



Division of Academic Programs

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April 2, 2019

James D. Fielder, Jr., Ph.D.
Secretary of Higher Education
Maryland Higher Education Commission
6 North Liberty Street
Baltimore, MD 21201

Dear Dr. Fielder:

Attached is a proposal for a new Associate of Applied Sciences program:

**AAS Agricultural Sciences
with Concentrations in Agriculture and Agribusiness
HEGIS Code 0101.00; CIP Code 01.0000**

This program will replace currently existing degree programs in Equine Studies and Horticultural Science.

If there are any questions about this request, please contact Colleen Flewelling, Associate Dean of Academic Assessment and Development, at cflewelling@cecil.edu or 443-674-1948.

Sincerely,

Christy Dryer, DNP
Vice President, Academic Programs



Cover Sheet for In-State Institutions

New Program or Substantial Modification to Existing Program

Institution Submitting Proposal	Cecil College
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Each action below requires a separate proposal and cover sheet.

- | | |
|---|---|
| <input checked="" type="radio"/> New Academic Program | <input type="radio"/> Substantial Change to a Degree Program |
| <input type="radio"/> New Area of Concentration | <input type="radio"/> Substantial Change to an Area of Concentration |
| <input type="radio"/> New Degree Level Approval | <input type="radio"/> Substantial Change to a Certificate Program |
| <input type="radio"/> New Stand-Alone Certificate | <input type="radio"/> Cooperative Degree Program |
| <input type="radio"/> Off Campus Program | <input type="radio"/> Offer Program at Regional Higher Education Center |

Payment Submitted: <input checked="" type="radio"/> Yes <input type="radio"/> No	Payment Type: <input type="radio"/> R*STARS <input checked="" type="radio"/> Check	Date Submitted:
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Department Proposing Program	Sciences Department	
Degree Level and Degree Type	AAS	
Title of Proposed Program	Agricultural Sciences	
Total Number of Credits	60	
Suggested Codes	HEGIS: 10100	CIP: 10000
Program Modality	<input checked="" type="radio"/> On-campus <input type="radio"/> Distance Education (<i>fully online</i>) <input type="radio"/> Both	
Program Resources	<input checked="" type="radio"/> Using Existing Resources <input type="radio"/> Requiring New Resources	
Projected Implementation Date	<input checked="" type="radio"/> Fall <input type="radio"/> Spring <input type="radio"/> Summer Year: 2019	
Provide Link to Most Recent Academic Catalog	URL: https://www.cecil.edu/catalog	

Preferred Contact for this Proposal	Name:	Colleen Flewelling
	Title:	Associate Dean of Academic Assessment and Development
	Phone:	(443) 674-1948
	Email:	cflewelling@cecil.edu

President/Chief Executive	Type Name:	Mary W. Bolt
	Signature:	<i>Mary W. Bolt</i> Date: 03/29/2019
	Date of Approval/Endorsement by Governing Board:	03/28/2019

Revised 6/13/18

CECIL COLLEGE
NEW PROGRAM PROPOSAL
AAS AGRICULTURAL SCIENCES
with Concentrations in Agriculture and Agribusiness
HEGIS 0101.00 CIP 01.0000

A. Centrality to institutional mission statement and planning priorities:

Cecil College's Associate of Applied Science in Agricultural Sciences with Concentrations in Agriculture and Agribusiness provides a course of study designed to meet the needs of students who plan to work in various fields of agriculture or to transfer to a college or a university that grants a Baccalaureate degree in various areas of Agriculture.

This program will replace associate degree programs in Equine Studies and Horticultural Science.

Agriculture is a key part of Cecil County culture. Approximately 37% of the land in Cecil County is farmland, with much of it devoted to cash grain and dairy farms.¹ According to EMSI, the number of jobs in agriculture-related industries including Crop Production, Nursery Stock Merchant Wholesalers, and Agriculture, Forestry, Fishing and Hunting in Cecil County is much higher than the National average, and is expected to grow over the next five years.

Thus, this program directly supports Cecil College's mission to provide a supportive learning environment to students as they build the skills and knowledge to achieve academic success, prepare to transfer, and enter the workforce.

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

The AAS in Agricultural Sciences prepares students for the option of further study in an Agriculture program at a four-year institution. Students' expenses for their degree are greatly reduced when they complete two years of their degree at Cecil College. The chart below compares tuition at 4-year state institutions which have Agriculture programs with the cost of attending Cecil College. Decreased expenses allow many students to complete a degree they would otherwise be unable to complete, supporting goal 2 (Success) of the Maryland State Plan for Education.

Institution	Rate	Cost per credit 2018-19	Cost for 60 credits	Savings over 2 years
Cecil College	In-county	\$119	\$7,140	-
University of Maryland Eastern Shore	In-state	\$220	\$13,200	\$6,060
University of Maryland College Park	In-state	\$360	\$21,600	\$14,460

¹ http://cecilcounty.us/ecdev/business_agriculture.cfm

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

An Agricultural Sciences degree prepares students for several fields including owner, operator, or manager of an agricultural operation, herd or crop manager, nursery manager, or work in government agencies related to agriculture, natural resources, or the environment. Maryland's Department of Labor, Licensing and Regulation projects an increase from 2016-2026 in the number of openings for these types of positions.²

Field	2016-2026 Percent Change in openings in Maryland
Farmers, Ranchers and Other Agricultural Managers	+3.0%
Farming, Fishing, and Forestry Occupations	+6.2%

D. Reasonableness of program duplication:

A search of the Maryland Higher Education Commission's Academic Program Inventory database reveals one other Associate degree program in Agriculture in Maryland.

Institution	Program Name	Degree Offered
Harford Community College	Agribusiness	LDC
Chesapeake College	Agriculture	Associate
University of Maryland, College Park	Applied Agriculture	LDC

E. Relevance to high-demand programs at Historically Black Institutions (HBIs)

We anticipate there will be no impact on the implementation or maintenance of high-demand programs at HBI's.

F. Relevance to the identity of Historically Black Institutions (HBIs)

A bachelor's degree program in Agriculture is offered at University of Maryland Eastern Shore. Graduates of Cecil's AAS program in Agricultural Sciences could choose to attend UMES to earn their bachelor's degree.

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

² <http://dllr.maryland.gov/lmi/iandoproj/maryland.shtml>

The following information on degree requirements, learning outcomes and course descriptions will be made available to students in the college catalog, which is posted on the Cecil College website. Students may also consult with advisors and faculty members to learn about these programs.

Information about new programs is clearly and accurately represented in advertising, recruiting, and admissions materials. The College's Academic Programs unit widely shares information about the requirements for new or changed degrees in MHEC-approved programs. The Admissions and Marketing departments use this information to update application and inquiry forms, internal recruitment products, and other marketing materials.

Faculty at Cecil College design all courses and programs, which are then presented to the Academic Affairs Committee, a committee comprised primarily of faculty, for approval.

The proposed AAS program in Agricultural Sciences requires the following courses:

Course Code	Courses (24 Credits)	Credits
BIO 200 & 210 or BIO 103 & 113 or BIO 104 & 114	Microbiology and Microbiology Lab Introduction to Zoology and Intro to Zoology Lab Botany: Introduction to Horticulture and Botany Lab	4
CHM 104	General Chemistry II	3
CHM 114	General Chemistry II Lab	1
EGL 102 or EGL 211	Composition and Literature Technical Writing	3
CSC, CIS or VCP	Elective	3
ENV 103	Introduction to Agriculture	3
ENV	Electives ³	4
GIS 101	Geographic Information System I	3
	Agriculture Concentration 12 credits	
HSC or EQS	Electives (see Appendix A)	12
	Agribusiness Concentration 12 credits	
ACC 101	Accounting 1	3
ECO 222	Macroeconomics	3
BUS 212	Principles of Marketing	3
BUS	Elective	3

Total: 36 Credits

COURSE DESCRIPTIONS

ACC101 **Accounting I** introduces the concepts and practices used in financial accounting. Topics studied include the use of journals and ledgers as well as the preparation of financial statements. Additional topics studies include cash, accounts and notes receivable, merchandise inventory, depreciation, current liabilities, and principles. Procedures for maintaining the records for service and merchandise firms are emphasized. Credits: 3

³ Agribusiness students may take an HCS or EQS course.

BIO103 Introduction to Zoology will study the animal kingdom, methods of classification, evolution, genetics, comparative anatomy, physiology and behavior of various animal groups. Credits: 3
Prerequisite: MAT093 or MAT097 Corequisites: BIO113, EGL101

BIO104 Botany: An Intro to Horticulture (S) will study the structure, function, reproduction and propagation of plants. Topics will include anatomy, classification, physiological processes and requirements for life. The course will include studies designed to understand currently relevant topics such as biodiversity, the health of the Chesapeake Bay vegetation, and biotechnology. Credits: 3
Prerequisites: MAT093 or MAT095, EGL093 or placement into college level Math and English
Corequisites: BIO114, EGL101

BIO113 Introduction to Zoology Lab will reinforce and expand on topics covered in the corequisite course of Introduction to Zoology. This course will include laboratory and field work, including dissections and observations of animal behavior. Credits: 1 Corequisite: BIO103

BIO114 Botany: Intro to Horticulture Lab provides a hands-on and field experience to complement the studies of Botany: Introduction to Horticulture. The emphasis will be on the anatomy and identification of plants and familiarity with their growth habits, accompanied by exposure to native plants and invasive species. Weather permitting, educational walks and tours of native plant arboretums, greenhouses and botanical gardens will be undertaken. Credits: 1 Corequisite: BIO104

BIO200 Microbiology (S) surveys the roles of microorganisms in today's environment. We examine the history and development of microbiology, survey the diversity of microbes, and compare the structures of prokaryotic and eukaryotic organisms. Metabolic processes such as fermentation, photosynthesis, aerobic and anaerobic respiration are studied. Beneficial microbes and epidemiology are discussed. We will examine the growing role of microbes, through bioengineering and immunology, in maintaining our environmental and personal health. Credits: 3 Prerequisite: MAT093 or MAT095 or MAT097
Corequisites: BIO210, EGL101

BIO210 Microbiology Lab introduces the student to methods for studying microbes including various types of microscopy, staining techniques, transformation and culture methods. Students will participate in lab experiments that stress the importance of microbe diversity, their unique physical and chemical growth requirements, and appropriate identification processes. Students are required to spend additional time in the lab to monitor lab results on non-lab days. Credits: 1 Corequisite: BIO200.

BUS212 Principles of Marketing emphasizes the growing field of marketing. Topics studied include product service planning, marketing information management, purchasing, pricing, promotion, selling, risk management, finance, and distribution. Applicable ethics to this field are studied and discussed. In addition to the class lectures, videos and films are used to emphasize the principles. Students participate in case analysis and various marketing projects. Familiarity with computer applications, including Internet operations and some word processing, is essential for success in this course. Credits: 3

CHM104 General Chemistry II (S) is a continuation of General Chemistry I. Topics include solutions, chemical kinetics, chemical equilibrium, acids and bases, equilibria in aqueous solution, chemical thermodynamics, electrochemistry, nuclear chemistry, and coordination chemistry. Credits: 3
Prerequisites: CHM103, CHM113 Corequisite: CHM114

CHM114 General Chemistry II Lab will build upon the basic chemistry laboratory techniques and procedures learned in CHM103. This course covers conceptual topics including qualitative analysis, chemical reactions in aqueous solution, acid-base reaction, reaction rates, chemical equilibrium,

electrochemistry, and oxidation-reduction reactions. Credits: 1 Prerequisites: CHM103, CHM113
Corequisite: CHM104

ECO222 Economics-Macro (SS) is the study of large-scale economic phenomena. Emphasis is placed on the impact of government, inflation, unemployment, and fiscal and monetary policies. International trade and currency considerations as comparative economic systems are included. Credits: 3 Prerequisite: MAT092 or MAT097

EGL102 Composition & Literature (H) introduces students to the genres of fiction, poetry, and drama in order to gain a fuller understanding and appreciation of these literary forms. Several brief compositions and an analytical research paper are assigned. Credits: 3 Prerequisite: EGL101

EGL211 Technical Writing entails the study and practice of written communications in professional settings. In an ongoing workshop, students will be asked to think critically about rhetorical situations; analyze and address case studies; collaborate with team members; research, design, and write effective, ethical texts; develop multiple literacies for multiple audiences; respond constructively to peer writers; present texts through a variety of electronic media; and improve oral presentation and discussion skills. Credits: 3 Prerequisite: EGL101

ENV103 Introduction to Agriculture provides an overview of the fields of agriculture study; the history of human society and agriculture, an introduction to the study of plants, animals, soil, and technologies used in modern agriculture. Modern issues involving agriculture will also be addressed. Credits 3

GIS101 Geographic Information System (I) will provide an introduction to the principles and applications of Geographic Information Systems (GIS) technology. It examines the accuracy and applications of geographic information, while emphasizing how it can be used to enhance the decision-making processes of many disciplines such as transportation and logistics, business, biology, physics, and government and planning. There will be hands-on projects that will focus on real-world problems. Credits: 3

Upon successful completion of this program, students will be able to:

- Demonstrate effective written and oral communication skills
- Demonstrate an understanding of ecological factors that affect global and local environments
- Apply basic computational, statistical, and quantitative reasoning skills in collecting, analyzing, and interpreting numerical data
- Demonstrate knowledge of tools and technology in agricultural fields
- Apply critical thinking skills to problems involving the environment and communities served

In addition, all Agricultural Sciences students take the following General Education requirements

General Education Requirements (24 credits)		General Education Code	Credits
ART/HUM	Arts and Humanities Elective	H	3
EGL 101	College Composition	E	3
BIO 101	General Biology	S	3
BIO 111	General Biology Lab		1

CHM 103	General Chemistry I	S	3
CHM 113	General Chemistry I Lab		1
MAT 127 or MAT 121	Statistics Precalculus	M	4
SOC SCI	Social Science Elective	SS	3
SPH 121 or SPH 141	Interpersonal Communications Public Speaking	H	3

BIO101 General Biology (S) introduces the student to the basic biological principles common to all living things, with emphasis on evolution, molecular biology, diversity, ecology, physiology and genetics. Credits: 3 Prerequisite: MAT092 or MAT097 Corequisites: BIO111, EGL101

BIO111 General Biology Lab is a laboratory course designed to actively involve the student in the process of science. The student will perform experimental activities in the field or lab that study ecology, molecular biology, and genetics using team work and scientific instrumentation. Credits: 1 Prerequisite: MAT092 or MAT097 Corequisite: BIO101

CHM103 General Chemistry I studies the fundamental principles of chemistry including measurement, atomic structure, stoichiometry, energy relationships, chemical bonding, molecular structure, and gases. Credits: 3 Corequisites: CHM113, EGL101, MAT121 or MAT127

CHM104 General Chemistry II (S) is a continuation of General Chemistry I. Topics include solutions, chemical kinetics, chemical equilibrium, acids and bases, equilibria in aqueous solution, chemical thermodynamics, electrochemistry, nuclear chemistry, and coordination chemistry. Credits: 3 Prerequisites: CHM103, CHM113 Corequisite: CHM114

CHM113 General Chemistry I Lab will expose students to basic chemistry laboratory techniques and procedures such as sample preparation, data collection, gravimetric analysis and titration. Because this course is designed to complement the General Chemistry I lecture course, conceptual topics include physical properties, determination of molecular weights, stoichiometry, energy, and gas laws. Credits: 1 Corequisite: CHM103

EGL101 College Composition (E) teaches students the skills necessary to read college-level texts critically and to write effective, persuasive, thesis-driven essays for various audiences. The majority of writing assignments require students to respond to and synthesize texts (written and visual) through analysis and/or evaluation. Students also learn how to conduct academic research, navigate the library's resources, and cite sources properly. The course emphasizes the revision process by integrating self-evaluation, peer response, small-group collaboration, and individual conferences. Additionally, students are offered guided practice in appropriate style, diction, grammar, and mechanics. Beyond completing multiple readings, students produce a minimum of 7,500 words, approximately 5,000 words of which are finished formal writing in four-five assignments, including a 2,000-word persuasive research essay. 3 credits. Pre-requisites: C or better in COL 081 and EGL 093 or equivalent skills assessment.

MAT121 Precalculus (M) prepares the student for the study of calculus, discrete mathematics, and other mathematics intensive disciplines through the study of algebraic, exponential, logarithmic, and trigonometric functions. Topics include functions, laws of logarithms, trigonometric and inverse trigonometric functions, trigonometric identities, solutions of trigonometric equations, the Laws of Sines and Cosines, and vectors. A problem solving approach utilizes applications and a graphing calculator throughout the course. Credits: 4 Prerequisites: EGL093, grade of C or better in MAT093 or MAT098

MAT127 Introduction to Statistics (M) introduces students to the study of measures of central tendency, measures of variation, graphical representation of data, least squares regression, correlation, probability, probability distributions, sampling techniques, parameter estimation, and hypothesis testing. The emphasis is on applications from a variety of sources including newspapers, periodicals, journals, and many of the disciplines that students may encounter in their college education. Students shall be expected to gather and analyze data, and formally report the results of their research. The use of technology and statistical software is integrated throughout the course. Credits: 4 Prerequisites: EGL093, MAT093 or MAT095 or MAT097, a Grade of C or better in MAT093 or MAT095

SPH121 Interpersonal Communications (H) is a survey course covering all facets of human communication. The course emphasizes basic communication skills and awareness of what contributes to effective communicating, as well as what contributes to messages miscommunicated. It also provides students with practice in verbal and listening skills. Students relate communication learning to all areas of life and career skills. Classroom discussions, activities, and experiments on a variety of topics are used as a basis for students' growing awareness of perception and skills in communication. Credits: 3 Corequisite: EGL093

SPH141 Public Speaking (H) is the study of the principles and models of communication in conjunction with hands-on experience in the planning, structuring, and delivery of speeches. Students study and deliver several kinds of public address. The course also provides students with a model for constructive criticism to teach the students what contributes to effective public speaking. Credits: 3 Corequisite: EGL093

Cecil College does not contract with another institution or non-collegiate organization in providing this program.

H. Adequacy of articulation

Cecil College is planning to pursue articulation agreements for this program.

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

Faculty Member	Credentials	Status	Courses Taught
Kelsey Bianca, Assistant Professor I, Social Sciences	M.A., Washington College (Psychology)	Full-time	SPH 141 Public Speaking
Meredith Cole Dillenger, Assistant Professor of Biology	M.Ed. Cabrini University (Education)	Full-time	BIO 104 Botany: An Introduction to Horticulture BIO 114 Botany: An Introduction to Horticulture Lab
Anne E. Edlin, Professor of Mathematics	Ph.D. Temple University (Mathematics)	Full-time	MAT 121 Precalculus
Adele P. Foltz, Associate Professor of Business	M.B.A. Wesley College (Business); C.P.A.	Full-time	ACC 101 Accounting I

Faculty Member	Credentials	Status	Courses Taught
Christopher Gaspare, Assistant Professor of English	M.A. Washington College (English)	Full-time	EGL 101 Freshman Composition EGL 211 Technical writing
Mark Krysiak, Lecturer in Business	M.B.A. University of Baltimore (Business)	Full-time	BUS 212 Principles of Marketing
Amrutha Kuraguntla, Professor of Biology	Ph.D. University of Minnesota (Biology)	Full-time	BIO 101 General Biology BIO 111 General Biology Lab
Carlos Lampkin, Assistant Professor of Business	M.B.A. Wilmington University (Business)	Full-time	ECO 222 Macroeconomics
Ebony Roper, Associate Professor of Chemistry	Ph.D. Howard University (Chemistry)	Full-time	CHM 103 General Chemistry I CHM 113 General Chemistry I Lab CHM 104 General Chemistry II CHM 114 General Chemistry II Lab
Kim Sheppard, Professor of Mathematics	M.S. Clemson University (Mathematics)	Full-time	MAT 127 Introduction to Statistics
Nathanael Tagg, Associate Professor of English	M.F.A. Rutgers University (English)	Full-time	EGL 102 Composition and Literature
Christine Warwick, Assistant Professor of Biology	M.S. University of Saint Joseph (Biology)	Full-time	BIO 200 Microbiology BIO 210 Microbiology Lab BIO 103 Introduction to Zoology BIO 113 Introduction to Zoology Lab
Jacqueline Wilson, Assistant Professor of Computer Science	A.L.M. Harvard University (Information Management Systems)	Full-time	GIS 101 Geographic Information System I
Rachael S. Coffey	M.Ed. University of Delaware (Agricultural Education)	Part-time	ENV 103 Introduction to Agriculture

Faculty have several opportunities for ongoing professional development in pedagogy. Cecil College's instructional technologist offers regular workshops on using technologies to improve both face-to-face and online teaching. In addition, each semester she offers the Quality Matters-based Professional Development for Online Teaching (PDOT) course on best practices in online teaching. The College also funds faculty participation in academic conferences, including conferences focused on pedagogical topics. In January 2019, Cecil College hosted the annual conference of the Association of Faculties to Advance Community College Teaching (AFACCT); more than 35 full-time and adjunct faculty attended. In 2018-19, Cecil College also piloted the Faculty Guild professional development program with selected full-time and part-time faculty.

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

Cecil College's Cecil County Veterans Memorial Library is a member of Maryland Digital Library and the Maryland Community College Library Consortium. CCVM Library has reciprocal borrowing privileges with other community college libraries within the state of Maryland. CCVM Library also subscribes to Inter-Library Loan, where students and faculty can request physical books, eBooks, and scholarly articles from institutions nationwide.

Students in the Agricultural Sciences Associate of Applied Science program can make an appointment to meet one-on-one or in groups with the Instructional Librarian for assistance with the following: narrowing down a research topic, finding articles in the library databases, finding books and eBooks, evaluating resources, and crafting MLA citations. The Instructional Librarian also visits classes upon request to teach library information sessions tailored to class projects and curricula.

The library subscribes to the following online databases relevant to Agricultural Science. For the Agri-Business concentration, the following databases are available: ABI/Inform Collection; Accounting, Tax, and Banking Collection; Business Market Research Collection; Business Source Premier; Career and Technical Education; Hoover's Company Profiles; and Regional Business News. For the Agriculture concentration, the following databases are available: Proquest Biology, Proquest Science, GreenFILE, JSTOR, and Proquest Public Health.

Content within CCVM's physical and eBook collections also cover topics for both concentrations. In addition, CCVM Library staff welcomes and encourages faculty to submit requests for books, multi-media resources, and databases to support their instruction throughout the academic year.

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

All students have the opportunity to utilize all physical facilities on campus including the Library; the Arts and Sciences Building; the Engineering and Math Building; Physical Education Complex; and the Technology/Conference Center, housing the computer lab, a student lounge / dining area and a Conference Center.

The department has sufficient dedicated office space for program faculty, staff, and students. Faculty offices include a desk and multiple chairs available for private conferences with students and/or faculty, bookshelves for department resources, and a locked file cabinet to secure program materials.

There is also dedicated office space for adjunct faculty. The adjunct offices are equipped with computers, desks, chairs, and telephones.

Multiple conference rooms are available for faculty meetings and or private conferences with students in the Engineering and Math Building, the Arts and Science Building, and the Physical Education Complex.

Available technology includes state-of-the-art smart classrooms with interactive white boards, projection systems, immediate capture and documentation cameras, wireless internet access, and the College-wide course management system, Blackboard, which can provide on-line learning to supplement courses.

The North East campus computer lab, housed in the Technology Center, provides 28 computers and technology resource staff, during regular lab hours, to assist students. The Writing Center is a free service to all Cecil College students. Tutors are available during a variety of day and evening hours to assist

students with reading and writing assignments in any subject. Free subject matter tutoring is also available to all students upon request.

L. 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.

TABLE 1: RESOURCES

	Resource Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1.	Reallocated funds	\$0	\$0	\$0	\$0	\$0
2.	Tuition/Fee Revenue (c + g below)	\$80,682	\$86,878	\$96,375	\$103,808	\$113,184
a.	Number of F/T students	6	6	7	7	8
b.	Annualized Tuition/Fee Rate ⁴	\$3,927	\$3,993	\$4,125	\$4,224	\$4,323
c.	Total F/T Revenue (a x b)	\$23,562	\$23,958	\$28,875	\$29,568	\$34,584
d.	Number of P/T students	24	26	27	29	30
e.	Credit Hour Rate	\$119	\$121	\$125	\$128	\$131
f.	Annualized Credit Hour Rate ⁵	\$2,380	\$2,420	\$2,500	\$2,560	\$2,620
g.	Total P/T Revenue (d x e x f)	\$57,120	\$62,920	\$67,500	\$74,240	\$78,600
3.	Grants, Contracts & other External Sources	\$0	\$0	\$0	\$0	\$0
4.	Other Sources	\$9,924	\$10,640	\$11,472	\$12,212	\$13,932
	Total (add 1-4)	\$90,606	\$97,518	\$107,847	\$116,020	\$127,116

Because this program will replace the Horticultural Sciences and Equine Studies degrees, the College expects that enrollment patterns for those programs will continue in the new Agricultural Sciences program. After that, we anticipate the program will grow modestly.

We are projecting tuition increases of 2% each year. Other sources of revenue include Student Development fees (\$8/credit) and Registration fees (\$75/semester). On average, full-time Cecil students take 33 credits per year; part-time students take 20 credits per year on average.

⁴ Assumes Cecil County resident taking 35 credits per year.

⁵ Assumes Cecil County resident taking 20 credits per year.

TABLE 2: EXPENDITURES

	Expenditure Categories	Year 1	Year 2	Year 3	Year 4	Year 5
1.	Faculty (b + c below)	\$15,650	\$15,917	\$16,188	\$16,464	\$16,745
a.	# FTE	0.2	0.2	0.2	0.2	0.2
b.	Total Salary	\$10,780	\$10,942	\$11,106	\$11,272	\$11,442
c.	Total Benefits	\$4,870	\$4,975	\$5,082	\$5,192	\$5,303
2.	Admin. Staff (b + c below)	\$0	\$0	\$0	\$0	\$0
a.	#FTE	0	0	0	0	0
b.	Total Salary	\$0	\$0	\$0	\$0	\$0
c.	Total Benefits	\$0	\$0	\$0	\$0	\$0
3.	Support Staff (b + c below)	\$0	\$0	\$0	\$0	\$0
a.	# FTE	0	0	0	0	0
b.	Total Salary	\$0	\$0	\$0	\$0	\$0
c.	Total Benefits	\$0	\$0	\$0	\$0	\$0
4.	Equipment	\$0	\$0	\$0	\$0	\$0
5.	Library	\$0	\$0	\$0	\$0	\$0
6.	New or Renovated Space	\$0	\$0	\$0	\$0	\$0
7.	Other Expenses	\$0	\$0	\$0	\$0	\$0
	Total (Add 1-7)	\$15,650	\$15,917	\$16,188	\$16,464	\$16,745

This program will be implemented with existing faculty resources and administrative staff, so there are no new expenses for personnel. Most of the classes for this degree are also required for other degree programs; the faculty member identified to teach ENV103 Introduction to Agriculture is an adjunct. Thus, the faculty FTE for Agricultural Sciences is calculated based on one course per semester for one full-time faculty member, or .2 FTE.

Salaries are forecasted to increase 1.5% each year, while health benefits are forecasted to increase 2.5% each year. Library resources and equipment are budgeted within the general operating budget on an ongoing basis.

M. Adequacy of provisions for evaluation of program (as outlined in COMAR 13B.02.03.15).

Faculty members are evaluated every semester by students enrolled in their courses. The College uses an electronic survey process (Evaluation Kit) and students are required to complete the evaluation within a specified time frame at the end of the semester or they are locked out of the learning management system (Blackboard) until they complete the survey. This has resulted in a very high response rate for all courses. In addition, faculty members are assessed in the classroom by the appropriate dean or designee each semester for their first year at Cecil College, annually for the next two years, and every three years thereafter. Student course evaluations are an important component in the College's process of monitoring student satisfaction.

All faculty members are contractually obligated to complete an annual report that includes assessment results. Faculty satisfaction is monitored through the Great Colleges to Work For Survey, which is administered every two years.

The College's Assessment Plan requires that each learning goal for an academic program be reviewed at least once every four years. These assessments are used to make improvements to the program. In addition, the College has an established Comprehensive Program Review process through which programs evaluate their strengths, opportunities, and cost effectiveness every eight years.


Student retention rates are regularly monitored by the division dean.

N. 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).

Cecil College embraces the value of diversity, and strives to continuously foster inclusiveness, and has identified "Graduates will illustrate knowledge of ...the Diversity of Human Cultures" as one of the institution's six General Education learning goals.

O. Relationship to low productivity programs identified by the Commission:

This program is not related to low productivity programs identified by the Commission.

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

Cecil College is a member of NC-SARA and follows C-RAC guidelines for distance education.

CECIL COLLEGE
NEW PROGRAM PROPOSAL
AAS AGRICULTURAL SCIENCES
with Concentrations in Agriculture and Agribusiness
HEGIS 0101.00 CIP 01.0000

Appendix A: Equine Studies (EQS) and Horticultural Sciences (HSC) Course Descriptions

EQS137 **Horseback Riding (ACT)** will allow students, through self-scheduled lessons, to earn activity credits while learning how to ride a horse or improving current riding skills. Students are required to arrange their own weekly riding lessons in consultation with a College approved instructor, at a College approved facility. Lessons are the student's expense and may be taken in any discipline: English, Western or other. Credits: 1 Corequisite: EQS139

EQS139 **Basic Horse Handling** provides an introduction to safe handling procedures for working with a variety of horses and situations. This course will model ways a student may develop competence and self-assurance around horses. Credits: 2

EQS142 **Introduction to Equine Care** is designed to provide a basic foundation for working with horses. Using hands-on activities, the lessons teach elements of horse ownership: general terminology, horse selection, stabling requirements, and basic care of the healthy horse. Students gain a greater understanding of conformation and selection of the horse, costs of ownership, nutrition, grooming, anatomy and care of the hoof, health care, breeds, and colors. Credits: 3 Corequisite: EQS139.

EQS144 **Equine Nutrition and Feeding** focuses on the basic concepts of nutrition and feed evaluation for horses. Students will learn to evaluate the horse's body condition, surroundings, work load, and other factors to develop a proper diet regimen for the best care of the horse. Students will also become familiar with forage analysis procedures and learn to interpret feed analysis reports. Credits: 3

EQS145 **Equine Health Maintenance** will provide students with knowledge and opportunities to recognize equine health parameters. Topics include general care, routine health care, equine emergencies, digestive disorders, respiratory disorders, parasites, equine dentistry, hoof care, and diagnosis, treatment, and prevention of equine lameness. Students will be exposed to the skills necessary for basic horse care as well as the treatment and prevention of common horse ailments. Credits: 3 Corequisite: EQS139

EQS146 **Introductory Equine Field Study** is a total immersion into the equine industry focusing on the basic tasks in caring for horses. Students will work on farms throughout the area to gain hands-on practical experience in the everyday workings of running a horse business. Credits: 2 Prerequisite: EQS145

EQS148 **Equine Anatomy and Physiology** will enable students to understand the horse's systems, growth and development. This course will cover the skeletal, muscular, circulatory, respiratory, digestive,

urinary, nervous, and endocrine systems. Through this course students will acquire the knowledge and training to understand the structure and function of the horse's body. Credits: 3 Corequisite: EQS139

EQS155 Equine Community Service Experiential Learning will allow students to experience many community events, practices, and stables in the equine industry. Students will be required to complete volunteer service at several different community oriented, instructor-approved equine establishments to gain valuable hands-on training. Credits: 2 Prerequisite: EQS146

EQS241 Equine Facilities Management is designed to prepare students for employment in the horse industry. Hands-on activities will cover elements of farm management: stabling requirements, event management, and safe horse handling techniques. Students will be shown skills necessary for running a successful horse facility. Credits: 3 Prerequisite: EQS139

EQS242 Equine Reproduction, Evaluation, and Selection focuses on the genetic improvement of horses. Students will actively apply lecture material in the lab each week. Topics will include mare and stallion reproductive physiology, live cover, artificial insemination, semen collection and evaluation, synthetic hormone regulation, foaling and newborn care. Course is offered during the spring semester only. Credits: 3 Prerequisite: EQS148

EQS243 Business Management in the Horse Industry is designed to prepare students for running their own equine business. Lessons will demonstrate elements of farm management: communication, regulation, marketing, staff management, sales & service, and skills necessary for running a successful horse business. Credits: 3

EQS245 Equine Pasture and Land Management topics include zoning and permit requirements, paddock design and maintenance, water and electric needs, erosion problems, poisonous plants, soil conditions, and seeding methods. Credits: 3 Prerequisite: EQS142

EQS246 Advanced Equine Field Study builds upon the Introductory Equine Field Study course by presenting more advanced tasks in the care of horses such as hoof care, first aid techniques, and treating colic. Students will work on farms throughout the area to gain hands-on practical experience in the everyday workings of running a horse business. Credits: 2 Prerequisite: EQS146

EQS248 Equine Pathology focuses on training students to recognize symptoms, diseases, and infections. Students will learn to properly identify system functions and determine areas of concern, and develop treatment options once a condition is diagnosed and confirmed. Credits: 3 Prerequisite: EQS148

EQS253 Judging and Course Design will allow students to experience, understand and practice judging different levels of equine conformation based on breed and show riding in both English and Western Styles. The course will focus on the dynamics of designing and setting up jump courses for both stadium jumping and cross country jumping events as well as set up for Western trail classes, speed classes and other Western events. Students will be required to attend both local English and Western shows throughout the semester. Credits: 3 Prerequisite: EQS139

HSC142 **Soils and Fertilizers Lab** will familiarize students with methods and equipment used in soil science. Soil morphology, physical properties, pH, cation exchange capacity (CEC) and testing for nutrients will be covered. Students will use and interpret the US Soil Survey. Credits: 1 Corequisite: HCS152

HSC152 **Soils and Fertilizers** will provide the student with an understanding of the composition, fertility, and biology of soil. This course will include structure and classification of soils, soil biology, plant nutrients, and soil amendments. Reduction of excess nutrients in streams, rivers, and the Chesapeake Bay will be emphasized. Credits: 3

HSC153 **Landscaping Construction and Maintenance** will provide the student with an understanding of the materials, equipment, preparations, and methods of installation used in landscape construction. Credits: 3

HSC154 **Botanical Garden Studies** investigates regional public gardens. Topics may include landscaping for conservation, native plants, warm season meadows, rain gardens, formal gardens, wildflowers and woodland gardens, conservatories, topiary, green roofs, woody plants in the landscape, children's gardens, historical gardens, seasonal gardens, Japanese gardens, butterfly gardens, community gardens, and garden design. As there are numerous public gardens, topics and gardens visited will change from session to session. Credits: 3

HSC155 **Woody Plants Identification I** is one of two courses within the Horticultural Science Program that will familiarize students with a significant number of woody trees and shrubs commonly found in our local environment. Evergreen and deciduous species will be covered. For each plant, students will discuss nativity, landscape use and establishment, cultural requirements, seasonal interest, and environmental considerations. Species for study will be selected based upon the season in which the course is offered and will include plants specified for the Maryland Certified Professional Horticulturist (CPH) basic exam. Credits: 2

HSC156 **Herbaceous Plants I** is one of two courses within the Horticultural Science Program that will focus on the identification of herbaceous plants found in our local environment. Perennials, annuals, and houseplants will be covered and will include grasses, groundcovers, vines, and ferns. For each species, students will discuss use, culture, native habitat, pest and disease considerations, and seasonal interest. Species for study will be selected based upon the season in which the course is offered and will include plants specified for the Maryland Certified Professional Horticulturist (CPH) basic exam. Credits: 2

HSC160 **Woody Plants Identification II** is one of two courses within the Horticultural Science Program that will familiarize students with a significant number of woody trees and shrubs commonly found in our local environment. Evergreen and deciduous species will be covered. For each plant, students will discuss nativity, landscape use and establishment, cultural requirements, seasonal interest, and environmental considerations. Species for study will be selected based upon the season in which the course is offered and will include plants specified for the Maryland Certified Professional Horticulturist (CPH) basic exam. Credits: 2

HSC161 **Herbaceous Plants II** is one of two courses within the Horticultural Science Program that will focus on the identification of herbaceous plants found in our local environment. Perennials, annuals, and house plants will be covered and will include grasses, groundcovers, vines, and ferns. For each species, students will discuss use, culture, native habitat, pest and disease considerations, and seasonal interest. Species for study will be selected based upon the season in which the course is offered and will include plants specified for the Maryland Certified Professional Horticulturist (CPH) basic exam. Credits: 2

HSC253 **Introduction to Landscape Design** will provide the student with an exposure to the landscape design process with an emphasis on residential landscaping. Students will draw and read landscape plans, discuss appropriate plant selection and sustainability as well basic landscape design principles and landscape design styles. Credits: 3 Prerequisites: HCS156 or HCS161, HCS155 or HCS160.