GARRETT COLLEGE

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January 22, 2020

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

Dear Secretary Fielder:

Garrett College is proposing an Associate of Applied Science degree in Professional Technical Studies with Machining Concentration that will be implemented within existing institutional library resources, physical facilities, infrastructure and instructional equipment. On behalf of Garrett College, I affirm the college will ensure there are adequate library resources, physical facilities, infrastructure and instructional equipment to meet the program's needs.

Please do not hesitate to contact me at (301) 387-3043 or at qing.yuan@garrettcollege.edu if you have any questions regarding Garrett College's commitment to providing the resources necessary to launch and maintain this proposed program.

Sincerely,

Qing Yuan, Ed.D.
Dean of Academic Affairs/Chief Academic Officer

Office Use Only: PP#

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

Institution Submitting Proposal	Garrett College

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 (●) Check | Payment Amount: $850.00 | Date Submitted: 1/22/2020

Department Proposing Program	Academic Affairs
Degree Level and Degree Type	Associate of Applied Science
Title of Proposed Program	Professional Technical Studies with Machining Concentration
Total Number of Credits	60
Suggested Codes	HEGIS: CIP:
Program Modality	(●) On-campus ( ) Distance Education (*fully online*) ( ) Both
Program Resources	(●) Using Existing Resources ( ) Requiring New Resources
Projected Implementation Date	(●) Fall ( ) Spring ( ) Summer Year: 2020
Provide Link to Most Recent Academic Catalog	URL: https://www.garrettcollege.edu/images/academics/credit/catalogs/course-catalog.pdf
Preferred Contact for this Proposal	Name: Lucy Manley Title: Associate Dean of Academic Affairs Phone: (301) 387-3059 Email: lucy.manley@garrettcollege.edu
President/Chief Executive	Type Name: Richard Midcap Signature: Richard Midcap Date: 1-21-2020
	Date of Approval/Endorsement by Governing Board:

Revised 12/2018

New Academic Program Proposal for

Associate of Applied Science in Professional & Technical Studies with Machining Concentration

Garrett College, McHenry, MD

A. Centrality to Institutional Mission Statement and Planning Priorities:

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

The mission statement of Garrett College includes the following commitments:

- To provide accessible, quality education in a supportive environment to a diverse student population through associate degrees and certificate programs.
- To develop engaging, innovative and sustainable curricula, programs and initiatives that are responsive to changing and emerging employment opportunities for citizens of Garrett County and the surrounding region.

The addition of a Professional & Technical Studies degree program supports these commitments and also aligns with the College's strategic objective to "Provide credit and noncredit programs and other learning opportunities which align with local and regional labor market needs and provide a sustainable competitive advantage" (Garrett College FY2017-FY2020 Strategic Plan). The A.A.S. in Professional & Technical Studies with Machining Concentration is a career program designed to give students technical skills for in-demand careers in support of employers' diverse needs.

The A.A.S. in Professional & Technical Studies with Machining concentration degree is designed for students who plan to enter the workforce immediately upon graduation. The availability of this program will offer advantages for students including a career-ladder opportunity for students who begin their coursework in Continuing Education and Workforce Development (CEWD) and decide to continue their studies; a reduction of tuition costs for Garrett County high school graduates who take advantage of the Garrett County Scholarship Program; and increased employment opportunities for graduates in Garrett County, regionally and nationally.

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

The College's 2017-2020 Strategic Plan outlines several goals and objectives to provide linkages between noncredit and credit instruction. Specifically, Goal 1 of the plan calls for the College "to provide credit and noncredit programs and other learning opportunities aligning with local and regional labor market needs and provide a sustainable competitive advantage" (FY2017-FY2020 Strategic Plan). Goal 1 of the Strategic Plan outlines three objectives:

- 1.1.1 Create clear, well-defined educational pathways.
- 1.1.2 Establish and promote stackable credentials to appropriate target markets.
- 1.1.3 Engage business and industry representatives along with faculty to ensure relevancy by involving employers in curriculum design and evaluation, schedule development, and experiential learning opportunities.

The proposed Professional & Technical Studies A.A.S. course sequence clearly defines a pathway for students to either complete credit courses and a workforce program simultaneously or to complete a workforce program and then begin credit coursework. Utilizing a set of core courses of communication, finance, and leadership for the degree provides students with a technical concentration an opportunity to build stackable credentials of "soft skills" as identified by local employers. CEWD Instructors (listed below in I.1) are employed part-time at Garrett College and work locally in the industry in which they teach.

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.)**

The proposed program will operate with existing resources within the College. Students will take courses in Garrett College's existing general education curriculum, and the proposed set of core courses for the degree will be taught by GC faculty. The Machining concentration of the proposed program is currently offered through CEWD as noncredit. The noncredit machining program offered through CEWD is designed to be self-sustaining, operating as a cohort model. This program considers Garrett County demographics as well as the concentrations of jobs which may be available upon the student's graduation at the local and/or regional level. By making the courses available to credit students, a critical mass is established, ensuring enrollment in and sustainability of the program.

4. **Provide a description of the institution's commitment to:**
   a. **Ongoing administrative, financial, and technical support of the proposed program.**

The equipment purchased for both the manual and computer numeric controlled (CNC) courses in CEWD will also be used by students enrolled in the Machining Concentration of the A.A.S. in Professional & Technical Studies degree. This equipment was purchased with grant funds while consumable supplies are purchased through student fees. An extended service contract was purchased for the CNC machine, which provides additional protection of the equipment for minimal cost. The Dean of CEWD is committed to the Machining program, as manufacturing represents 8.5% of the industry in Garrett County, providing well-paying jobs for employees.

   b. **Continuation of the program for a period of time sufficient to allow enrolled students to complete the program.**

All courses included in the Professional & Technical Studies A.A.S. degree will be offered each academic year, allowing students to complete the degree on individual timelines. A new cohort of Machining students begins training each fall.

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 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**

The I-68 Regional Economic Partnership 2018 report recognizes workforce preparedness as a "key challenge among employers and stakeholders" in the region. In addition to a reduced workforce

because of the increase of retirement-eligible employees, Garrett County's educational attainment levels fall below the national averages with just 19% of the population aged 25+ earning a bachelor's degree or higher (US Census Bureau, American Community Survey, 5 year-averages for 2012-2016). Participating I-68 regional stakeholders report that "a shortage of available and trained workers is a top issue in many parts of the region," confirming national labor shortage trends in rural areas.

Several factors support the local and regional, as well as statewide, need for a Professional & Technical Studies with Machining concentration A.A.S. degree program at Garrett College:

- Benefit to Garrett County Residents – Garrett College's proposed Professional & Technical Studies A.A.S. degree with a Machining concentration will provide significant opportunities for employment after graduation as a result of the region's transition from traditional to specialty manufacturing, and an aging workforce. The existence of the Garrett County Scholarship Program removes financial barriers and provides a strong incentive for most Garrett County high school graduates to pursue higher education at Garrett College. This county-funded scholarship program provides up to 60 credits of free tuition for Garrett County high school graduates who attend Garrett College. Garrett County life is defined as rural with the characteristics of a rural population. Over 86% of the county's high school seniors graduate each year, and the availability of the Professional & Technical Studies A.A.S. degree with a Machining concentration will expand educational opportunities and choices for Garrett County students.

- Benefit to Students in the Region – Due to Garrett College's geographic location (bordering both West Virginia and Pennsylvania), the proposed Professional & Technical A.A.S. Degree, Machining concentration, will not only benefit students in Garrett County, but students enrolling from surrounding counties in West Virginia and Pennsylvania as well.

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

Garrett College's proposed A.A.S. program in Professional & Technical Studies aligns with all three goals outlined in the 2017-2021 Maryland State Plan for Postsecondary Education. With respect to the Access Goal, this program specifically addresses **Strategy 3** to "expand efforts to cultivate student readiness, financial literacy and financial aid for individuals outside traditional K-12 channels." It is anticipated that the primary audience for this concentration will be non-traditional students already employed in the machinist field who are seeking an associate's degree for career advancement. The articulation of up to ten credits for those students who have obtained their National Registered Machining (NIMS) certification provides non-traditional working adults in this field an opportunity to reduce the expense and time required to obtain an associate's degree based on an accepted national standard, thereby offering these individuals an alternative pathway to access postsecondary education. This alternative approach supports the Success Goal and **Strategy 5** to "ensure that statutes, regulations, policies and practices that support students and encourage their success are designed to serve the respective needs of both traditional and non-traditional students" in particular. The program's focus on awarding credit for nationally and state-recognized workforce certifications ties directly to the Strategy 5 recommendation on granting of credit for prior learning. The proposed Professional & Technical Studies A.A.S. with Machining concentration also supports the Innovation Goal in both **Strategy 8** to "develop new partnerships between colleges and businesses to support workforce development and improve workforce readiness" and **Strategy 11** which "encourage[s] a culture of risk-taking and

experimentation." The existence of the Machining concentration within the Professional & Technical A.A.S. degree program will further strengthen partnerships already in place within the Garrett and Allegany county governments, who fund a portion of the current noncredit machinist program costs due to local shortages of qualified workers in order to produce the necessary quantity and quality of trained machinists. With regard to risk-taking and experimentation, the basis of the program design is the second attempt by Garrett College to accept a nationally recognized certification (for which the College offers preparation through a noncredit instructional program) as satisfying the technical content portion of an A.A.S. degree program, all with the goal of saving students time and money toward degree completion.

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

The Western Maryland Consortium (WMC) Workforce Innovation and Opportunity Act (WIOA) Strategic Plan (March 2019) reports the region's combined labor force totals 125,574 (DLLR-LMI). WMC confirms that the major employers in Western Maryland are in healthcare, trade, transportation & distribution, financial support, education, and advanced manufacturing trades. The proposed degree concentration addresses the advanced manufacturing training needed for employees to grow this industry. Of the 20 major Garrett County employers listed in the WIOA Strategic Plan, six are directly related to the proposed Professional & Technical Studies A.A.S. with Machining Concentration degree and account for over 800 jobs. Two of the companies in the top five are related to manufacturing and machining. Phenix Technologies is an internationally recognized manufacturer of high voltage test equipment, headquartered in Garrett County. Beitzel Corporation and its sister company, Pillar Innovations, are among the region's other major manufacturing employers.

As a region, Western Maryland has 53 establishments classified as manufacturers with an annual average employment of 2,859 and an average weekly wage of $882 (http://westernmarylandconsortium.org/wp-content/uploads/2019/09/WM-2019-Workforce-Plan-Update.pdf).

1. **Describe potential industry or industries, employment opportunities, and expected level of entry (ex: mid-level management) for graduates of the proposed program.**

According to the Maryland Workforce Exchange (MWE), managed by the Maryland Department of Labor, there are 1,749 job openings for Northrup Grumman located in Rocket Center, WV (40 miles from Garrett College). Many of these jobs are in the areas of manufacturing and require skills that are directly aligned with the proposed A.A.S. degree. Graduates of the Professional & Technical Studies A.A.S. with Machining concentration program should expect to enter the workforce in mid-level manufacturing to highly skilled and credentialed positions.

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

Statewide, the Maryland Occupation Projections, 2016-2026 indicates over a 17.9% growth in the Production Managers, 9.5% growth in Engineers, 9.6% growth in Engineering technicians, 8.9% growth in Operating Engineers and Construction, 5.5% growth in Industrial Machinery Mechanics, and 20.9% growth in Assemblers and Fabricators.

The MWE website indicates that there are currently 58 Machinist job openings with 31 candidates and 2,497 job openings for Production Occupations with 1,188 candidates within the workforce system. A local market analysis demonstrated by direct contact with local industry (Human Resource/Owners) from Beitzel Corp., Pillar Innovations, Garrett Containers, Quality Machine, Allegany Welding, and Garrett Maryland Tool Manufacturer indicates current openings at all of these industry employers.

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

The U.S. Department of Labor Bureau of Labor Statistics reports that overall employment of machinists and tool and die makers (i.e. manual machining) is projected to show little or no change from 2016 to 2026, jobs in computer numerically controlled (CNC) machine tools, autoloaders, high-speed machining, and lights-out manufacturing, machinists are projected to increase 3% because of advancements in technology and automation.

4. Provide data showing the current and projected supply of prospective graduates.

Garrett County leaders recognize the critical role of sustainable growth and development (Garrett County Economic Development Strategic Plan, 2011) by their commitment to increase the number of well-paying jobs and business growth in the county. Garrett County is home to several large employers and leaders in the Manufacturing/Machining Industry (see the table below). The proposed A.A.S. concentration will attract more students within this prevailing market, which will result in more high school graduates choosing to remain in this county for potential job opportunities.

Employer	Employees	Product and Service
Beitzel Corporation	502	Metal fabrication
ClosetMaid Corporation	232	Storage Manufacturing
Total Biz Fulfillment	155	Order fulfillment
Phenix Technologies	115	High voltage manufacturer
Garrett Container Systems	105	Aluminum Containers
Fechheimer	75	Uniform Manufacturer
Simon Pearce	51	Hand-blown glass Manufacturer

The following table outlines the national Occupational Outlook and Employment from the Bureau of Labor and Statistics (2019).

Occupation	Number of Jobs	Job Growth Outlook	Median Wage	Employment Change 2018-2019
Ironworkers	98,600	11%	$52,7770/year $25.37/hour	11,2000
Sheet Metal Workers	143,00	8%	$48,460/year $23.20/hour	11,400
Machinists & Tool Makers	469,500	1%	$44,950/year $21.61/hour	5,400
Welders & Cutters	424,700	3%	$41,380/year	14,500

			$19.89/hour	
Industrial Machinery Workers & Millwright	506,900	5%	$51,630/year $24.82/hour	27,600

D. Reasonable 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.

Allegany College of Maryland (AMC), in Cumberland, MD (45 miles from Garrett College), offers a Manual and CNC Machinist Training (MTT101) for noncredit. Additionally, AMC offers an Applied Technical Studies degree which focuses on awarding up to 30 elective credits for a "successfully completed apprenticeship or training" (https://www.allegany.edu/applied-technical-studies/). The proposed program at Garrett College differs in that students can either take the workforce training courses for credit as part of the degree or be awarded credit through "Alternative Credit," which awards credit for noncredit students who successfully complete a CEWD program at Garrett College.

The Technology and Computer Studies Division at Hagerstown Community College (HCC) offers an Advanced Manufacturing/Industrial Technology Studies degree, which is "designed to prepare students for entry into the advanced manufacturing process and distribution industry" (http://www.hagerstowncc.edu/academics/divisions/tcs/adm). Although this is a similar opportunity to the proposed Professional & Technical Studies A.A.S. with Machining concentration, HCC is a two-hour drive from Garrett College.

2. Provide justification for the proposed program.

The proposed Professional & Technical Studies A.A.S. with Machining concentration works to achieve Goal 2 of the I-68 Report, which states to "promote the region's available workforce and prepare I-68 residents for existing and future economic opportunities" by:

- Strengthening existing partnerships and create new connections among the I-68 region's employers, economic development organizations, workforce development entities, and educational institutions to ensure that the region's business needs are being met and residents are receiving optimal skills training to advance their careers and;
- Supporting regional efforts to increase K–12 and postsecondary student achievement and the educational attainment of regional citizens and ensure they are prepared for the future workforce.

E. Relevance to High-demand Programs at Historically Black Institutions (HBIs):
Discuss the program's potential impact on the implementation or maintenance of high-demand programs at HBIs.

No impact on HBIs is anticipated from the proposed program.

F. Relevance to the identity of Historically Black Institutions (HBIs):
Discuss the program's potential impact on the uniqueness and institutional identities and missions of HBIs.

No impact on HBIs is anticipated from the proposed program.

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 current Machining program at Garrett College was designed through the efforts of the College CEWD staff working with local business partners in the machining industry, Garrett County economic development, the local school system, and a variety of local, state and county agencies, all of whom have a vested interest in the machining field and in developing a local workforce that would serve the needs of the county.

The Professional & Technical Studies A.A.S. was inspired by the successful collaboration between credit and noncredit programming at Garrett College. Because the Machining concentration portion of the degree program originated in CEWD, the program oversight will be the responsibility of Mr. Kurt Lear, Director of Adult Education & Workforce Development. Mr. Lear has been in education for 22 years, having served as the Director of CTE in the Garrett County Public School system for nine years.

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

The Professional & Technical Studies A.A.S. with Machining Concentration degree curriculum is designed to provide theory along with practical, hands-on instruction enabling students to develop the knowledge, skills, and abilities to enter the workforce as trained manual and CNC machinists. Upon successful completion of the Professional & Technical Studies Machining Concentration A.A.S. degree program, students will be able to:

- Effectively communicate in verbal and written formats related to general as well as technical fields.
- Demonstrate the ability to evaluate different leadership styles and anticipate the consequences resulting from the use of each of these styles.
- Recall and apply appropriate terminology, abbreviations, acronyms, and symbols that are used in the machining and metal fabrication industry.
- Successfully complete an approved field experience in the machining industry.
- Demonstrate the five core competencies as defined by the National Institute of Mentalworking Skills: Job Planning, Benchwork, & Layout; Measurement, Materials, & Safety; Milling I; Turning I: Between Centers; and Drill Press of Manual Milling and Turning.
- Demonstrate the two core competencies (CNC Lathe Programming Setup & Operation and CNC Mill Program Setup & Operation) of CNC Milling and Turning as outlined by the National Institute for Metalworking Skills.

3. Explain how the institution will:

a. Provide for assessment of student achievement of learning outcomes in the program;

Each program at Garrett College develops an assessment plan that outlines strategies for assessing specific student learning outcomes and explains how the outcomes will be assessed. Academic Program

Directors provide a timeline and document results annually in Taskstream (an electronic portfolio and assessment management platform). The annual program assessment allows faculty and program directors to develop an action plan to strengthen the program further. The table below outlines the Technical & Professional Studies A.A.S. with Machining concentration program learning outcomes with assessment strategy.

Program Learning Outcome	Assessments
Students will be able to effectively communicate in verbal and written formats related to general as well as technical fields.	GER English Composition essays COM 121 essays
Students will be able to demonstrate the ability to evaluate different leadership styles and anticipate the consequences resulting from the use of each of these styles.	BUS 241 essays
Students will be able to recall and apply appropriate terminology, abbreviations, acronyms, and symbols that are used in the machining and metal fabrication industry.	MCH 101 & MCH 102 exams
Students will successfully complete an approved field experience in the machining industry.	BUS 294 assignments
Students will be able to demonstrate the five core competencies (Job Planning, Benchwork, & Layout; Measurement, Materials, & Safety, Milling I, Turning I: Between Centers, and Drill Press) of Manual Milling and Turning as outlined by the National Institute for Metalworking Skills	MCH 101 & MCH 102 exams and projects
Students will be able to demonstrate the two core competencies (CNC Lathe Programming Setup & Operation and CNC Mill Program Setup & Operation) of CNC Milling and Turning as outlined by the National Institute for Metalworking Skills.	MCH 201 & MCH 202 exams and projects

b. Document student achievement of learning outcomes in the program.

Beyond course-embedded assessments described in the table above, students will take seven National Institute for Metalworking Skills (NIMS) exams for the opportunity to earn seven national certifications. The above table outlines the annual program assessment. In the annual program assessment, student achievement is documented in a report which is accessible in Taskstream. Garrett College requires new programs to undergo a full program assessment after the first three years, and then the program enters into the College's program review cycle of every five years. The Office of Institutional Research provides program review support and a template for program review.

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

The Professional & Technical Studies A.A.S. with Machining concentration requires a first-year experience course for one credit, 22 credits of general education courses, nine core courses for the degree, 13 machining concentration courses, and 15 free electives as shown below.

Institutional Requirement……..1 credit
FYE 101 First Year Experience (1 credit)

General Education Requirements……..22 credits
- English Composition (3 credits)
- Arts & Humanities (6 credits)
- Social & Behavioral Sciences (3 credits)
- Science with Lab (4 credits)
- Mathematics (3 credits)
- Interdisciplinary/Emerging Issues (3 credits)—recommend CIS 105 Intro to Computers

Core Courses……9 credits
- BUS 150 Personal and Consumer Finance (3 credits)
- BUS 241 Leadership Development (3 credits)
- COM 121 Workplace Communication (3 credits)

Machining Concentration……13 credits
Electives……..15 credits
TOTAL CREDIT HOURS REQUIRED……60 credits

Professional & Technical Studies A.A.S. – Core Courses (9 credits)

BUS 150 Personal and Consumer Finance (3 credits)

This course examines technology and its impact, real-world decision making, and provides the student with a strong foundation for current and future personal economic activities.

BUS 241 Leadership Development (3 credits)

This course is designed to provide emerging and existing leaders the opportunity to explore the concept of leadership and to develop and improve skills. Approaches to leadership are explored as well as the moral and ethical responsibilities of leaders.

COM 121 Workplace Communication (3 credits)

This course combines the theory and practice of types of communication—interpersonal, organizational, and presentational—needed in the workplace.

Professional & Technical Studies A.A.S. – Machining Concentration Courses (13 credits)

MCH 101 Machining I (3 credits)

This course is designed to prepare students for the required National Institute for Metalworking Skills (NIMS) certification in measurement, materials and safety; job planning, benchwork, and layout; and drilling operations between centers. Students will be introduced to the fundamental concepts and professional standards of the machining industry, including safety, precision measurement, milling, grinding, industry equipment, as well as the vocabulary and terminology of the profession.

MCH 102 Machining II (1 credit)

This course is designed to prepare students for the required National Institute of MetalworkingSkills (NIMS) certification in manual milling and vertical milling. Students increase knowledge gained in MCH 101 by performing basic process planning, set-up, and operations of common classes of machine tools such as turning, drilling, and surface grinding machines.

MCH 201 Machining III (3 credits)

This course is designed to prepare students for credentialing in Computer Numerical Controls (CNC) Turning Operations and CNC Turning: Programming

Set-up and Operations from the National Institute for Metalworking Skills (NIMS). Students increase the knowledge and skills gained from MCH 101 & MCH 102 by performing CNC turning functions, including programming and set-up operations.

MCH 202 Machining IV (3 credits)

This course is designed to prepare students for credentialing in Computer Numerical Controls (CNC) Turning Operations and CNC Turning: Programming Set-up and Operations from the National Institute for Metalworking Skills (NIMS). Students increase the knowledge and skills gained from MCH 201 by performing CNC milling functions, including programming and set-up operations.

BUS 294 Field Experience (3 credits)

This course is the capstone for the Professional & Technical Studies A.A.S. major. Students are involved in a field experience related to their concentration field. Career-related activities are supervised within the participating organization. Students record their activities, projects, and assignments for discussion and evaluation. Emphasis is given to defining an appropriate internship site, resume development, interviewing, and gaining job experience to bolster the learner's ability for post-graduation employment.

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

As part of Garrett College's A.A.S. degrees, students in the Professional & Technical Studies program will be required to complete 22 general education credits. The table below is an example sequence for degree completion.

	Fall	Winter	Spring
Year 1	MCH 101 (3) FYE 101 (1) GER English (3) GER Math (3) GER Arts & Humanities (3) TOTAL = 13 credits	MCH 102 (1) TOTAL = 1 credit	MCH 201 (3) GER Arts & Humanities (3) GER Science with lab (4) BUS 150 (3) Electives (3) TOTAL = 16 credits
Year 2	MCH 202 (3) CIS 105 (3) COM 121 (3) Electives (6) TOTAL = 15 credits	n/a	BUS 294 (3) BUS 241 (3) Electives (9) TOTAL = 15 credits

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

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

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

Garrett College will not contract with another institution or non-collegiate organization for this program.

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 system, availability of academic support services, financial aid resources, and costs and payment policies.**

All program requirements, to include curriculum and course requirements, are posted in the College catalog available online at https://www.garrettcollege.edu/images/academics/credit/catalogs/course-catalog.pdf. Additionally, each academic program has its own webpage to provide additional information, resources, and program director contact information. Because the proposed degree is in collaboration with Continuing Education and Workforce Development (CEWD), Garrett College's website will have multiple links from credit and noncredit to direct students to the proposed program's page. The Garrett College homepage includes links to Financial Aid, Tuition & Fees, Advising & Student Support Services, Library & Learning Commons, Blackboard (the college's learning management system), and Distance Learning.

Instructors follow a standard syllabus template that outlines course requirements, materials, and specific technology requirements. Syllabi also include faculty contact information such as email, office phone, and office hours, as well as information about student support such as tutoring, library, and disability services.

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 Strategic Enrollment Planning Committee (SEPC), which includes representatives from the Offices of Marketing, Creative Services, Admissions, and Academic Affairs, functions as a cross-divisional enrollment management group committed to ongoing communication across campus. SEPC provides regular collaboration with the aforementioned offices, ensuring all promotional materials accurately and clearly represent the program. All materials that represent the program and services provided by the college must be approved by the SEPC.

H. Adequacy of Articulation:
If applicable, discuss how the program supports articulation with programs at partner institutions. Provide all relevant articulation agreements.

Articulations are not applicable to the proposed program. Transfer is not intended for this degree.

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 this program.

Garrett College has a strong instructional team of full-time faculty teaching the required general education courses and degree core courses and in its current machining noncredit program consisting of part-time noncredit adjunct faculty. The list of instructors below includes both the instructors of the machining concentration technical content and instructors in the proposed core of courses for the degree program. Faculty for the core courses meet the credentialing requirements outlined in COMAR 13B.02.03.11. The instructors in the machining concentration meet the National Institute of Metalworking (NIMS) standards for instruction, thus meeting the educational requirements of COMAR 13B.02.02.17, "the highest educational requirements for faculty members who teach courses of a technical or vocational nature at an associate degree-granting institution shall be compatible with their teaching assignments, with practical experience begin given special consideration." The technical content of the proposed degree will employ the instructors listed below.

Jack DuBose – Professor of English – Full-Time
- Bachelor of Arts, Radio, Television, & Film, University of Maryland
- Master of Business Administration, Frostburg State University
- Core Courses: BUS 241, COM 121

Anthony Hillegas – Instructor – CNC Machining – Part-Time
- Machining Technology Certification, Somerset County Technical School
- Tooling University certifications: CNC, Fanuc Control, Mazak Control, Shop Essentials, Metal Cutting, Manual Machining, Inspection, Workplace Safety
- National Institute for Metalworking Skills Level I Certified Machinist
- Concentration Courses: CNC Machining (MCH 201, MCH 202)

Pramod Kapoor – Professor of Business – Full-Time
- Bachelor of Accounting, University of Minnesota
- Master of Business Administration, University of Minnesota
- Core Course: BUS 150

Kurt Lear – Director – Adult Education & Workforce Development – Full-Time
- Bachelor of Science, Business Education, Frostburg State University
- Bachelor of Science in Education, Frostburg State University
- Master of Education in Administration, Frostburg State University
- Machining Program Director

Jared Roth – Instructor – Manual Machining – Part-Time
- Machining Certification, Akron Machine Institute
- Associate of Arts, Arts & Sciences: Mathematics/Science Concentration
- Advanced Professional Teacher Certification, State of Maryland
- National Institute for Metalworking Skills Level I Certified Machinist
- Concentration Courses: Manual Machining (MCH 101, MCH 102)

2. **Demonstrate how the institution will provide ongoing pedagogy training for faculty in evidenced-based best practices, including training in:**
   1. **Pedagogy that meets the needs of the students;**
   2. **The learning management system;**
   3. **Evidenced-based best practice for distance education, if distance education is offered.**

The Coordinator of Distance Learning and Instructional Design at Garrett College oversees faculty professional development providing numerous pedagogical training sessions each semester. Workshop topics include: facilitating classroom discussions, implementing critical thinking activities in classroom teaching, online course design to include the use of Blackboard (the College's LMS), and adopting and adapting Open Educational Resources. In the spring of 2020, the Coordinator of Distance Learning will be implementing an internal review process for all online courses using Quality Matters (QM) standards and rubrics for best online teaching practices.

The two instructors in the technical machining concentration of the degree program receive ongoing industry-relevant training and professional development through Allegany Welding and Northrup Grumman.

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

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

The Library/Learning Commons at Garrett College offers extensive resources for academic research with a large collection that includes books, periodicals, electronic journals, newspapers, audiobooks, CDs, videos, and DVDs. In addition to student computer workstations with Microsoft Office products and internet access for academic projects, the GC library serves student research with on-campus and remote 24-hour access to multiple electronic databases, including ProQuest, Science Resource Center, Credo Instruct, Access Science, and EBSCO resources. The resources are assessed annually to determine what additional reference or library resources may be required.

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 students in the technologies and sciences. If the program is to be implemented within existing institutional resources, include a supportive statement by the President for adequate equipment and facilities to meet the program's needs.

The proposed program will not have a major impact on the use of existing facilities and equipment. No additional facilities or equipment will be required to add the Professional & Technical Studies, Machining Concentration A.A.S. See Appendix for a supportive statement by the President for adequate equipment and facilities to meet the program's needs.

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:

1. An institutional electronic mailing system

All students, faculty, and staff at Garrett College receive access to the electronic mailing system via their respective accounts. Students can access their Laker Mail on the same day they register for classes. They continue to have access to Laker Mail throughout their time as an enrolled (full- or part-time) student at Garrett College. Faculty and staff gain email access once the hiring process is complete. All students,

faculty, and staff receive a unique email address and may access their accounts remotely via Outlook Web Access.

2. Support for distance education

Garrett College utilizes Blackboard as the Learning Management System (LMS) for online and hybrid courses. In the LMS, students are able to review course content, syllabi, assignments, and grades throughout the semester. GC employs a Coordinator of Distance Learning to provide support to both students and faculty in the online learning environment. Faculty are trained on the LMS and as online instructors by the Coordinator of Distance Learning using Quality Matters (QM) guiding principles for online instruction.

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 allocated to support the proposed program, briefly discuss the sources of those funds.

The current noncredit machining program will provide a stable enrollment base as the Professional & Technical Studies A.A.S. is implemented. The tuition and fee revenue outlined in Table 1 includes projections for both credit and noncredit enrollment, as the technical courses in the program will continue to be delivered and administered by Continuing Education and Workforce Development. Slight increases in tuition and fees are projected each year over the five-year period.

TABLE 1: PROGRAM RESOURCES					
Expenditure Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Reallocated Funds	N/A	N/A	N/A	N/A	N/A
2. Tuition/Fee Revenue (c + g below)	17,303	17,374	22,573.50	22,572	28,210
a. Number of F/T Students	2	2	3	3	4
b. Annual Tuition/Fee Rate	4,361.50	4307.00	4,544.50	4,484.00	4,727.50
c. Total F/T Revenue (a x b)	8,723.00	8,614.00	13,633.50	13,452.00	18,910.00
d. Number of P/T Students	4	4	4	4	4
e. Credit Hour Rate	143	146	149	152	155
f. Annual Credit Hour Rate	15	15	15	15	15
g. Total P/T Revenue (d x e x f)	8,580	8,760	8,940	9,120	9,300
3. Grants, Contracts, & Other External Sources	0	0	0	0	0
4. Other Sources*	33,720	34,394	35,082	35,784	36,499
TOTAL (add 1-4)	**51,023**	**51,768**	**57,655.50**	**58,356**	**64,709**

*These projected resources (4. Other Sources) are based on current and expected noncredit enrollments and tuition/fees based on those enrollments.

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.

The primary expenditures for the program include the part-time faculty responsible for the Machining courses in the A.A.S. degree, the Program Director who provides administrative oversight, and "Other Expenses" which include instructional supplies and tools, NIMS certification testing, and access to Tooling U, an online supplemental instructional program.

TABLE 2: PROGRAM EXPENDITURES					
Expenditure Categories	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
1. Faculty (b + c below)	13,964	14,734	15,028	15,329	15,635
a. Number of FTE	N/A	N/A	N/A	N/A	N/A
b. Total Salary (noncredit instructors) 2% increase annually	13,050	13,770	14,045	14,326	14,612
c. Total Benefits (7%)	914	964	983	1003	1023
2. Administrative Staff (b + c below)	14,980	16,348	16,676	17,008	17,348
a. Number of FTE	1	1	1	1	1
b. Total Salary	14,000	15,279	15,585	15,896	16,214
c. Total Benefits	980	1,069	1,091	1,112	1,134
3. Support Staff (b + c below)	0	0	0	0	0
a. Number of FTE	0	0	0	0	0
b. Total Salary	0	0	0	0	0
c. Total Benefits	0	0	0	0	0
4. Technical Support, Supplies, Materials and Equipment	$2,700	$2,700	$2,700	$2,700	$2,700
5. NIMS testing and Tooling U program	$2,295	$2,295	$2,295	$2,295	$2,295
6. Library	0	0	0	0	0
7. New or Renovated Space	0	0	0	0	0
8. Other Expenses (Instructional supplies and tools, NIMS testing, Tooling U program)	4,995	5,244	5,506	5,5782	6,071
TOTAL (add 1-7)	**33,939**	**36,077**	**36,699**	**37,332**	**37,978**

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.

Courses are evaluated within a program's formal review process. In the case of the machining concentration, courses will also be evaluated according to the National Institute for Metalworking Skills (NIMS) credentialing assessments. Courses within the general education program are evaluated annually to ensure courses are meeting student learning outcomes for Garrett College's General Education Requirements.

Additionally, an industry advisory group periodically assists with reviewing the curriculum for currency and ensuring it meets industry standards. This Program Advisory Committee for Workforce Development (PAC) is comprised of local machining representatives (e.g., Garrett Container, Quality Machine, Allegany Welding, Greater Maryland Tool, and RWB Innovations). The representatives from

the previously listed companies hold the National Institute for Metalworking Skills Quality Inspector credentials and in addition to their contributions as PAC members, participate in examining the tooled parts and signing an affidavit which qualifies the parts completed by students within the guidelines.

Full-time faculty are evaluated annually by the appropriate Academic Director or the Dean of Academic Affairs through the faculty evaluation form (including administrative and advising responsibilities, college service, and professional growth), classroom observation, and course evaluations. Part-time faculty are evaluated annually by the appropriate Academic Director or the Associate Dean of Academic Affairs through classroom observation and course evaluations.

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.

Garrett College has a formal program review process whereby each of its academic and career programs are formally reviewed on a regular cycle. A new program is reviewed after the first three years, and then, if successful, falls into the College's regular five-year academic program review cycle. In addition to academic, retention, and completion program data, the review considers the assessment of student learning outcomes, faculty performance, and all costs related to the program.

Because the proposed A.A.S. degree concentration of Machining is a career-oriented program, program effectiveness evaluation will focus on specific knowledge, skills, and abilities needed for students who wish to enter the machining (manual or CNC) career field. There is one industry-recognized certification agency: National Institute for Metalworking Skills (NIMS). The proposed degree program and concentration prepare students to complete NIMS credentialing assessments.

N. Consistency with the State's Minority Student Achievement Goals (as outlined in COMAR 13B.02.03.05):
Discuss how the proposed program addresses minority student access and success, and the institution's cultural diversity goals and initiatives.

In 2018, Garrett College added a new concluding sentence to its mission statement that "the College respects and cares for students as individuals and as members of diverse groups, and supports their aspirations for a better life." GC recruits in urban areas with large minority populations; approximately 25% of the current student body is comprised of minority students. The 2019 Garrett College Cultural Diversity Plan reinforces the College's strategic plan to "identify obstacles to student success" and to "provide actively engaged and relevant college experience for students," by developing a "broader range of coursework" (GC Diversity Plan Goal 4, Strategy 1). Professional & Technical Studies A.A.S. with Machining concentration program enrollment is open to all students.

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

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

This program is not related to an identified 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.

Due to the technical aspects of the classes proposed in this program, it will not be offered completely online, but some individual courses within the general education requirements of the degree will be available online for students. Garrett College received approval to offer online the General Studies A.A. program on June 15, 2005. For the proposed Professional & Technical Studies A.A.S., students will be able to complete the general education portion of the degree online if they choose to do so.

2. Provide assurance and any appropriate evidence that the institution complies with C-RAC guidelines, particularly as it related to the proposed program.

C-RAC is a collective of seven regional organizations responsible for the accreditation of approximately 3,000 American colleges and universities, which includes the Middle States Commission on Higher Education (MSCHE). Garrett College is accredited through MSCHE and follows the appropriate guidelines to adhere to national standards and integrity for distance education programs. As stated in Section P.1., Garrett College received approval from MSCHE to offer an online General Studies A.A. degree on June 15, 2005, which allows students to take non-technical, general education courses online. Additionally, Garrett College is a current member of the National Council for State Authorization Reciprocity Agreement (NC-SARA), which "establishes comparable national standards" for online and distance education in the postsecondary setting (NC-SARA).

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