approved to prepare career technical teachers, and who evidences two years of recent and successful related work experience or the equivalent in the teaching area.

## State Standards

On October 11, 2005 the State Board of Education adopted the Ohio Standards for the Teaching Profession (2005 edition) as the state standards for Ohio replacing INTASC standards. The Ohio Standards for the Teaching Profession can be found at [www.ode.state.oh.us](http://www.ode.state.oh.us).

**Other requirements**

As specified in OAC 3301-24, institutions must provide documentation that the program includes:

- Individuals have evidence of two years of recent and successful work experience or the equivalent in the teaching area;
- 3 semester credit hours of coursework in reading in the content area (or its equivalent); and
- Addresses Ohio Content Standards for Career Technical Agriscience Education Route A teacher licensure.
- Value-Added Progress Dimension

## **Career-Technical Baccalaureate Agriscience Teacher Licensure Standards**

### **Standard 1. Candidates know and model behaviors including ethics, safety, accountability and professionalism.**

1.1 Candidates assess student understanding of safety and develop a safety model which provides for a positive school learning environment, and enables them to recognize hazards in the workplace.

1.2 Candidates know and follow emergency procedures, maintain safe equipment and ensure safety procedures appropriate for the activities and the abilities of students.

1.3 Candidates know and practice safe and proper techniques for equipment operation and maintenance.

1.4 Candidates know and practice safe and proper techniques for the preparation, maintenance, storage, dispensing, and disposal of all materials used in instruction.

1.5 Candidates know and understand the legal and ethical responsibilities of teachers in the agriscience field.

1.6 Candidates treat all living organisms in a safe, humane, and ethical manner and respect legal restrictions on their collection, keeping, and use.

### **Standard 2. Candidates know and understand the agricultural content and specific concepts related to the field of Plant, Animal and Food Systems.**

2.1 Candidates demonstrate competence in principles, concepts, and experiential practices related to the organization and function of cells and multi-cellular systems among microorganisms, plants and animals.

2.2 Candidates demonstrate competence in principles, concepts, and practices related to animal behavior.

2.3 Candidates demonstrate competence in principles, concepts, and practices related to plant and animal genetics and reproduction; heredity and mechanisms of genetic modification; historical development and perspectives in biology including the contributions of significant historical figures.

2.4 Candidates demonstrate competence in principles, concepts, and experiential practices related to plant and animal health, food quality assurance and safety, characteristics and avoidance of viral, bacterial and parasitic diseases; how to design, conduct and report research in plant, animal and food systems.

2.5 Candidates demonstrate competence in principles, concepts, and experiential practices related to the application of chemistry, microbiology, and mathematical concepts in plant, animal, and food systems.

2.6 Candidates demonstrate competence in principles, concepts and experiential practices in agriculture related to construction.

2.7 Candidates demonstrate competence in principles, concepts, and experiential practices in biotechnology; issues related to biotechnology applications, modeling living systems.

**Standard 3. Candidates know and understand the agricultural content and specific concepts related to the field of Business Management and Economic Systems.**

3.1 Candidates demonstrate competence in marketing principles, concepts, and experiential practices.

3.2 Candidates demonstrate competence in management and leadership principles, concepts, and experiential practices.

3.3 Candidates demonstrate competence in finance principles, concepts, and experiential practices.

3.4 Candidates demonstrate competence in research and analysis principles, concepts, and experiential practices, and reporting

3.5 Candidates demonstrate competence in communications and information management principles, concepts, and experiential practices.

**Standard 4. Candidates know and understand the agricultural content and specific concepts related to the field of Natural Resource and Environmental Systems.**

4.1 Candidates demonstrate competence in principles, concepts, and experiential practices related to soils.

4.2 Candidates demonstrate competence in principles, concepts, and experiential practices related to natural and constructed ecosystems; water quality, and management.

4.3 Candidates demonstrate competence in principles, concepts, and experiential practices related to habitat management; interrelationship of organisms with one another and their environments; applications of biology in environmental quality.

4.4 Candidates demonstrate competence in principles, concepts, and experiential practices related to energy sources, energy conservation and management, and production of renewable energy.

4.5 Candidates apply biotechnology in business, industry, and health fields.

**Standard 5. Candidates create learning environments that promote high levels of learning and achievement for all students.**

5.1 Candidates collaborate with local employers and agencies to enhance student learning, success and placement.

5.2 Candidates structure work-based learning opportunities that extend student learning.

5.3 Candidates integrate leadership and personal development activities to extend student learning and promote civic engagement.

5.4 Candidates practice classroom management techniques, maximize time on task, treat all students fairly, and establish an environment that is respectful, supportive, caring, and safe.

5.5 Candidates utilize classroom resources, technology, and space to enhance student participation and skill development.

5.6 Candidates create functional learning communities in which students assume responsibility for themselves and one another, participate in decision-making, work collaboratively and independently, and engage in purposeful learning activities.

5.7 Candidates apply principles of effective teaching to accommodate various learning styles, intelligences and exceptionalities in diverse learning environments.

5.8 Candidates develop a personal philosophy that demonstrates appreciation for all aspects of diversity.

5.9 Candidates utilize connections and build upon the student's individual experiences, prior learning, talents, culture, and family and community values, as a way of improving student achievement.

**Standard 6. Candidates know and apply instructional strategies to promote student learning and meet the needs and interests of all students.**

6.1 Candidates collaborate with educational partners to enhance student progression on non-duplicated coursework through articulation and standards alignment.

6.2 Candidates develop instructional strategies that prepare students for high-skill, high-wage, and high-demand occupations.

6.3 Candidates design instructional strategies that provide experiential learning (e.g. supervised agricultural experiences).

6.4 Candidates understand the appropriate use of a variety of instructional strategies, resources, materials, and technologies to support the learning needs of all students and enable students to reflect on their own learning goals.

6.4 Candidates maintain effective communication with school and community partners for support of the program.

6.6 Candidates create appropriate program design; develop and implement strategies, and demonstrate the use of innovative approaches to update, revise, modify and promote their educational program.

6.7 Candidates develop a course of study based on the Ohio Agricultural and Environmental Systems Career Field Standards

**Standard 7. Candidates construct and use varied assessments to inform instruction, evaluate, and ensure student learning.**

7.1 Candidates utilize formative and summative assessment techniques in the instructional process appropriate to the learning outcomes being evaluated.

7.2 Candidates utilize Quality Program Standards to assess the local agriculture program.

7.3 Candidates develop strategies to explore career opportunities, assess students' personal career interests, and assist students in identifying a plan for achieving their career goal.

7.4 Candidates interact with parents and guardians regarding student learning and success.

7.5 Candidates reflect on their own teaching practices; modify and adjust instruction as needed, and consult with others for continuous improvement.

7.6 Candidates assess student knowledge and use that knowledge to design and deliver instruction.

7.7 Candidates use authentic, contextual instructional approaches such as problem-based learning, project based learning and service learning that provide opportunities for students to master technical skills and develop critical thinking.

7.8 Candidates accurately define the characteristics, uses, advantages, and limitations of different types of assessments, including but not limited to state, value-added dimension reports and data.

**Standard 8. Candidates assume responsibility for professional growth, performance and involvement as an individual and as a member of a learning community.**

8.1 Candidates develop procedures for utilizing an Advisory Committee as a means of networking, exploring job experiences, and staying current on business and industry trends.

8.2 Candidates understand legislative requirements, institutional and supervisory responsibilities when preparing students for work and/or continuing education.

8.3 Candidates demonstrate technological skills necessary for an evolving workplace in a global society.

8.4 Candidates collaborate as a member of a team; applying knowledge from other disciplines.

8.5 Candidates recognize schools as institutions of change within the larger community context.

8.6 Candidates uphold the laws related to student rights, and teacher responsibilities (e.g., equal opportunity in education, Individuals with Disabilities Act, child-abuse reporting, confidentiality harassment, bullying, etc).

8.7 Candidates now major areas of research on teaching and of resources available for professional learning (e.g. literature, professional organizations, colleagues, professional development activities).

8.8 Candidates seek opportunities to positively impact teaching effectiveness, focusing on student achievement and school improvements.

8.9 Candidates cultivate professional relationships with school colleagues, and professional organizations to enhance professional practice, increase student learning, and serve the profession.

8.10 Candidates plan for continuous professional growth after initial licensure through membership in professional organizations, developing an IPDP, and engaging in other educational opportunities.

8.11 Candidates identify professional codes of ethics and demonstrate ethical behavior in their teaching practice.