

National Curriculum Framework

A National Curriculum Framework provides educators a roadmap for developing rigorous programs of study that integrate science, mathematics, and technology. Additionally, the Framework encourages the seamless transition of students from secondary to postsecondary institutions through the following efforts:

- Definition of a process for building local partnerships between secondary and postsecondary schools and business and industry (Vision 2020 process – <http://www.agknow.org/vision2020/>);
- Provision of a process to identify locally the appropriate mastery levels of knowledge and skills for secondary and postsecondary education;
- Development of the appropriate assessment tools to measure the attainment of the skills and knowledge;
- Certification of students who achieve mastery of the knowledge and skills; and
- Suggestions about tools and guides for effective career planning.

How Does AgrowKnowledge Fit In?

One of AgrowKnowledge's underlying goals is to institutionalize science, math, and technology skills in community college agriculture programs.

AgrowKnowledge will promote that goal through curriculum identification/development, faculty development, and our web-based Clearinghouse.

Sixteen (16) different Career Clusters were created with industry input through the **National Career Clusters Project** (<http://www.careerclusters.org/whatis.htm>). The cluster for **Agriculture, Food, and Natural Resources**

identifies seven Pathways, with each Pathway providing educators with a set of knowledge and skills that learners need as they travel the road toward their career goals.



All information provided through the AgrowKnowledge Center Clearinghouse will focus on the career cluster for Agriculture, Food, and Natural Resources (<http://www.agknow.org/career-clusters/>) with its seven identified Pathways. The knowledge and skills, along with their accompanying measurement criteria, form a strong basis for learner success in high school, college, technical training, apprenticeship programs, and the workplace. Additionally, projects will adhere to National Math, Science, and Technology Standards and contribute to the development of rigorous programs of study in agricultural community college programs.

What is the Vision 2020 Process?

AgrowKnowledge supports a process called Vision 2020 (<http://www.agknow.org/vision2020/>). The central mission of Vision 2020 is to build a seamless educational system for the Agriculture, Food, and Natural Resources (AFNR) industry. This seamless system helps ease the transition of students from high school to college and on to a successful career, thus ensuring that an adequate supply of ready and motivated people are available to move into the job force. Local high

schools, community colleges, universities, and industry work together to ensure that educational programs and courses are coordinated and meet industry's needs.

What Are the Outcomes of the Vision 2020 Process?

The process lays the groundwork for a number of outcomes:

- Improved curriculum at all educational levels.
- Development of new Programs of Study.
- Career Academies or Dual Credit Programs in which high school students get college credit for coursework.
- Articulation plans for community colleges and universities.
- Internship programs for students and instructors.
- Improved partnerships between educational institutions and business and industry.
- Students who are better prepared for college and the workplace.



Will the AgrowKnowledge Center Provide Curriculum and Instructional Materials for Its Members?

AgrowKnowledge's involvement in Curriculum and Instruction will evolve over time. Current efforts include the following:

- Development of rigorous **Model Programs of Study** (<http://www.agknow.org/Clearinghouse/MaterialDetail.asp?CHID=161>) that integrate math, science, and technology for community colleges, using input from experts in each discipline of study.
- **Sample Programs of Study and instructional materials from AgrowKnowledge Partners and Participating Members**, (<http://www.agknow.org/Clearinghouse/MaterialDetail.asp?CHID=121>) such as lab activities, syllabi, individual modules or lessons.
- **Links to existing courses** (<http://www.agknow.org/Clearinghouse/MaterialDetail.asp?CHID=130>) that have integrated science, mathematics, and technology to address emerging technologies.
- **Links to Partner and Participating Schools** (<http://www.agknow.org/about/partners/default.asp>) that have implemented various programs of study related to the Agriculture, Food, and Natural Resources Pathways.
- **Learning Modules** (<http://www.agknow.org/Clearinghouse/MaterialDetail.asp?CHID=118>) developed from presentations, faculty development workshops, and other AgrowKnowledge activities.
- **DACUMs** (Developing a Curriculum) (<http://www.agknow.org/Clearinghouse/MaterialDetail.asp?CHID=142>) that can be used to develop specific training courses for Ag-related occupations.

What Will AgrowKnowledge's Model Programs of Study Include?

The purpose of the Model Programs of Study will be 1) to provide guidance to educators who want to implement a new program at their schools; 2) to help educators improve existing programs, especially as related to emerging technologies that require strong science, math, and technology skills; and 3) to lead educators to schools that already have such a program in place.

Each Model Program of Study will include the following components:

- Title of the Program
- Overview and Description
- List of Recommended Courses
- Suggested Hours Required for Each Course
- Course Descriptions
- Competencies Required

What's a DACUM?

DACUM is an acronym for developing a curriculum. It involves a one- or two- day storyboarding process that provides a picture of what a worker does in terms of duties, tasks, knowledge, skills, traits. In some cases, it also identifies the tools the worker uses. A completed DACUM looks similar to a job description and the process to produce one is similar to what takes place during a job analysis. The information is presented in graphic chart form and can include information about critical and frequently performed tasks and the training needs of workers. For additional information on DACUM, contact AgrowKnowledge or go to the training resource center at: <http://www.trc.eku.edu>. A large collection of DACUM research charts covering a wide range of occupations has been collected and catalogued by the Center on Education and Training for Employment at the Ohio State University <http://www.dacum.com/ohio/chart.htm>.

In 2001 AgrowKnowledge held “Defining Agriculture Technology,” a conference in which 13 occupational categories and their accompanying technician-level occupations were targeted (Link to document). These occupations are prime candidates for the DACUM process. Three AgrowKnowledge members are certified to facilitate the process, and three DACUMs have already been completed (<http://www.agknow.org/Clearinghouse/MaterialList.asp>). In addition to being used for the development of business and industry training, college instructors can use DACUMs as the basis for their development and enhancement of advanced technology courses.