CSM college of southern maryland
La Plata · Leonardtown · Prince Frederick · Regional Hughesville

June 12, 2023

Dr. Emily Dow, Assistant Secretary
Maryland Higher Education Commission
6 N. Liberty Street
Baltimore, MD 21201

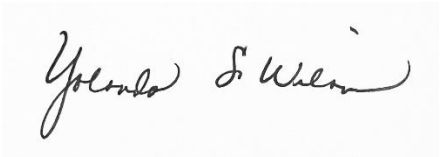
Dear Dr. Dow:

This letter informs the Commission that the Board of Trustees has approved the new Sonography Area of concentration in Health Sciences, AS.

This program supports the lifelong learning goal of moving from community college to university to healthcare fields with continuing education requirements. Students will have opportunities to move into vital career fields as they transfer to completing the bachelor's degree.

If further information is required, please contact Dr. Yolanda Wilson, President, via email at yswilson@csmd.edu.

Sincerely,



Dr. Yolanda Wilson
President, College of Southern Maryland

Office Use Only: PP#

Cover Sheet for In-State Institutions
New Program or Substantial Modification to Existing Program

Institution Submitting Proposal	

Each action below requires a separate proposal and cover sheet.

- ○ New Academic Program
- ◉ New Area of Concentration
- ○ New Degree Level Approval
- ○ New Stand-Alone Certificate
- ○ Off Campus Program
- ○ Substantial Change to a Degree Program
- ○ Substantial Change to an Area of Concentration
- ○ Substantial Change to a Certificate Program
- ○ Cooperative Degree Program
- ○ Offer Program at Regional Higher Education Center

Payment Submitted: ○ Yes ○ No

Payment Type: ◉ R*STARS # 01-0597204 ◉ Check # 01-0597204

Payment Amount: $250

Date Submitted: 6/14/2023

Department Proposing Program	School of Science and Health	
Degree Level and Degree Type	Pre-Professional Health Science, AS	
Title of Proposed Program	Sonography Area of Concentration	
Total Number of Credits	60	
Suggested Codes	HEGIS: 120101	CIP: 511199
Program Modality	◉ On-campus ○ Distance Education (fully online) ○ Both	
Program Resources	◉ Using Existing Resources ○ Requiring New Resources	
Projected Implementation Date (must be 60 days from proposal submisison as per COMAR 13B.02.03.03)	○ Fall ◉ Spring ○ Summer	Year: 2024
Provide Link to Most Recent Academic Catalog	URL: https://catalog.csmd.edu/	
Preferred Contact for this Proposal	Name: Cami Cooley	
	Title: Director of Academic Programs, Planning, and Assessment	
	Phone: (301) 934-7542	
	Email: camic@csmd.edu	
President/Chief Executive	Type Name: Dr. Yolanda Wilson	
	Signature: Yolanda S Wilson	Date: June 27, 2023
	Date of Approval/Endorsement by Governing Board:	

Revised 1/2021

MARYLAND HIGHER EDUCATION COMMISSION
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A. Centrality to Institutional Mission 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.
2. Explain how the proposed program supports the institution's strategic goals and provide evidence that affirms it is an institutional priority.
3. Provide a brief narrative of how the proposed program will be adequately funded for at least the first five years of program implementation. (Additional related information is required in section L.
4. Provide a description of the institution's a commitment to:

    a) ongoing administrative, financial, and technical support of the proposed program

    b) continuation of the program for a period of time sufficient to allow enrolled students to complete the program.

The Pre-Professional Health Science degree offers students the freedom to select from among four (4) different concentrations as they acquire the knowledge and skills that form the foundation of the health sciences. This associate degree is intended for transfer and with articulation to bachelor's degree completing institutions. The Sonography Area of Concentration within the AS degree will provide students with a clear pathway to complete pre-requisite courses for transfer to a 4-year college to complete a bachelor's degree in sonography.

The College of Southern Maryland's mission statement emphasizes that the college "enhances lives and strengthens the economic vitality" of our region (https://www.csmd.edu/about/strategic-plan/index.html). The Pre-Professional Health Science program contributes directly to this mission in that the included concentrations will directly transfer to 4-year colleges and lead graduates to health careers vital to the southern Maryland region. Within the three counties supported by the college, health careers are in high demand and there is a robust job market for graduates. The Calvert Health Medical Center is the third largest employer in Calvert county and the Calvert County Health Department is the fifth. Major Employers | Calvert County, MD - Official Website (ecalvert.com). For St. Mary's County, MedStar St. Mary's Hospital is the second largest employer, and in Charles County, the University of MD Charles Regional Medical Center is the fourth largest employer. MajorEmployersInStMarysCounty.pdf (maryland.gov) Major Companies in Charles County, Maryland | Charles County Economic Development (meetcharlescounty.com)

The changes being made to the Pre-Professional Health Sciences degree directly support the college's strategic plan goal #1: Improve student progress and completion. As of fall 2020, the pre-professional health science A.S. degree had 351 students enrolled, which is the second largest degree after Arts and Sciences A.A. (Gen Studies) with 1253 students. Despite having a large enrollment cohort, preprofessional health has consistently had a low graduation rate. For example, for spring 2022 graduation, only four students graduated with a pre-professional health science degree. Meetings were held with staff from CSM departments that focus on advising, student transfer, and financial aid to determine contributing factors and solutions for the low graduation rates in the Pre-Professional Health Science degree.

To strengthen the transfer identity of the pre-professional health sciences degree, the college analyzed the current concentrations and recognized the need for substantial modification. The new concentrations will promote student progress and completion with streamlined articulations to meet the student's overall career goals. Modifying the degree to add a Sonography Area of Concentration directly supports the college's strategic plan goal #1: Improve student progress and completion.

The proposed changes also align with the college's strategic plan goal #3: Build and sustain the regional workforce pipeline. Feedback from the college's advising, transfer, and financial aid areas indicate significant student interest in sonography. Maryland ranks third of states with the highest concentration of jobs and location quotients in diagnostic medical sonographers (Bureau of Labor Statistics Diagnostic Medical Sonographers (bls.gov)). The new sonography concentration will help meet the need for healthcare workers in the southern Maryland region.

The program is currently adequately funded and there are no anticipated changes in funding needed for this new area of concentration. The current operational budget for the science department is supported by the college. The expected consumable costs for science labs are known and budgeted. No additional faculty are needed to manage the program changes.

The College of Southern Maryland is committed to ongoing administrative, financial, and technical support of the proposed program changes. A new Associate Dean and Chair of Science began the position in August 2022. The person in this role provides academic leadership to the science area and manages lab support staff who provide technical support for science labs. The college has committed to replacing science faculty as they have retired from the college. This will ensure adequate faculty availability for course and program management. As there will not be significant course changes, students currently enrolled in the deactivated concentrations will have easy access to program requirements as they complete the program requirements over a 2-year teach-out plan.

B. 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:
    a) The need for the advancement and evolution of knowledge

    b) Societal needs, including expanding educational opportunities and choices for minority and educationally disadvantaged students at institutions of higher education

    c) The need to strengthen and expand the capacity of historically black institutions to provide high quality and unique educational programs

1. Provide evidence that the perceived need is consistent with the Maryland State Plan for Postsecondary Education.

Health professionals are a vital part of the health care team. All of these career concentrations are at the center of client care, managing individual, family, and community care needs; collaborating with other healthcare team members to support health outcomes; and leading transformation of the healthcare environment to promote safety, quality, and integrity of care. With the current critical shortages of healthcare personnel, the pre-professional health sciences degree Sonography Area of Concentration provides an opportunity for advancement and evolution of knowledge through seamless articulations and transfer for completion of bachelor's degrees that will impact the health of the southern Maryland region.

According to the 2022 Maryland State Plan for Higher Education, one of the three primary goals is promoting and implementing practices and policies that will ensure student success. Priority 6 and 7 state that success entails improving systems that prevent timely completion of an academic program and enhancing the ways postsecondary education is a platform for lifelong learning (2022 Maryland State Plan for Higher Education). With the Sonography Area of Concentration and the new direct pathway articulation agreement, students will have a seamless degree plan. This clear pathway will help reduce students taking unnecessary classes. Students will have opportunities to move into the health career field as they transfer for completion of the bachelor's degree. This program supports the lifelong learning goal of moving from community college to university to healthcare fields with continuing education requirements

C. Quantifiable and Reliable Evidence and Documentation of Market Supply and Demand in the Region and State:

1. Describe potential industry or industries, employment opportunities, and expected level of entry (*ex: mid-level management*) for graduates of the proposed program.
2. Present data and analysis projecting market demand and the availability of openings in a job market to be served by the new program.
3. 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.
4. Provide data showing the current and projected supply of prospective graduates.

According to the Occupational Handbook (https://www.bls.gov/ooh/healthcare/home.htm), employment in healthcare occupations is projected to grow 13 percent from 2021 to 2031. This represents the addition of about 2 million new jobs over the next decade. Factoring in the additional need to replace workers who leave the field, job projections indicate that there will be a need to fill an average of almost 2 million job openings each year. Job growth in the health field is predicted to be much faster than the average for all occupations.

The addition of the Sonography Area of Concentration to the pre-professional health degree provides valuable access to students interested in health care.

According to the Maryland Occupational Employment and Wage Estimates, the District of Columbia metropolitan area (which includes Maryland) ranks ninth as the metropolitan area with the highest employment level of diagnostic medical sonographers. Diagnostic Medical Sonographers (bls.gov).

The median annual wage for healthcare practitioners and technical occupations was $75,040 in May 2021, which was higher than the median annual wage for all occupations of $45,760. Sonographers earn a median wage of $75,380.

D. 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.
2. Provide justification for the proposed program.

The College of Southern Maryland (CSM) is the only college specifically offering pre-professional health science (Pages - Finding A Major (maryland.gov)). Other institutions offer similar specific majors but not one major with multiple concentrations as at CSM.

The two Diagnostic Medical Sonography degrees in Maryland reside at Howard and Montgomery Community Colleges. The difference in their offerings compared with CSM is that they are offering A.A.S. degrees for career-ready entrance in the field. CSM is offering an option that will provide direct transfer for completion of a bachelor's degree.

The Pre-Professional Health Sciences degree Sonography Area of Concentration does not create unreasonable program duplication.. The degree provides opportunities for access to critically needed healthcare programming leading to careers with demonstrated employment needs.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs)

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

No Maryland community college offers pre-professional health with the specific concentrations offered at CSM; therefore, there is no conflict of interest with HBI institutions. While not an HBI, PGCC is considered a Predominantly Black Institution (PBI); however, PGCC does not offer sonography. As a result, there should not be an impact on PGCC enrollment by CSM's program change.

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

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

The Pre-Professional Health degree with sonography concentration does not have an impact on the uniqueness and institutional identities and missions of HBIs. The Pre-Professional Health degree is not available at any HBI; nor is the Sonography Area of Concentration. Sonography is offered through Johns Hopkins Hospital and University of Maryland Baltimore County. Neither of these institutions are HBIs and thus the degree and concentration changes for the Pre-Professional Health degree at CSM will have no impact on HBIs.

G. Adequacy of Curriculum Design, Program Modality, and Related Learning Outcomes (as outlined in COMAR 13B.02.03.10):

1. Describe how the proposed program was established, and also describe the faculty who will oversee the program.

The Pre-Professional Health Sciences AS degree is an established program at the College of Southern Maryland. It is overseen by Dr. Melanie Osterhouse, the Biology discipline coordinator. Through the regularly scheduled 5-year program review, internal and external reviewers made the recommendations that led to the proposed changes.

The Sonography AOC was established due to a need expressed by multiple stakeholders. Feedback collected from the college's advising, transfer, and financial aid areas indicate significant student interest in public health. In addition, due to the estimated job outlook and growth in the public health industry, industry partners have identified the Sonography AOC to help meet the need for healthcare workers in the southern Maryland region. Finally, it will also serve to better promote student transferability, as well as to improve student progress and completion as it allows for streamlined articulations with four-year institutions.

2. Describe educational objectives and learning outcomes appropriate to the rigor, breadth, and (modality) of the program.

The student learning outcomes for the program will not change. The student learning outcomes will remain the following:

- Demonstrate and apply proficiency in the basic sciences including laboratory skills and knowledge of biology.
- Demonstrate and apply proficiency in the basic sciences including laboratory skills and knowledge of chemistry.
- Demonstrate use of a variety of different instruments and techniques to collect, organize, evaluate and present data.

These outcomes are essential to any health field and the core courses that provide a strong science foundation in preparation for entering a health field. The deactivation of concentrations and activation of new health concentrations does not impact the overall program goal. The program coordinator will not change and the program will still remain within the School of Science and Health.

The outcomes specific to the Sonography AOC are:

- Define terms associated with medical procedures and diagnostic tests.
- Apply knowledge of the ethical theories and health law to current issues in healthcare.

3. Explain how the institution will:
    a) provide for assessment of student achievement of learning outcomes in the program
    b) document student achievement of learning outcomes in the program

Assessment of student learning outcomes will be completed using the College of Southern Maryland's required assessment plan. Each academic year at least one program student learning outcome will be assessed and reported to the Director of Academic Assessment for review by the Academic Learning and Assessment Committee (ALAC).

Assessment data from BIO 2170 and BIO 2180 will be used to measure Program Outcome 1: Demonstrate and apply proficiency in the basic sciences including laboratory skills and knowledge of biology.

Assessment data from BIO 1060L and CHE 1200L will be used to measure Program Outcome 2: Demonstrate and apply proficiency in the basic sciences including laboratory skills and knowledge of chemistry

Assessment data from BIO 2170 and BIO 2180 will be used to measure Program Outcome 3: Demonstrate use of a variety of different instruments and techniques to collect, organize, evaluate and present data

Assessment data from MTH 1015, PHY 1110, BIO 2180, HEA 1105, and/or HEA 1755 (Sonography core courses) will be used to measure the two AOC specific outcomes

Assessment data is documented in the program's End-of-Year Report which is submitted to ALAC for accountability.

4. Provide a list of courses with title, semester credit hours and course descriptions, along with a description of program requirements
5. Discuss how general education requirements will be met, if applicable.

Sonography AOC major courses:

MTH-1015 Intro to Statistics* (M) (3 Credits)

In this introduction to descriptive and inferential statistics, students learn about presentation of data, measures of central tendency and dispersion, the binomial and normal probability distributions, sampling techniques, correlation and regression, and hypothesis testing (z-test, t-test, chi-squared). Examples are selected from education, business, and the social and natural sciences.

PHY-1110 - Fundamentals of Physics I with Lab* (S) (4 Credits)

This algebra based physics course is the first of a two course sequence in general physics and covers vectors, kinematics, dynamics, work, energy, power, momentum, thermodynamics and fluids. Lab

work includes experiments on vectors, equilibrium, forces, motion, energy, momentum, properties of materials, and heat.

BIO-2180 - Human Anatomy & Physiology II* (S) (4 Credits)

This is the second of a two course sequence dealing with anatomy and physiology of the human body. Students study the anatomy and physiology of the human digestive, circulatory, lymphatic, urinary, reproductive, and respiratory systems with an emphasis on homeostasis. Students use models, the Virtual Human (VH) dissection software, physiological exercises, and preserved specimens to identify anatomical structures from these systems.

HEA-1105 - Comprehensive Medical Terminology (3 Credits)

This course teaches the students to accurately spell and define common medical terms related to major disease processes, pharmacology categories, diagnostic procedures, laboratory tests, abbreviations, drugs, and treatment modalities for each body system. Case studies and medical reports are utilized to prepare students for using medical terms in context as they are encountered in medical transcription, coding, and other record processing activities.

HEA-1755 - Ethical Issues for Healthcare Professionals (3 Credits)

This course presents an overview of ethical issues prevalent in healthcare and is designed to engage students focused on careers in health care as well as others interested in learning about and discussing topical issues in the health sciences. This course will involve multiple learning opportunities investigating common topics encountered in healthcare settings. Students will explore fundamental tenets in bioethics and healthcare practice and be able to use applied ethics in their understanding of the issues.

The proposed curricula for the new Sonography Area of Concentration can be found below. This concentration will be added to the Pre-Professional Health Sciences AS degree.

Course	Credits
SEMESTER 1	
ENG 1010 - Composition and Rhetoric	3
BIO 2170 - Human Anatomy and Physiology I with Lab	4
MTH 1015 – Introduction to Statistics	3
SOC 1010 - Introduction to Sociology	3
Communication – Acceptable: COM 1010 – Basic Principles of Speech Communication COM 1650 – Introduction to Public Speaking	3
SEMESTER 2	
PHY 1110 – Fundamentals of Physics with Lab	4
BIO 2180 - Human Anatomy and Physiology II with Lab	4
ENG 1020 – Composition and Literature	3
PSY 1010 - General Psychology	3
SEMESTER 3	
Arts and Humanities – Acceptable: Gen Ed Listing	3
HEA 1105 – Comprehensive Medical	3

Terminology	
MTH 1120 – College Algebra	3
BIO 1060/L - Principles of Biology I with Lab	4
HEA 1755 – Legal and Ethical Issues for Health Providers	3
SEMESTER 4	
Program Electives - Acceptable: Any college level course numbered 1001 or above	14
TOTAL	**60 credits**

The General Education requirements will be met as follows:

AA, AS, ASE, AAT	
General Education	
3 credits English Composition	ENG-1010 - Composition and Rhetoric* (3)
6 credits Arts/Humanities	COM-1010 – Basic Principles of Speech Communication or COM-1650 – Introduction to Public Speaking (3) ENG-1020-Composition and Literature (3)
3 credits Biological/Physical Sciences	BIO 1060 Principles of Biology I OR CHE 1200 General Chemistry I (3)
4 credits Biological/Physical Sciences (with lab)	BIO 2170 – Human Anatomy and Physiology I with Lab (4)
6 credits Social/Behavioral Sciences	PSY-1010 – General Psychology (3) SOC-1010 – Introduction to Sociology (3)
3 credits Mathematics	MTH-1015 – Introduction to Statistics (3) or MTH-1120 – College Algebra (3) or higher
Other General Education (from above categories) (3-11 credits)	Gen Ed Elective from Gen Ed Listing (3) BIO 1060L Principles of Biology I Lab OR CHE 1200L General Chemistry I Lab (1)
MHEC requires 28-36 credits	**Total General Education= 29**
Major requirements: SONOGRAPHY concentration	MTH 1015 – Introduction to Statistics (3)
	PHY 1110 – Fundamentals of Physics with Lab (4)
	BIO 2180 - Human Anatomy and Physiology II with Lab (4)
	HEA 1105 – Comprehensive Medical Terminology (3)
	HEA 1755 – Legal and Ethical Issues for Health Providers (3)
	Program Electives (14)
	Total Program Major Sonography = 31
	Total Pre-Professional Health Program = 60 credits

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

There are no specialized accreditation or graduate certification requirements for this program and its students.

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

The College of Southern Maryland is not contracting with another institution.

8. Provide assurance and any appropriate evidence that the proposed program will provide students with
clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management sys tem,
availability of academic support services and financial aid resources, and costs and payment policies.

9. Provide assurance and any appropriate evidence that
advertising, recruiting, and admissions materials will clearly and accurately represent the proposed program and the services available.

The College of Southern Maryland will provide clear, complete, and timely information on the curriculum, academic support services, financial aid resources and payment policies through the college's catalog and web site. In addition, students receive information about technical requirements and use of the learning management system through the college's Help Desk and support from the Distance Learning and Faculty Development area of the college. Professional development opportunities are available for faculty to enhance pedagogical skills to better support student success.

Advertising, recruiting, and admissions materials clearly and accurately represent the proposed program and available student services. Prospective and current students have access to the same online materials detailing these resources. In addition, marketing materials are developed through collaboration among academic leaders and the Marketing staff using a shared platform for proofing and editing materials.

See below evidence of student access to information and support:

https://catalog.csmd.edu/
https://www.csmd.edu/student-services/index.html
https://www.csmd.edu/student-services/learning-support/tutoring/index.html
https://www.csmd.edu/programs-courses/credit/online-learning/getting-started.html
Pre-Professional Health Science (csmd.edu)

Program Description for the catalog:

The pre-professional health curriculum emphasizes science and liberal arts courses that are required for transfer and completion of a bachelor's degree in a health field. Four concentrations are available to students: Pharmacy, Public Health, Sonography, and General. The general concentration is intended for students interested in a health field not covered by the other three specific concentrations. A Health Sciences certificate is also available within the General concentration. Students are advised to review the entrance requirements of the baccalaureate institutions from which they plan to obtain their health degree and meet with a College of Southern Maryland professional advisor prior to developing their academic plan.

Course Descriptions for the Pre-Professional Health Sciences AS degree:
An * symbol indicates the course has a pre-requisite.

BIO-1060 - Principles of Biology I* (S) (3 Credits)
In this course for science majors, students study basic chemistry, the molecules of life, cellular structures and function, membrane transport, enzymes, cellular metabolic pathways and

photosynthesis. They also study DNA, the genetic code and gene expression. Other topics studied include intercellular communications. The design and functions of an animal system is explored. Credit for this course may be earned through Advanced Placement Examination. For students in the Arts and Sciences: Biological Sciences program, credit may not be earned for both BIO 1060 and BIO 1020. This course satisfies the General Education Biological Science requirement.

BIO-1060L - Principles of Biology I Lab* (S) (1 Credit)
Students perform hypothesis formulation and testing using experiments in chemical identification, diffusion and osmosis, enzymes, cellular respiration and photosynthesis. Also included are exercises in DNA purification and electrophoresis of DNA. Credit for this course may be earned through Advanced Placement Examination. For students in the Arts and Sciences: Biological Sciences program, credit may not be earned for both BIO 1060L and BIO 1020L. This course satisfies the General Education Biological Science requirement.

BIO-2170 - Human Anatomy & Physiology I with Lab* (S) (4 Credits)
Students study the anatomy and physiology of human body cells, tissues, and the integumentary, skeletal, muscular, nervous (including special senses), and endocrine systems with an emphasis on homeostasis. Students are required to participate in a recitation. Students dissect preserved specimens, which includes a brain and eye, and perform a VH (virtual human) dissection on software for the muscles. Human models and physiological experiments are also used. This course satisfies the General Education Biological/Physical Science with Lab requirement.

BIO-2180 - Human Anatomy & Physiology II* (S) (4 Credits)
This is the second of a two course sequence dealing with anatomy and physiology of the human body. Students study the anatomy and physiology of the human digestive, circulatory, lymphatic, urinary, reproductive, and respiratory systems with an emphasis on homeostasis. Students use models, the Virtual Human (VH) dissection software, physiological exercises, and preserved specimens to identify anatomical structures from these systems.

COM-1010 – Basic Principles of Speech Communication* (H) (3 credits)
Students learn theories of listening, intrapersonal, interpersonal, intercultural, verbal, and nonverbal communication. Major units include informative and persuasive presentations and group discussion. College level writing skills are recommended. This course satisfies the General Education Humanities requirement.

COM-1650 - Introduction to Public Speaking* (H) (3 Credits)
This course introduces students to different forms of public speaking. Students complete informative, persuasive and special occasion speeches and an interview. This course will also explore how to deliver a speech with logical sequencing, confidence and enthusiasm. This course satisfies the General Education Humanities requirement.

ENG-1010 Composition and Rhetoric* (3 Credits)
Students in this course complete their first semester college-level composition course. Students focus on planning, organizing, and developing a variety of argumentative compositions. Students practice the conventions of written Standard American English, gain information literacy skills, and learn research and documentation techniques including conducting online and print research and documenting sources. By the end of the semester, students demonstrate their ability to write a unified and coherent argument-based essay of about one thousand words that incorporates research and is nearly free of grammatical, mechanical, and structural errors.

ENG-1020 - Composition & Literature* (H) (3 Credits)
Students in this course complete their second semester college-level composition course. Using critical literary analysis, students build on the planning, organizing, and critical analysis skills learned in ENG-1010, Composition and Rhetoric. Students use literature (short fiction, poetry, and drama) as the basis of their critical analysis and to extend, deepen, and illuminate their own experiences and connections with the larger world and contemporary issues. Students further master the conventions of written Standard American English, information literacy skills, and research and documentation techniques including conducting online and print research and documenting sources. By the end of the semester, students demonstrate their ability to write a unified, coherent argument-based essay that is nearly free of grammatical, mechanical, and structural errors.

HEA-1105 - Comprehensive Medical Terminology (3 Credits)
This course teaches the students to accurately spell and define common medical terms related to major disease processes, pharmacology categories, diagnostic procedures, laboratory tests, abbreviations, drugs, and treatment modalities for each body system. Case studies and medical reports are utilized to prepare students for using medical terms in context as they are encountered in medical transcription, coding, and other record processing activities

HEA-1755 - Ethical Issues for Healthcare Professionals (3 Credits)
This course presents an overview of ethical issues prevalent in healthcare and is designed to engage students focused on careers in health care as well as others interested in learning about and discussing topical issues in the health sciences. This course will involve multiple learning opportunities investigating common topics encountered in healthcare settings. Students will explore fundamental tenets in bioethics and healthcare practice and be able to use applied ethics in their understanding of the issues.

MTH-1015 Intro to Statistics* (M) (3 Credits)
In this introduction to descriptive and inferential statistics, students learn about presentation of data, measures of central tendency and dispersion, the binomial and normal probability distributions, sampling techniques, correlation and regression, and hypothesis testing (z-test, t-test, chi-squared). Examples are selected from education, business, and the social and natural sciences.

MTH-1120 College Algebra* (M) (3 Credits)
Designed to provide students with a solid foundation in algebra this course is intended primarily for students with scientific or technical majors, and with MTH-1130, prepares students for the study of calculus. Topics include real and complex numbers, intervals, algebraic, exponential and logarithmic functions, graphing and solving various types of equations involving second and higher order terms, radicals, and absolute value. Graphical interpretations are emphasized throughout the course. Some topics are supported by the use of computer software and the use of graphing calculators. This course satisfies the General Education Mathematics requirement.

PHY-1110 - Fundamentals of Physics I with Lab* (S) (4 Credits)
This algebra based physics course is the first of a two course sequence in general physics and covers vectors, kinematics, dynamics, work, energy, power, momentum, thermodynamics and fluids. Together with PHY 1120 this generally satisfies the minimum requirement for many programs in health and technology. Lab work includes experiments on vectors, equilibrium, forces, motion, energy, momentum, properties of materials, and heat. This course satisfies the General Education Physical Science requirement. (Note that PHY-1010/L has been merged into one 4-credit course called PHY 1110).

PSY-1010 General Psychology* (B) (3 Credits)
Students learn the scientific method as applied to human perception, motivation, learning, development, personality, abnormal behavior, adjustment to stress, states of consciousness, biology of behavior, and sexuality. Current findings are surveyed. This introductory course prepares students for advanced work in the social sciences, especially psychology. Basic language skills are presumed, used, and evaluated. This course satisfies the General Education Social/Behavioral Science requirement.

SOC-1010 - Introduction to Sociology (B, C) (3 Credits)
The scientific study of human behavior in groups explores the relationships among society, culture, and personality development. Social groups, social control, collective behavior, and social change are related to the family, economics, government, and politics. This course satisfies the General Education Social/Behavioral Science requirement and the Core Competency for Cultural and Global Awareness.

H. Adequacy of Articulation

1. If applicable, discuss how the program supports articulation with programs at partner institutions. Provide all relevant articulation agreements.

The College of Southern Maryland worked with the University of Maryland Baltimore County (UMBC) to partner on the Sonography concentration. Since the UMBC DMSP is not a degree program (it is a certificate program only), it requires prerequisites. They do not transfer credits from other institutions because they are not providing a degree. UMBC has documented their support of the program concentration and has agreed to accept the courses as prerequisites into their program.

I. Adequacy of Faculty Resources (as outlined in COMAR 13B.02.03.11).

1. 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 in the proposed program.**
2. Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidenced-based best practices, including training in:

    a) Pedagogy that meets the needs of the students

    b) The learning management system

    c) Evidenced-based best practices for distance education, if distance education is offered.

Pre-Professional Health Sciences AS Program Faculty

Faculty Member	Terminal Degree and Area	Academic Title/Rank	Full-time or part-time	Courses taught
Eleazar Ekwue	PhD, Physics	Professor	Full-time	PHY 1110

James McCrary	MS, Physics	Associate Professor	Full-time	PHY 1110
Tracey Stuller	DVM, Biology	Professor	Full-time	BIO 2170, BIO 2180
Lori Crocker	MS, Biology	Associate Professor	Full-time	BIO 1060/L, BIO 2180
Margaret Bolton	MS, Biology	Professor	Full-time	BIO 2180
Melanie Osterhouse	DC, Biology	Professor	Full-time	BIO 2170, BIO 2180
Sharon Smith-Douglas	MS, Biology	Professor	Full-time	BIO 2170, BIO 2180
Turner Coggins	MS, Biology	Professor	Full-time	BIO 2170
Amie Severino	PhD, Biology	Adjunct Faculty	Part time	BIO 2170, BIO 2180
Ejikeme Anadu	MD, Biology	Adjunct Faculty	Part time	BIO 2170
Jesse Boyce	DPM, Biology	Adjunct Faculty	Part time	BIO 2170
Everett Oliver	PhD, Biochemistry	Assistant Professor	Full-time	BIO 2170, BIO 2180
Rachel Clark	MS, Biology	Adjunct Faculty	Part time	BIO 2170, BIO 2180
Catherine Heim	DC	Adjunct Faculty	Part time	BIO 2170, BIO 2180, HEA 1755
Christopher Gransberry	PhD,Health Management	Assistant Professor	Full Time	HEA 1105

All faculty teaching in the Pre-Professional Health Science program are highly educated and have the expertise to deliver quality classroom and laboratory teaching that enables students to achieve the student learning outcomes. In addition, the College of Southern Maryland provides ongoing pedagogy training for faculty in evidenced-based best practices including pedagogy that meets the needs of the students, training related to use of the learning management system, and training related to best-practices for distance education. The college's Distance Learning and Faculty Development area has designed numerous online courses that prepare faculty to use the college's learning management system, BrightSpace, D2L. Faculty (full-time and adjunct) are required to complete this training as a condition of employment. In addition, the college uses an ongoing peer review and support process called Online Academic Rigor and Presence (OARP) to provide education and continuous improvement on best practices related to distance learning. The college's Division of Learning Schools also provide monetary support for faculty to attend professional development. Through the Faculty Development Committee, peer colleagues and guest speakers also address the ongoing education for pedagogy that supports the needs of students.

J. **Adequacy of Library Resources** (as outlined in COMAR 13B.02.03.12).

1. Describe the library resources available and/or the measures to be taken to ensure resources are adequate to support the proposed program.

Students may borrow circulating materials from any of the three CSM library branches. Through the interlibrary loan program (ILL), students can order almost any book, periodical article, or document needed. These materials are generally available within one week of the request. Library resources also include audiovisual collections use in the library and classrooms only. Additionally, substantial material is available through online databases, including ProQuest and EBSCO.

CSM's President assures that appropriate library resources are available to support the needs of this program.

K. Adequacy of Physical Facilities, Infrastructure and Instructional Equipment (as outlined in COMAR 13B.02.03.13)

1. 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.

2. **Provide assurance and any appropriate evidence that the institution will ensure students enrolled in and faculty teaching in distance education will have adequate access to:**
   a) **An institutional electronic mailing system, and**
   b) **A learning management system that provides the necessary technological support for distance education**

CSM is a leader among Maryland community colleges in offering courses which meet the busy schedules of our students. CSM courses include the following formats: traditional face-to-face courses, asynchronous online courses, real-time technology courses, Hy-flex courses which allow students to choose in-person or remote learning, and Web-hybrid courses which offer a mix of online and traditional classroom face-to-face instruction.

The college makes available state-of-the-art facilities on four campuses to accomplish its mission in support of our community's academic, professional, and self-enrichment pursuits. Theory content classes can meet in the standard classrooms for all concentrations. Standard classrooms include a smart podium, dry erase board, projection screen, and projector. Some classrooms are outfitted with cameras for a hy-flex option. Science labs are equipped with non-flammable lab benches in the form of lines or work groups. Chemistry/microbiology labs have gas hook-ups at the student work stations. The classrooms and laboratories are adequately outfitted and reflect the common set-up seen in other institutions and lab settings. The buildings, classrooms and laboratories are ADA accessible with ramps and elevators where appropriate. No accessibility issues have arisen regarding physical spaces.

The software used in each discipline must have a VPAT that is analyzed for accessibility through the CSM accessibility department. The D2L courses have recently instituted the use of Ally, a software that indicates the accessibility of the materials within the course shell.

Students are provided with college email addresses and have access to Help Desk support for use of email, the learning management system, and other technology.

CSM's President assures that appropriate physical facilities, infrastructure, and instructional equipment are available to support the needs of this program.

L. Adequacy of Financial Resources with Documentation (as outlined in COMAR 13B.02.03.14)

1. Complete **Table 1: Resources and Narrative Rationale**. Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each resource category. If resources have been or will be reallocated to support the proposed program, briefly discuss the sources of those funds.

2. Complete **Table 2: Program Expenditures and Narrative Rationale**. Provide finance data for the first five years of program implementation. Enter figures into each cell and provide a total for each year. Also provide a narrative rationale for each expenditure category.

It is anticipated that the curriculum change will lead to an increase in program enrollment over the next 5 years. The addition of the Sonography Area of concentration will provide students access to health program opportunities in southern Maryland. The Pre-Professional Health Sciences program will use its existing physical and personnel resources. These resources are adequate to support the program's needs.

RESOURCES

Tuition and Fee Revenue:

Currently, there are 65 full-time students enrolled in the Pre-Professional Health Sciences degree program with the remaining 280 enrolled students being part time students. The program is planning for a 2% increase in enrollment over the next 5 years based on the increased transferability of the new concentrations. The in-county tuition rate of $137/credit is used for budget calculation along with the combined fee rate of 25%/tuition which equates to $34.25/credit. Tuition and Fees (csmd.edu). Using these tuition and fees as a baseline yields $1,181,625 in starting revenue. As the College of Southern Maryland only charges students per credit and does not charge an annual tuition rate, all student revenue information is entered in rows D through F calculated at an average of 20 credits per year per student.

Year 1 Revenue:
65 full time students + 280 part time students = 345 students X $171.25 per credit X 20 credits per year = $1,181,625.

Year 2 Revenue:
67 full time students + 286 part time students = 353 students X $171.25 per credit X 20 credits per year = $1,209,025.
Year 3 Revenue:
69 full time students + 292 part time students = 361 students X $171.25 per credit X 20 credits per year = $1,236,425.

Year 4 Revenue:
71 full time students X $171.25 + 298 part time students = 369 students X $171.25 per credit X 20 credits per year = $1,263,825.

Year 5 Revenue;
73 full time students + 304 part time students = 377 students X $171.25 per credit X 20 credits per year = $1,291,225.

Other Resources:

Reallocated Resources: There will not be reallocation of existing resources.

Grants and Contracts: There are currently no grants and contracts allocated to this program.

Other Sources: There are no other sources of revenue associated with this program.

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)	$1,181,625	$1,209,025	$1,236,425	$1,263,825	$1,291,225
a. Number of F/T Students	0	0	0	0	0
b. Annual Tuition/Fee Rate	0	0	0	0	0
c. Total F/T Revenue (a x b)	0	0	0	0	0
d. Number of P/T Students	345	353	361	369	377
e. Credit Hour Rate	171.25	171.25	171.25	171.25	171.25
f. Annual Credit Hour Rate	20	20	20	20	20
g. Total P/T Revenue (d x e x f)	$1,181,625	$1,209,025	$1,236,425	$1,263,825	$1,291,225
3. Grants, Contracts & Other External Sources	0	0	0	0	0
4. Other Sources	0	0	0	0	0
TOTAL (Add 1 – 4)	1,202,175	$1,209,025	$1,236,425	$1,263,825	$1,291,225

EXPENDITURES

Faculty, FTE, Salary, and Benefits

A total of 5 faculty will provide sufficient coverage for teaching the FTE associated with the Pre-Professional Health Sciences degree program. The mid-point salary for Assistant Professor rank faculty at the College of Southern Maryland is $85,064.

5 faculty X $85,064 = $425,320

Benefits are calculated at .35 X the salary. $425,320 X .35 = $148,862

Administrative Staff, Salary and Benefits

The Associate Dean for the School of Science and Health has administrative oversight for the Pre-Professional Health Sciences Degree program. The person in this position is responsible for all science programs at the College of Southern Maryland. An estimated 10% of his time will be allocated directly to this one program.

10% of the entry level salary ($80,101) for this position = $8,010.
Benefits are calculated at .35 X the salary. $8,010 X .35 = $2,803

Support Staff, Salary and Benefits

The Science Lab Coordinator I provides support for management of lab courses for the science department. An estimated 10% of her time will be allocated directly to this program.

10% of the entry level salary ($39,164) for this position = $3,916.
Benefits are calculated at .35 X the salary. $3,916 X .35 = $1,371

Equipment: Consumable supplies and equipment will be used for lab course management. It is estimated that $12,000 in supplies and equipment will be adequate for lab course support.

Library: Library materials are purchased through the library's operating budget. There is no cost specifically associated with this program, but $500 per year is estimated to make library staff requests for updated materials.

New or Renovated Space: There will not be any costs associated with new or renovated space
Other Expenses: There will not be costs associated with other expenses.

Maryland Higher Education Commission

Please do not leave any cells blank. Place a "0" in the cell if no data is applicable for the specfic expenditure category.

TABLE 2: PROGRAM EXPENDITURES:					
Expenditure Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Faculty (b + c below)	$574,182	$574,182	$574,182	$574,182	$574,182
a. Number of FTE	5	5	5	5	5
b. Total Salary	$425,320	$425,320	$425,320	$425,320	$425,320
c. Total Benefits	$148,862	$148,862	$148,862	$148,862	$148,862
2. Admin. Staff (b + c below)	$10,813	$10,813	$10,813	$10,813	$10,813
a. Number of FTE	0.10	0.10	0.10	0.10	0.10
b. Total Salary	$8010	$8010	$8010	$8010	$8010
c. Total Benefits	$2803	$2803	$2803	$2803	$2803
3. Support Staff (b + c below)	$5,287	$5,287	$5,287	$5,287	$5,287
a. Number of FTE	0.10	0.10	0.10	0.10	0.10
b. Total Salary	$3,916	$3,916	$3,916	$3,916	$3,916
c. Total Benefits	$1,371	$1,371	$1,371	$1,371	$1,371
4. Technical Support and Equipment	$12,000	$12,000	$12,000	$12,000	$12,000
5. Library	$500	$500	$500	$500	$500
6. New or Renovated Space	0	0	0	0	0
7. Other Expenses	0	0	0	0	0
TOTAL (Add 1 – 7)	$602,782	$602,782	$602,782	$602,782	$602,782

Maryland Higher Education Commission
Academic Program Proposal Resources Guidlines

PROGRAM RESOURCES AND NARRATIVE RATIONALE

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

TABLE 1: PROGRAM RESOURCES AND NARRATIVE RATIONALE

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.

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.

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.

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.

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.

Program Resources and Narrative Rationale table on following page

Maryland Higher Education Commission
Academic Program Proposal Expenditures Guidelines

PROGRAM EXPENDITURES

Finance data for the first five years of program implementation are to be entered in each cell in Table 2 – Program Expenditures. Figures should be presented for five years and then totaled for each year. Below is the format for Table 2 as well as directions for entering the data.

TABLE 2: PROGRAM EXPENDITURES

1. **Faculty (# FTE, Salary, and Benefits):** Enter (a) the cumulative number of new full-time equivalent faculty needed to implement the program each year, (b) the related salary expenditures, and (c) 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):** Enter (a) the cumulative number of new full-time equivalent administrative staff needed to implement the program each year,(b) the related salary expenditures, and (c) the related fringe benefit expenditures.

3. **Support Staff (# FTE, Salary, and Benefits):** Enter (a) the cumulative number of new full-time equivalent support staff needed to implement the program each year, (b) the related salary expenditures, and (c) the related fringe benefits expenditures.

4. **Equipment:** Enter the anticipated expenditures for equipment necessary for the implementation and continuing operation of the program each year.

5. **Library:** Enter the anticipated expenditures for library materials directly attributable to the new program each year.

6. **New and/or Renovated Space:** 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:** 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:** Add each expenditure (continuing and one-time) to indicate total expenditures for each year of operation.

Program Expenditures table on following page

M. Adequacy of Provisions for Evaluation of Program (as outlined in COMAR 13B.02.03.15).

1. Discuss procedures for evaluating courses, faculty and student learning outcomes.
2. Explain how the institution will evaluate the proposed program's educational effectiveness, including assessments of student learning outcomes, student retention, student and faculty satisfaction, and cost-effectiveness.

The College of Southern Maryland uses a systematic process of assessment for program and course evaluation. This process supports the institutional value of Excellence which is defined as committing to high standards and clear expectations. The systematic process of assessment collects information to determine whether CSM's academic offerings are having the appropriate educational impact on students. The process is outlined below.

Program Assessment at CSM is a cyclical process that includes:
1. Program Reviews conducted every five-six years, or more often as needed.
2. Academic certificate programs are included within the review of degree programs.
3. Program Monitoring conducted every year as part of the End of Year (EOY) report.
4. Program Assessments of Student Learning conducted on a cycle established by faculty.
In addition, CSM conducts course evaluations every semester or, more often when deemed necessary.

The program reviews include collecting and analyzing information regarding student retention, student and faculty satisfaction, and cost-effectiveness of the program. The program review consists of a self-study, an external review, and an executive summary which includes an action plan for improving any areas of deficit mentioned above.

N. Consistency with the State's Minority Student Achievement Goals (as outlined in COMAR

13B.02.03.05).

1. Discuss how the proposed program addresses minority student access & success, and the institution's cultural diversity goals and initiatives.

The College of Southern Maryland is focusing intently on Diversity, Equity, Inclusion, and Belonging (DEIB) goals. By joining Achieving the Dream in 2019, the College of Southern Maryland is actively seeking to improve student learning with a sharp focus on closing equity gaps according to Institutional Equity (csmd.edu). In 2021, the college's Board of Trustees developed four strategic goals with the second goal being to ensure equity in all programs and services.

Meeting this goal has four strategies:
- Improve hiring practices to ensure equity for all
- Use disaggregated data to close equity gaps
- Expand digital access and technology to ensure equity for all learners
- Strengthen cultural competency among all employees

The Equity and Inclusive Diversity Office at the college works to nurture an environment at CSM that is welcoming, inclusive, and restful for all students, staff, faculty, and visitors according to Equity and Inclusive Diversity (csmd.edu).

In addition, the College of Southern Maryland promotes a civility statement to further support a sense of inclusion and belonging. The college defines civility as the demonstration of respect for others through basic courtesy and the practice of behaviors that contribute toward a positive environment for learning and working. While on any college campus or facility, attending any college event, or on any college electronic/cyber space (online course, email, telephone, etc.), faculty, staff, students, and visitors can all have the expectation of civility from one another (Civility Statement (csmd.edu)).

The college views the following ideals as fundamental to civil behavior:
• Courteous and honest communication in both face-to-face and electronic environments
• Fair and just treatment of individuals
• Freedom from harassment
• Collegiality
• Support for a diverse campus community
• Adherence to the values of the professions in dealings with students, colleagues, and associates
• Respect for diverse cultures and points of view
• Restraint from vulgar and offensive language

Members of the college community can expect these ideals are modeled consistently by trustees, administrators, faculty, and staff.

O. Relationship to Low Productivity Programs Identified by the Commission:

1. 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.

This program is not identified as a low productivity program.

P. Adequacy of Distance Education Programs (as outlined in COMAR 13B.02.03.22)

1. Provide affirmation and any appropriate evidence that the institution is eligible to provide Distance Education.
2. Provide assurance and any appropriate evidence that the institution complies with the C-RAC guidelines, particularly as it relates to the proposed program.

If this is not a distance education program, please state "This program will not be offered as a distance education program."

The program is not offered as a distance learning program.