

MARYLAND HIGHER EDUCATION COMMISSION
ACADEMIC PROGRAM PROPOSAL

PROPOSAL FOR

- NEW INSTRUCTIONAL PROGRAM
 SUBSTANTIAL EXPANSION/MAJOR MODIFICATION
 COOPERATIVE DEGREE PROGRAM
 WITHIN EXISTING RESOURCES or REQUIRING NEW RESOURCES

For each proposed program, attach a separate cover page. For example, two cover pages would accompany a proposal for a degree program and a certificate program.

Chesapeake College
Institution Submitting the Proposal

July 1, 2016
Proposed Implementation Date

Associate of Applied Science (AAS)
Award to be Offered

Agriculture: Sustainability Area of Concentration
Title of the Proposed Program

Suggested HEGIS Code

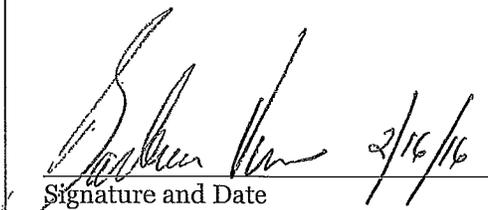
Suggested CIP Code

Agriculture & Environmental Studies
Department of Proposed Program

Department Chair

Maureen Gilmartin, Dean
Contact Name

mgilmartin@chesapeake.edu 410.827.5842
Email Address/Phone Number


Signature and Date

President/Chief Executive Office

December 3, 2015
Date

Endorsed/Approved by Governing Board



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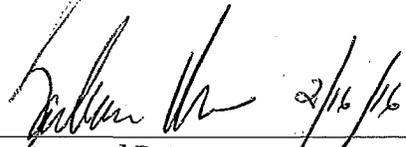
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A. Centrality to institutional mission statement and planning priorities:

1. Provide a description of the program, including each area of concentration (if applicable), and how it relates to the institution's approved mission.

The Chesapeake College Agriculture Degree will prepare graduates to work in the agriculture industry, either as an employee or as an owner-operator of a small farm; they will also be able to work in the support industries for agriculture. This aligns with the college's mission and "core commitment... to prepare students from diverse communities to excel in further education and employment in a global society". The program is designed to offer a core set of courses and then two areas of concentration; one in Production and the other in Sustainability.

Agriculture was one of the new program areas identified last spring in the survey findings of the community needs assessment. Exploration of this potential major with a focus group of local farmers, members of the agriculture support professions, agriculture educators, extension agents, and business persons agreed that there was need for this program in the college's five-county service region. The college then worked with Dr. Nicole Fiorellino of the University of Maryland Extension Office to design the Agriculture AAS degree with two areas of concentration.

Program Description: The Agriculture program is designed to provide a general education background, and the knowledge and skills needed for a career in agriculture. The profession includes work in animal and plant production, as well as a wide variety of industries that support growers. Through curricular course requirements and choices, students build foundations in plant science, animal science, soil science, business, and economics. The curriculum demands significant practical, technical and communication skills. Learning takes place in the classroom, laboratory, field, and library/academic support centers.

2. Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.

"Chesapeake College is a comprehensive public two-year regional community college serving the educational needs of the residents of Caroline, Dorchester, Kent, Queen Anne's and Talbot counties on Maryland's Upper Eastern Shore. The College's core commitment is to prepare students from diverse communities to excel in further education and employment in a global society. We put students first, offering transformative education experiences. Our programs and services are comprehensive, responsive, and affordable. The college is a catalyst for regional economic development and sustainability and a center for personal enrichment and the arts.... The College offers a large selection of credit and continuing education offerings designed to help students prepare for transfer to upper level institutions, for immediate entry into a career, or for enhancing work-related skills...."

The above excerpt from the Chesapeake College mission statement reflects the College's goal of providing programs and courses to meet the current and future needs of the region. Enabling local students to begin or expand their path to a career in agriculture and its related fields is central to the College's mission and responsive to the economic needs of the College's service region.

Agriculture is a new field of study for Chesapeake College. Development of the Agriculture degree program at Chesapeake can contribute to five of the College's strategic goals included in the 2014-2018 Strategic Plan: transforming student learning, strengthening the regional economy, improving student goal attainment, growing enrollment, and advancing environmental sustainability.

The Chesapeake College Academic and Enrollment Planning and Assessment Council (AEPAC), through research and discussions to build the College's recently adopted Enrollment Management Plan (EMP), reached general consensus on seven philosophies with regard to the

need for new academic programs, four of which are relevant to this proposal. The proposed Agriculture program fits these four criteria:

1. *The college needs new programs that appeal to its prospective students, particularly traditional-age prospects if Chesapeake is to rebuild its market share of recent high school graduates.*

Anecdotal evidence supports the idea that agricultural professions have wide appeal on the Eastern Shore. Among other reasons, these careers allow residents to work and live locally, and the wealth of interest among FFA (Future Farmers of America) and 4H students at all five county high school systems which serve as feeder schools to the college indicates there is already interest among these high school students searching for college programs in Agriculture.

2. *The college should concentrate on programs for which it can be demonstrated there are jobs available within the career field in Maryland.*

Growth in Agriculture careers is steady. Statewide, entry level agriculture jobs are projected to grow by 1070 jobs between 2012 and 2022. (<http://dlr.maryland.gov/lmi/iandoproj/wias.shtml>).

Occ Code	Occupational Title	Annual Growth Rate	Annual Growth	Total Annual Openings	Growth Rate	Total	Replacement	Change	2022	2012
45-2093	Farmworkers, Farm, Ranch, and Aquacultural Animals	1.29%	4.4	14.8	12.87%	148	104	44	386	342
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	0.06%	1.6	79.1	0.63%	791	775	16	2572	2556
45-1011	First-Line Supervisors of Farming, Fishing, and Forestry Workers	-0.04%	-0.1	4.7	-0.45%	47	47	-1	222	223
13-1021	Buyers and Purchasing Agents, Farm Products	0.56%	1.9	8.4	5.59%	84	65	19	359	340
MD Statewide	Farmers, Ranchers, and Other Agricultural Managers	1.86%	7.8	107	18.63%	1070	991	78	3539	3461
Occupational Projections 2012-2022										

3. *The college needs new programs where there is an identified pool of qualified adjunct faculty to teach any new courses that are required to deliver the program.*

As part of our focus group, we identified a number of potential adjunct faculty, with whom we have good professional relationships. Many of these individuals are leaders in agriculture at the regional level, and are among the most distinguished persons in the field. Many are employed at area agriculture extension offices or work in education at the high school level or for the University of Maryland.

4. *The college should emphasize programs that provide reasonable prospects for student completion.*

The Agriculture: Production Area of Concentration program, as proposed, shares a common core of courses with the proposed Agriculture: Sustainability Area of Concentration program in Agriculture, which points to a slightly different set of potential careers. Students traveling along the core pathway of courses have the flexibility to change programs with little additional coursework, leaving open an avenue for success even among students who decide that they want to change areas of concentration. The core program, however, provides significant structure, so students can easily track and anticipate their progress.

B. Adequacy of curriculum design and delivery to related learning outcomes consistent with Regulation .10 of this chapter:

1. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements.

See below.

Agriculture: Production or Sustainability Area of Concentration

2. Courses in **BOLD** indicate items specific to the courses for that Area of Concentration (Production or Sustainability)

Agriculture Production Area of Concentration	
Fall Semester I	
AGR 101 Introduction to Agriculture	3
CHM 121 General Chemistry I	4
ENG 101 Composition (G.Ed.)	3
ECN 171 Principles of Macroeconomics (G.Ed.) or	
ECN 172 Principles of Microeconomics (G.Ed.)	3
MAT 113 College Algebra (G.Ed.)	3
Spring Semester I	
AGR 113 Soil Science	4
AGR 115 Agricultural Marketing	3
AGR 213 Introduction to Agricultural Economics	3
BIO 105 Introduction to Horticulture (G.Ed.)	4
Fall Semester II	
AGR 214 Integrated Pest Management	3
AGR 220 Introduction to Animal Science	4
AGR 223 Introduction to Agribusiness	3
CPL 105 Career Planning & Preparation	1
SCI 151 Environmental Science (G.Ed.)	4
Spring Semester II	
AGR 201 Agricultural Mechanics	3
AGR 230 Vegetable & Crop Production	4
AGR 240 Special Topics in Agriculture	3
COM 101 Fund. of Oral & Organizational Communication (G.Ed.)	3
CPL 281 Cooperative Work Experience	2
MINIMUM REQUIRED CREDITS:	<u>60</u>

13 credit hrs

Agriculture Sustainability Area of Concentration	
Fall Semester I	
AGR 101 Introduction to Agriculture	3
CHM 121 General Chemistry I (G.Ed.)	4
ENG 101 Composition (G.Ed.)	3
ECN 171 Principles of Macroeconomics (G.Ed.) or	
ECN 172 Principles of Microeconomics (G.Ed.)	3
MAT 113 College Algebra (G.Ed.)	3
Spring Semester I	
AGR 113 Soil Science	4
AGR 120 Introduction to Food Systems	3
BIO 205 Introduction to Horticulture (G.Ed.)	4
BUS 101 Introduction to Business	3
Fall Semester II	
AGR 214 Integrated Pest Management	3
AGR 220 Introduction to Animal Science	4
CPL 105 Career Planning & Preparation	1
SCI 151 Environmental Science (G.Ed.)	4
SUS 101 Introduction to Sustainability	3
Spring Semester II	
AGR 201 Agricultural Mechanics	3
AGR 225 Organic Crop Production	4
AGR 240 Special Topics in Agriculture	3
COM 101 Fundamentals of Oral & Organizational Communication (G.Ed.)	3
CPL 281 Cooperative Work Experience	2
MINIMUM REQUIRED CREDITS:	<u>60</u>

13 credit hrs

Course Descriptions

AGR 101 - Introduction to Agriculture
A foundation course in agriculture, covering soil, crop, and environmental sciences, and an understanding of global agricultural systems, modern and historical. Includes introductory concepts in botany, soil science, pest management, environmental science, nutrient management, agricultural policy, legislation, and sustainability as they apply to food production. Three hours lecture per week. [FALL] 3 Credits

AGR 113 - Soil Science
Covers the formation, identification, and properties of soils. Additional topics covered include nutrient cycling, organic matter, nutrient management, soil microorganisms, and discussions of different agricultural production systems in the US. Two hours lecture and four hours of laboratory per week. [SPRING] PREREQUISITE: CHM 121. 4 Credits

AGR 115 - Agricultural Marketing
An introduction to the shift of agricultural commodities from farm to plate. Topics to be covered include

buying, selling, transportation, storage, financing, pricing, and risk bearing. Grain and other commodity markets will also be discussed. Three hours lecture per week. [SPRING] 3 Credits

AGR 120 - Introduction to the Food System
An interdisciplinary introduction to the food system: food science and policy, food marketing and economics, food processing, agriculture, biotechnology, nutrition, eating habits and choices, food security, the connections between consumer demand and food production, and the ethical ramifications of the current food system. The course will focus on the American food system, but will touch on global food issues, including how to feed an estimated 9,700,000,000 people by 2050. Three hours lecture each week. [SPRING] 3 Credits

AGR 201 - Agricultural Mechanics
Introduces the basics of planning, designing, and executing a project. Specific skills learned include drafting, planning, safety procedures, welding, wood-

working, and diesel engines. One hour lecture and four hours laboratory per week. [SPRING] 3 Credits

AGR 213 - Introduction to Agricultural Economics

This introduction to economic concepts related to agriculture includes definition and scope of agricultural economics; business organizations in the food and fiber system; factors of production and their characteristics; location of agricultural production; market equilibrium analysis, and the role of price elasticities of demand and supply. Three hours lecture. [FALL] PREREQUISITE: Complete MAT 023 as a prerequisite, or appropriate placement score. Take ENG 094+ as a pre or corequisite, or appropriate placement score. 3 credits

AGR 214 – Integrated Pest Management

An introduction to the practices associated with integrated pest management (IPM), which goes beyond the sole use of pesticides. This course will cover different methods and techniques for pest management. The course will also cover methods for combining these techniques for effective long-term control of pests. Two hours lecture and two hours laboratory per week. [FALL] PREREQUISITE: AGR 113. 3 Credits

AGR 220 - Introduction to Animal Science

A comprehensive overview of the application of biology in the care and use of animals that live in close association with humans, including food animals, companion animals, and zoo animals. The role of science in modern food production using animals will be emphasized. Three hours lecture and two hours laboratory each week. Frequent field experiences required. [FALL] 4 Credits

AGR 223+ - Introduction to Agribusiness

An introduction to agribusiness. The course includes definition and scope of agribusiness, characteristics of agribusiness firms, trends of their expansion/decline are examined, and career opportunities in agribusiness. Three hours lecture. [SPRING] PREREQUISITE: AGR 213. 3 credits

AGR 225 - Organic Crop Production

Organic farming and gardening methods will be discussed in class and practiced in the field. The philosophical background of organic farming as well as the biological, environmental and social factors involved in organic food production are also covered. Two hours lecture and four hours of laboratory experience per week. [SPRING] 4 Credits
PREREQUISITE: AGR 113

AGR 230 - Vegetable & Crop Production

An introduction to vegetable and crop production systems. The course will cover the basics of site selection and establishment, fertilization, irrigation, and harvest of vegetables and other agricultural crops. Major vegetable crops as well as traditional agricultural crops typically grown for human and animal consumption. Two hours lecture and four hours laboratory per week. [SPRING] PREREQUISITE: AGR 113. 4 Credits

AGR 240 - Special Topics in Agriculture

An introduction to, and discussion of, recent and special topics that affect agriculture. Topics will be drawn from recent technological advances, recent policy changes, and emerging issues in agriculture. Three hours lecture each week. [SPRING] 3 Credits

BUS 101 - Introduction to Business

The role and function of business enterprise within our economic framework. Topics included are organization, finance, marketing, personnel management and production. Three hours lecture per week. [FALL/SPRING] PREREQUISITE: Complete ENG 094+ as a prerequisite, or appropriate placement score. 3 credits

SUS 101 - Introduction to Sustainability

An interdisciplinary introduction to sustainability, challenges faced by humanity as we approach 2100, and practical solutions. Includes ecological, social, and financial dimensions of sustainability, and draws on concepts from science, policy, economics, ethics, and other academic disciplines. Includes introductions to systems-level thinking, "wicked problems," and life-cycle analysis of goods. Three hours lecture each week. [FALL] 3 Credits

Representative General Education Courses:

COM 101 - Fundamentals of Oral and Organizational Communication [G.Ed.]

Foundations of communication theory and practice relevant to individual, small group, and business and professional settings. Major units include theories of communication, interpersonal communication, group discussion (teamwork), organizational culture, diversity, listening, conflict management, interviewing, public speaking and visual aids. Three hours lecture per week. [FALL/SPRING] 3 credits

ENG 101 - Composition [G.Ed.]

Instruction in the writing process using published essays as models of effective writing. Students will

learn to write clearly organized essays using the basic patterns of expression. The English language, logic, library use, and the form and organization of research papers are studied. A research paper must be completed to satisfy course requirements. Three hours lecture per week. [F/S] PREREQUISITE: Appropriate score on placement test. 3 credits

ECN 171 - Principles of Macroeconomics [G.Ed.]

A study of the principles of economic behavior and its application to economic problems. The emphasis is on macroeconomic principles. Three hours lecture per week. [FALL/SPRING] PREREQUISITE: Complete ENG 094+ as a prerequisite, or appropriate placement

score. PRE or COREQUISITE: Take MAT 023 as a pre or corequisite, or appropriate placement score.

3 credits

ECN 172+ - Principles of Microeconomics [G.Ed.]

A continued study of the principles of economic behavior and their application to economic problems. The emphasis is on microeconomic principles. Three hours lecture per week. [FALL/SPRING] 3 credits
PREREQUISITE: Complete ENG 094+ as a prerequisite, or appropriate placement score.
RECOMMENDED PREREQUISITE: ECN 171.
PRE or COREQUISITE: Take MAT 023 as a pre or corequisite, or appropriate placement score.

MAT 113+ - College Algebra [G.Ed.]

College algebra course for students not majoring in mathematics, engineering, or physical science. Topics included are complex numbers; polynomial, rational, radical, inverse, exponential, and logarithmic functions and their graphs; transformations of basic functions and their graphs; systems of equations; and appropriate applications. Three hours per week. [FALL/SPRING] PREREQUISITE: Complete MAT 032+ as a prerequisite, or appropriate placement score. 3 credits

BIO 105 - Introduction to Horticulture [G.Ed.]

Covers the principles and practices in the development, production, and use of horticulture crops, including classification, taxonomy, structure, growth, development, soils, fertilizers, greenhouse, turf, pest management, and environmental influences of horticulture crops. Three hours lecture, two hours laboratory per week. [SPRING] 4 credits

SCI 151 - Environmental Science [G.Ed.]

An introduction to the study of the natural environment, designed to increase environmental literacy. The course emphasizes the interdisciplinary nature of the field, and includes significant field experience. Topics include systems thinking and analysis; basic concepts of the atmosphere, hydrosphere, lithosphere, and biosphere; resource use and conservation; environmental policies, agencies, and laws; human impact on ecological resources; and current issues in environmental science at global, regional, and local scales. Three hours lecture, two hours laboratory per week, and required field experiences. [FALL/SPRING] 4 credits
PREREQUISITE: Complete MAT 031+ as a prerequisite, or appropriate placement score.

3. Describe the educational objectives and intended student learning outcomes.

Upon successful completion of the **AAS degree in Agriculture: Production Area of Concentration** students will be able to:

1. Demonstrate comprehension of basic concepts of agriculture, and prepare for future careers.
2. Discuss the importance of agriculture in daily life and its societal role in the US and globally.
3. Demonstrate a working knowledge of soil science and agricultural systems.
4. Demonstrate the skills to plan and execute a project to completion.
5. Demonstrate knowledge of pest identification.
6. Outline a plan for managing pests while minimizing environmental impacts.
7. Apply class knowledge to field or greenhouse production systems.
8. Discuss the facets of vegetable and crop production, including similarities and differences.
9. Demonstrate working knowledge of food production systems.
10. Apply the learned skills from the course to a vegetable or cropping system.
11. Explain the purpose of marketing agricultural products.
12. Analyze the most recent changes in agricultural technology, policy, and practice.
13. Identify and critique sources of information in agriculture.

Upon successful completion of the **AAS degree in Agriculture: Sustainability Area of Concentration** students will be able to:

1. Demonstrate comprehension of basic concepts of agriculture, and prepare for future careers.
2. Discuss the importance of agriculture in daily life and its societal role in the US and globally.
3. Demonstrate a working knowledge of soil science and agricultural systems.
4. Demonstrate the skills to plan and execute a project to completion.
5. Demonstrate knowledge of pest identification.
6. Outline a plan for managing pests while minimizing environmental impacts.
7. Apply class knowledge to field or greenhouse sustainable production systems.
8. Discuss the facets of vegetable and crop production, including similarities and differences.
9. Demonstrate working knowledge of food production systems.
10. Apply systems thinking to current problems in sustainability and development.
11. Identify global, national, and local sustainability challenges from multiple perspectives, and factors that contribute to those problems.
12. Analyze the most recent changes in agricultural technology, policy, and practice.
13. Discuss potential solutions to sustainability challenges at a variety of scales.

14. Discuss organic practices and how these compare to conventional farming practices.

4. Discuss how general education requirements will be met, if applicable.

The program follows the standard General Education requirements for all AAS degrees at the college, thus it demands 20 credits of General Education courses indicated in the program of study by the (G.Ed.) seen in the above program listing.

5. Identify any specialized accreditation or graduate certification requirements for this program and its students.

NA

6. If contracting with another institution or non-collegiate organization, provide a copy of the written contract.

NA

C. Critical and compelling regional or Statewide need as identified in the State Plan:

1. Demonstrate demand and need for the program in terms of meeting present and future needs of the region and the State in general based on one or more of the following:
 - *The need for the advancement and evolution of knowledge;*
 - *Societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education;*
 - *The need to strengthen and expand the capacity of historically black institutions to provide high quality and unique educational programs.*

The proposed Agriculture program provides for the advancement and evolution of knowledge in the field by focusing on two areas of concentration: Production and Sustainability. It further expands the educational opportunities for education in the field of Agriculture for all students as there are currently no other associate degree programs in this field of study in Maryland community colleges. The University of Maryland Institute of Applied Agriculture has a two-year lower-division certificate in Applied Agriculture. Harford Community College has a lower-division certificate in Agribusiness; no other community college in Maryland offers an agricultural program of any sort. The program proposed here will be the only program at a Maryland community college that teaches students to grow plant and animal crops. UMES and UM-College Park offer a bachelor's and master's degrees, and College Park offers a doctoral program.

2. Provide evidence that the perceived need is consistent with the Maryland State Plan for Postsecondary Education (pdf).

The 2009 Maryland State Plan for Postsecondary Education lists five goals for program offerings. Of these goals the proposed AAS Agriculture degree best promote goals 2 and 4. Goal 2 which focuses on access and affordability, will be addressed as this will be the only associate degree in Agriculture offered in the state of Maryland. Local students as well as students from around the state interested in the field of agriculture will be able to take an associate degree at an affordable cost at Chesapeake College which prepares them for immediate employment or provides some foundation for them to continue in further study if they desire.

Goal 4 which focuses on student-centered learning will be promoted as students in the Agriculture program will use a great deal of project-based learning in both individual and group settings to manage farming and agricultural-related tasks in a variety of courses. Students will work with industry professionals on a teaching 'farm' - a plot of ground, with farm structures such as high tunnels or greenhouses, to teach components of several classes. At present, the College is party to a USDA grant application that may bring high tunnels to campus; barring that, we will need to apply for grant funding for those structures. The College has, however, committed to setting aside ground for a teaching farm.

D. Quantifiable & reliable evidence and documentation of market supply & demand in the region and State:

1. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.

We conducted a focus group of local farmers, members of agricultural support professions, agricultural educators, extension agents, and business persons, who agreed on the need for, and the benefits of, this program to the five-county area. Among other conclusions from the focus group, it was agreed that agriculture is a viable career choice on the Eastern Shore. Furthermore, the knowledge, skills, and abilities that would be gained by graduates of the program will make graduates more prepared to run their own farms, to participate in farming activities on others' farms, or to join one of the many industries that undergirds and supports agriculture. Ideas and concepts from that focus group have made their way into the proposed coursework.

Particularly attractive to focus-group members was the fact that the proposed program includes multiple areas of emphasis, allowing students to choose coursework in production agriculture or in sustainable agriculture. Employment demand data is shown previously in the chart by DLLR Md statewide occupational demand and below in the chart by the Bureau of Labor Statistics for Maryland.

45-0000	<u>Farming, Fishing, and Forestry Occupations</u>	major	1,700	7.7%	0.663	0.20	\$14.31	\$15.24	\$31,710	2.2%
45-1011	<u>First-Line Supervisors of Farming, Fishing, and Forestry Workers</u>	detail	110	13.1%	0.044	0.32	\$24.81	\$25.19	\$52,400	3.8%
45-2011	<u>Agricultural Inspectors</u>	detail	170	15.5%	0.066	0.64	\$21.08	\$20.38	\$42,390	3.7%
45-2041	<u>Graders and Sorters, Agricultural Products</u>	detail	30	35.4%	0.012	0.05	\$14.85	\$14.42	\$29,990	6.4%
45-2091	<u>Agricultural Equipment Operators</u>	detail	150	34.1%	0.060	0.31	\$16.44	\$15.96	\$33,190	4.0%
45-2092	<u>Farmworkers and Laborers, Crop, Nursery, and Greenhouse</u>	detail	520	13.3%	0.202	0.10	\$11.48	\$12.75	\$26,510	4.3%
45-2093	<u>Farmworkers, Farm, Ranch, and Aquacultural Animals</u>	detail	380	14.5%	0.148	0.63	\$11.45	\$12.81	\$26,650	6.2%
45-2099	<u>Agricultural Workers, All Other</u>	detail	80	29.3%	0.033	0.85	\$16.44	\$16.72	\$34,780	2.5%
Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE
Occupation code	Occupation title (click on the occupation title to view its profile)	Level	Employment	Employment RSE	Employment per 1,000 jobs	Location quotient	Median hourly wage	Mean hourly wage	Annual mean wage	Mean wage RSE

2. Discuss and provide evidence of market surveys that clearly provide quantifiable and reliable data on the educational and training needs and the anticipated number of vacancies expected over the next 5 years.

We conducted a focus group of local farmers, members of agricultural support professions, agricultural educators, extension agents, and business persons, who agreed on the need for, and the benefits of, this program to the five-county area. Among other conclusions from the focus group, it was agreed that agriculture is a viable career choice on the Eastern Shore. Furthermore, the knowledge, skills, and abilities that would be gained by graduates of the program will make graduates more prepared to run their own farms, to participate in farming activities on others' farms, or to join one of the many industries that undergirds and supports agriculture. Ideas and concepts from that focus group have made their way into the proposed coursework.

Additionally students from all high school CASE (Curriculum for Agricultural Science Education) programs in our five-county support region indicate a desire to continue with agriculture education at the college level and expressed a desire to stay in the local region if a program were to be offered.

3. Data showing the current and projected supply of prospective graduates.

All of our current five-county support high school systems offer the CASE agriculture curriculum which will feed seamlessly into our program. Graduates from these high school programs will receive 6 credits of articulated credit for the Intro to Ag course and the Ag Marketing course once they complete the Soil Science class at the college with a grade of C or better. Currently each high school system has about 20 – 35 students in the CASE program for a total of approximately 150 high school graduates in our service region per year.

E. Reasonableness of program duplication:

1. Identify similar programs in the State and/or same geographical area. Discuss similarities and differences between the proposed program and others in the same degree to be awarded.

The proposed Agriculture program provides for the advancement and evolution of knowledge in the field by focusing on two areas of concentration, Production and Sustainability. It further expands the educational opportunities for education in the field of Agriculture for all students as there are currently no other associate degree programs in this field of study in Maryland community colleges. The University of Maryland Institute of Applied Agriculture has a two-year lower-division certificate in Applied Agriculture. Harford Community College has a lower-division certificate in Agribusiness; no other community college in Maryland offers an agricultural program of any sort. The program proposed here will be the only program at a Maryland community college that teaches students to grow plant and animal crops. UMES and UM-College Park offer a bachelor's and master's degrees, and College Park offers a doctoral program.

2. Provide justification for the proposed program.

The proposed Agriculture degree with Areas of Concentration in Production or Sustainability is distinctively flexible, providing an educational experience in agriculture that is not available in any other community college in Maryland. Students on the Eastern Shore of Maryland and elsewhere throughout the state are enrolled in a wide variety of high school programs related to agriculture and are not able to pursue their chosen field of study at the associate degree level in our state.

F. Relevance to Historically Black Institutions (HBIs)

1. Discuss the program's potential impact on the implementation or maintenance of high-demand programs at HBI's.

No HBI in the state offers any bachelor degree or associate degree programs in agriculture.

2. Discuss the program's potential impact on the uniqueness and institutional identities and missions of HBIs.

The program will not have any impact on the uniqueness, institutional identity or mission of any of the state's HBIs.

G. If proposing a distance education program, please provide evidence of the Principles of Good Practice (as outlined in COMAR 13B.02.03.22C).

N/A

H. Adequacy of faculty resources (as outlined in COMAR 13B.02.03.11).

Provide a brief narrative demonstrating the quality of program faculty. Include a summary list of faculty with appointment type, terminal degree title and field, academic title/rank, status (full-time, part-time, adjunct) and the course(s) each faculty member will teach.

The Director of the college's CLEEN (Center for Leadership in Environmental Education) project (Greg Farley, MS) who also holds faculty rank and has served as a full-time faculty member of the college in the Science Department will be teaching some of the classes in the Agriculture program. Mr. Farley holds the rank of Full Professor and has taught full time at the college for well over 10 years. He, along with Dr. Nicole Fiorellino of the University of Maryland Extension Office will serve as adjuncts in the program teaching a variety of the science and agriculture-related courses. We also have identified a pool of highly qualified adjuncts who live and work in our service region that are interested in teaching in the program given their roles as highly experienced professionals working for extension offices and other government-related agencies focused on agriculture.

I. Adequacy of library resources (as outlined in COMAR 13B.02.03.12).

Describe the library resources available and/or the measures to be taken to ensure resources are adequate to support the proposed program. If the program is to be implemented within existing institutional resources, include a supportive statement by the President for library resources to meet the program's needs.

The library of Chesapeake College provides students, faculty and community members with various resources to meet their informational and research needs and supports the programs that make up the current curriculum offerings. The library has a collection of 44,818 print titles, 2,834 audiovisual materials and 127 current serials. Among other holdings are subscriptions to 35 databases which provide full-text and bibliographic citations to thousands of periodicals, images, etc., dedicated to the scholarly disciplines in the sciences, social sciences, education, law and medicine. Additional holdings include a vast microfilm collection boasting 12,000 reels of archived professional journals dating as far back as the 1800s.

The library is a member of the Upper Eastern Shore Library Consortium which provides for resource sharing among the college and local public libraries. In addition, the college participates as a borrower in Marina, the Inter Library Loan program. This program allows our patrons to borrow from public and academic libraries throughout the State of Maryland. Information about the college's library resources can be found at <http://www.chesapeake.edu/library>. Access to resources about Agriculture and Agriculture-related topics will be easily accessible through our on-line database holdings and local information regarding our service region will also be available in print via holdings in the library's Chesapeake Room, which is dedicated to the region's history and cultural identity which is certainly grounded in agriculture. The President has affirmed that the program can be implemented within existing library resources.

J. Adequacy of physical facilities, infrastructure and instructional equipment (as outlined in COMAR 13B.02.03.13)

Provide an assurance that physical facilities, infrastructure and instruction equipment are adequate to initiate the program, particularly as related to spaces for classrooms, staff and faculty offices, and laboratories for studies in the technologies and sciences. If the program is to be implemented within existing institutional resources, include a supportive statement by the President for adequate equipment and facilities to meet the program's needs.

Existing classrooms and labs will be used to hold all classes. There is sufficient space to hold any needed new equipment, supplies or materials. Based on enrollment, a new full-time faculty member position is planned to be incorporated into the operating budget within 3 – 4 years. Additionally grants are being sought to help fund any other needs the program may have in regard to equipment or staffing. However, all needs are being planned for and incorporated into the annual college budget projections and planning process. This new program proposal was carefully reviewed and approved through the college governance structure. Thus it has met with the approval of the college faculty, administration and Board of Trustees for implementation and inclusion in the college budgeting process. The President has affirmed that the program can be implemented within existing institutional resources.

K. Adequacy of financial resources with documentation (as outlined in COMAR 13B.02.03.14)

1. Complete Table 1: Resources (pdf) and Table 2: Expenditure(pdf). Finance data(pdf) for the first five years of program implementation are to be entered. Figures should be presented for five years and then totaled by category for each year.

2. Provide a narrative rationale for each of the resource category. If resources have been or will be reallocated to support the proposed program, briefly discuss the sources of those funds.

Reallocated Funds: There will be no funds reallocated from existing campus resources or discontinued academic programs.

Tuition Fee/Revenue: The following breakdown of costs is based on in-county tuition rates and having one student complete 30 credits total per year.

Tuition	\$3,510	(\$117 per credit)
Consolidated Fee	\$1,020	(\$34 per credit)
Registration Fee	\$20	(\$10 per registration)
Capital Improvement Fee	\$30	(\$15 per registration)
TOTAL PER 30 CREDITS	\$4,580	

Grants & Contracts: Because this is an Associate of Applied Science degree we will, once approved, have it added to List A so we may use Perkins funding to help support program improvement. To date while we are trying to apply for other grant opportunities to help fund some of the desired program equipment, we have not yet reached the timeframe for grant awards so we do not know if we will be the recipient of any other grant funds. The college has made the commitment however to move forward with the program and feel confident we can meet all program needs with operating funds should we not be awarded any other grant funding.

- L. **Adequacy of provisions for evaluation of program (as outlined in COMAR 13B.02.03.15).**
Discuss procedures for evaluating courses, faculty and student learning outcomes.

The college uses a five-year internal program review process for all of its courses and its programs. Additionally all courses are reviewed annually with student opinion surveys. All courses and programs will implement faculty developed and approved assessment plans to monitor student mastery of all identified course and program goals and student learning outcomes. Each program also makes use of a program advisory board with membership consisting of college faculty, administration, areas business representatives, and local leaders from the agriculture industry. This board will review and recommend curriculum revisions as needed.

- M. **Consistency with the State's minority student achievement goals (as outlined in COMAR 13B.02.03.05 and in the State Plan for Postsecondary Education).**
Discuss how the proposed program addresses minority student access & success, and the institution's cultural diversity goals and initiatives.

Chesapeake College will use its ongoing outreach strategies to feeder high schools and to communities with high concentrations of minority populations. The College has a strong dual enrollment program which will be used to encourage early decisions about career goals and career exploration. Also the college, working in cooperation with the local county schools, has initiatives such as grow your own programs, community mentors, and new financial incentives, to recruit and retain more minority students. The college has an aggressive "early alert" system as part of its student retention initiatives.

- N. **Relationship to low productivity programs identified by the Commission:**
If the proposed program is directly related to an identified low productivity program, discuss how the fiscal resources (including faculty, administration, library resources and general operating expenses) may be redistributed to this program.

N/A

FINANCE DATA: PROPOSALS

Finance data for the first five years of program implementation are to be entered in Table 1 – Resources and Table 2 – Expenditures. Figures should be presented for five years and then totaled by category for each year. As an attachment, narrative explanation must accompany each table. Below is the format for both tables as well as directions for entering the data and writing the accompanying narrative.

TABLE 1: RESOURCES

1. Reallocated Funds

Data: Enter the amount of funds for the first five years of implementation that will be reallocated from existing campus resources to support the proposed program. This would include funds reallocated from the discontinuance or downsizing of academic programs.

Narrative: Analyze the overall impact that the reallocation will have on the institution, particularly on existing programs and organizational units.

There will be no funds reallocated from existing campus resources or discontinued academic programs.

2. Tuition and Fee Revenue

Data: Enter the estimated tuition and fee revenue that will be directly attributable to students new to the institution enrolled in this program each year. The revenue should be calculated by multiplying the tuition rate by the projected annual FTE enrollment.

Narrative: Describe the rationale for the enrollment projections used to calculate tuition and fee revenue.

Enrollment projections are provided by survey and focus groups of potential students, local businesses, and employment projections.

ESTIMATED FT ENROLLMENT	FALL 2016	FALL 2017	FALL 2018	FALL 2019	FALL 2020
AAS Agriculture Degree: Production or Sustainability Concentration	5	10	20	20	22

ESTIMATED PT ENROLLMENT	FALL 2016	FALL 2017	FALL 2018	FALL 2019	FALL 2020
AAS Agriculture Degree: Production or Sustainability Concentration	10	20	40	40	44

3. Grants and Contracts

Data: Enter the amount of grants, contracts or other external funding which will become available each of the five years as a direct result of this program.

Narrative: Provide detailed information on the sources of the funding. Attach copies of documentation supporting the funding. Also, describe alternative methods of continuing to finance the program after the outside funds cease to be available.

Conditional approval may be granted to a proposal that is dependent on grant funds that have not been officially awarded at the time of proposal submission, but in which substantial evidence has been provided to indicate a favorable review and an impending grant award is imminent. Under these conditions, program approval may be granted for a twelve-month period. During this period, the program may not be implemented. Full program approval is granted only after funding documentation is accepted. Under extraordinary circumstances, a one-time extension to conditional approval may be granted to an institution that provides compelling information to warrant an extension.

Because this is an Associate of Applied Science degree we will, once approved, have it added to List A so we may use Perkins funding to help support program improvement. To date while we are

trying to apply for other grant opportunities to help fund some of the desired program equipment, we have not yet reached the timeframe for grant awards so we do not know if we will be the recipient of any other grant funds. The college has made the commitment, however, to move forward with the program and feel confident we can meet all program needs with operating funds should we not be awarded any other grant funding.

4. Other Sources

Data: Enter any additional funds from sources other than in 1, 2, and 3 that have been specifically designated for the program.

Narrative: Provide detailed information on the sources of the funding, including supporting documentation. Maryland Higher Education Commission Academic Program Proposal Guidelines

N/A

5. Total Year

Data: Total the financial resources that will be available for each year of program implementation. Include cumulative as well as one-time resources.

Narrative: Additional explanation or comments as needed.

The following breakdown of costs is based on in-county tuition rates and having one student complete 30 credits total per year.

TABLE 1: RESOURCES					
RESOURCE CATEGORIES	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
1. Reallocated Funds					
2. Tuition & Fee Revenue (c + g below)	\$27,580	\$55,160	\$110,320	\$110,320	\$121,352
a. # of FT Students	5	10	20	20	22
b. Annual Tuition & Fee Rate	\$4,580	\$4,580	\$4,580	\$4,580	\$4,580
c. Total FT Revenue (a x b)	\$22,900	\$45,800	\$91,600	\$91,600	\$100,760
d. # PT Students	10	20	40	40	44
e. Credit Hour Rate	\$117	\$117	\$117	\$117	\$117
f. Annual Credit Hour Rate	4	4	4	4	4
g. Total PT Revenue (d x e x f)	\$4,680	\$9,360	\$18,720	\$18,720	\$20,592
3. Grants, Contracts, & Other External Sources					
4. Other Sources					
TOTAL (Add 1 – 4)	\$27,580	\$55,160	\$110,320	\$110,320	\$121,352

TABLE 2: EXPENDITURES

1. **Faculty (# FTE, Salary and Benefits):**
Data: Enter (a) the cumulative number of new full-time equivalent faculty needed to implement the program each year, (2) the related salary expenditures, and (3) the related fringe benefit expenditures. (For example, if two new faculty members are needed, one in the first year and one in the second, the full-time equivalency, salary, and benefits for one member should be reported in Year 1 and the same information for both members should be reported in Year 2 and each successive year.)
2. **Administrative Staff (# FTE, Salary, and Benefits):**
Data: Enter (1) the cumulative number of new full-time equivalent administrative staff needed to implement the program each year, (2) the related salary expenditures, and (3) the related fringe benefit expenditures.
3. **Support Staff (# FTE, Salary and Benefits):**
Data: Enter (1) the cumulative number of new full-time equivalent support staff needed to implement the program each year, (2) the related salary expenditures, and (3) the related fringe benefit expenditures.
4. **Equipment:**
Data: Enter the anticipated expenditures for equipment necessary for the implementation and continuing operation of the program each year.
5. **Library:**
Data: Enter the anticipated expenditures for library materials directly attributable to the new program each year.
6. **New and/or Renovated Space:**
Data/Narrative: Enter anticipated expenditures for any special facilities (general classroom, laboratory, office, etc.) that will be required for the new program. As a footnote to the table or in attached narrative, indicate whether the renovation of existing facilities will be sufficient or new facilities will be necessary.
7. **Other Expenses:**
Data/Narrative: Enter other expenditures required for the new program. Attach descriptive narrative or provide footnotes on the table. Included in this category should be allowances for faculty development, travel, memberships, office supplies, communications, data processing, equipment maintenance, rentals, etc.
8. **Total Year:**
Data: Add each expenditure (continuing and one-time) to indicate total expenditures for each year of operation.

TABLE 2: EXPENDITURES					
RESOURCE CATEGORIES	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
1. Faculty (b + c below)	\$15,200	\$15,200	\$91,200	\$91,200	\$91,200
a. # FTE	5	10	20	20	22
b. Total Salary	\$13,200	\$13,200	\$79,200	\$79,200	\$79,200
c. Total Benefits	\$2,000	\$2,000	\$12,000	\$12,000	\$12,000
2. Administrative Staff (b + c below)	\$5,368	\$5,368	\$5,368	\$5,368	\$5,368
a. # FTE	5	10	20	20	22
b. Total Salary	\$4,750	\$4,750	\$4,750	\$4,750	\$4,750
c. Total Benefits	\$618	\$618	\$618	\$618	\$618
3. Support Staff (b + c below)	\$1,695	\$1,695	\$1,695	\$1,695	\$1,695
a. # FTE	5	10	20	20	22
b. Total Salary	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
c. Total Benefits	\$195	\$195	\$195	\$195	\$195
4. Equipment					
5. Library					
6. New/Renovated Space					
7. Other Expenses	\$10,000	\$25,000	\$10,000	\$10,000	\$10,000
TOTAL (Add 1 – 7)	\$32,263	\$47,263	\$108,263	\$108,263	\$108,263

All of the required faculty and staff needed for this program are already in the college's operating budget and teaching in other related courses and programs. Thus, it is anticipated that unless enrollment in the program significantly exceeds the projection no additional full-time faculty or staff needs to be hired at this time and the existing resources are adequate to meet the current program needs. We do however anticipate that 1/5 of the salary of a current FT faculty member and prorated administrative and support staff member will be spent on this program. Based on enrollment, a new full time faculty member position is planned to be incorporated into the operating budget within 3 – 4 years. Other expenses for the program will include some small Ag-related lab supplies, seeds and plants and during the second year of the program the addition of some farm implements.