



**JIMMY H. BAKER**  
Chancellor

## Proposal for a New Degree Program

---

### I. Information and Rationale

#### A. Primary Contact Information

Institution: Snead State Community College

Contact: Greg Randall

Title: Dean of Career Technical Education and Workforce Development

Email: greg.randall@snead.edu

Telephone: 256-840-4166

#### B. Program Information

Date of Proposal Submission: 10/31/2024

Award Level: Associate's Degree

Award Nomenclature (e.g., BS, MBA): AAS

Field of Study/Program Title: Additive Manufacturing and Drafting Design

CIP Code (6-digit): 15.0613

#### C. Implementation Information

Proposed Program Implementation Date: 8/1/2025

Anticipated Date of Approval from Institutional Governing Board: 3/12/2025

Anticipated Date of ACHE Meeting to Vote on Proposal: 3/14/2025

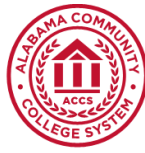
SACSCOC Sub Change Requirement (Notification, Approval, or NA): Approval

Other Considerations for Timing and Approval (e.g., upcoming SACSCOC review): June 2025

#### D. Specific Rationale (Strengths) for the Program

List 3 – 5 strengths of the proposed program as specific rationale for recommending approval of this proposal.

1. Equips students with hands-on experience in cutting-edge technologies like 3D printing, CAD software, and prototyping, which are increasingly in demand in industries such as aerospace, automotive, healthcare, and consumer goods
2. Students will develop strong design-thinking and problem-solving skills as they learn to create complex, customized components and products. This fosters innovation in designing more efficient, lighter, or sustainable solutions.



**JIMMY H. BAKER**  
Chancellor

3. Graduates can pursue various roles such as product designer, CAD technician, additive manufacturing specialist, or mechanical drafter. The interdisciplinary nature of the program opens doors to different industries and sectors.
4. Additive manufacturing emphasizes reducing waste by using only necessary materials, making this degree attractive in eco-conscious industries. Students can contribute to sustainable design practices and innovations in green technologies.
5. Students often work in teams with peers from engineering, architecture, and product design fields, learning to collaborate across disciplines and gaining diverse perspectives that enhance design and production processes.

List external entities (more may be added) that may have supplied letters of support attesting to the program's strengths and attach letters with the proposal at the end of this document.

#### [APPENDIX B](#)

1. FS Group
2. Metal Research
3. BK Aerospace
4. Sundown Aerospace
5. Southern Metal Fabrication
6. Marshall County Manufacturers Association
7. Marshall County Economic Development Council
8. Lowery Manufacturing

## **II. Background with Context**

### **A. Concise Program Description**

This instructional program prepares individuals to apply basic engineering, 2D and 3D design principles in a manufacturing environment and technical skills that include prototyping, post-process and finish 3D printed parts, operate 3D printers, thermoforming and machining equipment, and perform basic inspection and assembly tasks.

### **B. Student Learning Outcomes**

List four (4) to seven (7) of the student learning outcomes of the program.

1. Students will demonstrate the ability to use Computer-Aided Design (CAD) software to create detailed 2D and 3D models, technical drawings, and design documentation.
2. Students will be able to explain and apply different additive manufacturing (3D printing) technologies such as FDM, SLA, SLS, and metal printing.



**JIMMY H. BAKER**  
Chancellor

3. Students will be able to analyze and select appropriate materials based on mechanical properties, cost, and application needs for both prototyping and final production.
4. Students will develop designs optimized for additive manufacturing, considering factors such as part orientation, support structures, tolerances, and surface finish.
5. Students will apply creative and critical thinking to solve complex design and manufacturing problems, developing innovative products and prototypes that meet industry standards.

**C. Administration of the Program**

Name of Dean and College: Dr. Greg Randall

Name of Department/Division: Career Technical Education

Name of Chairperson: Dr. Todd Freshwater

**D. Similar Programs at Other Alabama Public Institutions**

List programs at other Alabama public institutions of the same degree level and the same (or similar) CIP codes. If no similar programs exist within Alabama, list similar programs offered within the 16 SREB states. If the proposed program duplicates, closely resembles, or is similar to any other offerings in the state, provide justification for any potential duplication.

<b>CIP Code</b>	<b>Degree Title</b>	<b>Institution with Similar Program</b>	<b>Justification for Duplication</b>
15.0613	Additive Manufacturing	Calhoun CC	Calhoun CC is approximately 1 hour north of Snead State. Students can reduce travel time by enrolling in courses locally. Business and industry in Marshall County will be provided a shorted drive time for employee training
15.0613	Advanced Design and Manufacturing	Northeast Alabama CC	Northeast Alabama CC is approximately 50 minutes east of Snead State. Students can reduce travel time by enrolling in courses locally. Business and industry in Marshall County will be provided a shorted drive time for employee training
15.0613	Computer-Aided Drafting & Design/Additive Manufacturing (3D Printing)	Bishop State CC	Bishop State CC is approximately 4.5 hours south of Snead State. Students can reduce travel time by enrolling in courses locally. Business and industry in Marshall County will be provided a shorted drive time for employee training



**JIMMY H. BAKER**  
Chancellor

**E. Relationship to Existing Programs within the Institution**

1. Is the proposed program associated with any existing offerings within the institution, including options within current degree programs? **Yes  No**

(Note: Most new programs have some relationship to existing offerings, e.g., through shared courses or resources). If yes, complete the following table. If this is a graduate program, list any existing undergraduate programs which are directly or indirectly related. If this is a doctoral program, also list related master's programs.

Related Degree Program Level	Related Degree Program Title	Explanation of the Relationship Between the Programs
AAS	Machine Tool Technology	Both programs use precision measurement and blueprint reading. Similar in the use of various software such as CAM, CAD, and Fusion 360 software

2. Will this program replace any existing programs or specializations, options, or concentrations? **Yes  No**

If yes, please explain.

3. Will the program compete with any current internal offerings? **Yes  No**

If yes, please explain.

There may be some cross over with the existing Machine Tool Program during the first year of study. During the second year of study, Additive Manufacturing branches to an in-depth 3D printing and additive processes curriculum.

**F. Collaboration**

- Have collaborations with other institutions or external entities been explored? **Yes  No**

If yes, provide a brief explanation indicating those collaboration plan(s) for the proposed program.

- Have any collaborations within your institution been explored? **Yes  No**

If yes, provide a brief explanation indicating those collaboration plan(s) for the proposed program.



**JIMMY H. BAKER**  
Chancellor

There may be some collaboration with the existing Machine Tool program. It has been discussed that precision measurement and blueprint reading may be shared across the two programs.

### G. Specialized Accreditation

1. Will this program have any external accreditation requirements in addition to the institution's SACSCOC program requirements? Yes  No

If yes, list the name(s) of the specialized accrediting organization(s) and the anticipated timeframe of the application process.

2. Does your institution intend to pursue any other non-required accrediting organizations for the program? Yes  No

If yes, list the name(s) of the organization(s) and the purpose of the pursuit.

- Society of Manufacturing Engineers (SME)

While accreditation of the Additive Manufacturing and Drafting Design program is not required, there is an opportunity for the program to become a member of the Society of Manufacturing Engineers (SME).

If there are plans to pursue non-required external accreditation at a later date, list the name(s) and why the institution is not pursuing them at this time. NA

**Note: Check No to indicate that non-required external accreditation will not be pursued, which requires no explanation.**

### H. Admissions

- Will this program have any additional admissions requirements beyond the institution's standard admissions process/policies for this degree level? Yes  No

If yes, describe any other special admissions or curricular requirements, including any prior education or work experience required for acceptance into the program.

### I. Mode of Delivery

Provide the planned delivery format(s) (*i.e.*, in-person, online, hybrid) of the program as defined in policy along with the planned location(s) at which the program will be delivered (*i.e.*, on-campus and/or at specific off-campus instructional site(s)). Please also note whether any program requirements can be completed through competency-based assessment.

The primary modality for the core courses in the Associate in Applied Science degree in Additive Manufacturing and Drafting Design with three fully embedded stackable certificates will be traditional and include classroom and practical application laboratory. Less than 2 percent of the core courses will be delivered in a hybrid and online format. To complete the AAS degree, students will satisfy the general education requirements through enrollment in online, hybrid, or main campus classroom sections of general education courses.



**JIMMY H. BAKER**  
Chancellor

## **J. Projected Program Demand (Student Demand)**

Briefly describe the primary method(s) used to determine the level of student demand for this program using evidence, such as enrollments in related coursework at the institution, or a survey of student interest conducted (indicate the survey instrument used), number and percentage of respondents, and summary of results.

To determine the need and justification for a new AAS in Additive Manufacturing and Drafting Design with three embedded certificates, Snead State conducted two separate surveys. These two surveys targeted the high school population and local business in Marshall County. The proposed degree has a negligible amount of similarity with the current Machine Tool Technology program at Snead State. The Machine Tool Technology program started in August, 2024; therefore, a historical enrollment analysis is not available at this time.

A survey was created that targeted potential high school students in Snead State's service area. The survey consisted of two questions that gauged the student's interest in conjunction with collecting contact information. Of the 85 students surveyed, 55% answered positively in regards to interest in the new program. A summary of results of the survey are found in [APPENDIX A](#) of this application.

An additional survey was disseminated to local business and industry. This survey included five questions directly related to current and future employment demands for additive and drafting design. A summary of the results of the survey can be found in [APPENDIX A](#) of this application.

## **III. Program Resource Requirements**

### **A. Proposed Program Faculty\***

#### *Current Faculty and Faculty to Be Hired*

Complete the following **New Academic Degree Proposal Faculty Roster** to provide a brief summary and qualifications of current faculty and potential new hires specific to the program.

**\*Note:** Institutions must maintain and have current as well as additional faculty curriculum vitae available upon ACHE request for as long as the program is active, but CVs are **not** to be submitted with this proposal.



**JIMMY H. BAKER**  
Chancellor

Current Faculty			
1	2	3	4
CURRENT FACULTY NAME (FT, PT)	COURSES TAUGHT including Term, Course Number, Course Title, & Credit Hours (D, UN, UT, G, DU)	ACADEMIC DEGREES and COURSEWORK Relevant to Courses Taught, including Institution and Major; List Specific Graduate Coursework, if needed	OTHER QUALIFICATIONS and COMMENTS Related to Courses Taught and Modality(ies) (IP, OL, HY, OCIS)
FT- Dewayne Harris	<u>Fall 2025</u> Course# Course Name CH DDT 111 Fundamentals of Drafting and Design Technology 3 DU, UN DDT 113 Blueprint Reading 3 DU, UN DDT 117 Manufacturing Processes 3 DU, UN ADM 111 Manufacturing Safety Practices 3 DU, UN	AAS Machine Tool Technology	In Person, Hybrid, Online
Additional Faculty (To Be Hired)			
1	2	3	4
FACULTY POSITION (FT, PT)	COURSES TO BE TAUGHT including Term, Course Number, Course Title, & Credit Hours (D, UN, UT, G, DU)	ACADEMIC DEGREES and COURSEWORK Relevant to Courses Taught, including Institution and Major; List Specific Graduate Coursework, if needed	OTHER QUALIFICATIONS and COMMENTS Related to Courses Taught and Modality(ies) (IP, OL, HY, OCIS)
FT	<u>Spring 2025</u> Course# Course Name CH DDT 127 Intermediate CAD3 DU, UN ADM 101 Precision Measurement 3 DU, UN ADM 106 Quality Control Concepts 3 DU, UN ADM 112 Orientation to Additive Mfg 1 DU, UN <u>Summer 2025</u> ADM 114 Design Innovation 3 DU, UN ADM 130 Introduction to Materials and Finishes 3 DU, UN ADM 162 Additive Manufacturing Processes - Polymers 3 DU, UN DDT 144 Basic 3D Modeling 3 DU, UN  <u>Fall 2025</u> ADM 128 Plastic Material Processes 3 DU, UN ADM 160 Additive Manufacturing Production Techniques 3 DU, UN ADM 164 Additive Manufacturing Processes - Metals 3 DU, UN ADM 261 Reverse Engineering 3 DU, UN <u>Spring 2026</u> ADM 161 3D Specialized Software Techniques 3 DU, UN ADM 255 Application of Design (Capstone) 3 DU, UN Elective in MTT, INT, WDT, or ADM 283 3 DU, UN Elective: ADM 283 CO-OP 3 DU, UN	AAS Manufacturing Engineering Technology and/or Drafting Technology  Position not filled at this time.	In Person, Hybrid, Online

Abbreviations: (FT, PT): Full-Time, Part-Time; (D, UN, UT, G, DU): Developmental, Undergraduate Nontransferable, Undergraduate Transferable, Graduate, Dual: High School Dual Enrollment  
 Course Modality: (IP, OL, HY, OCIS): In-Person, Online, Hybrid, Off-Campus Instructional Site  
 Courses Taught/To be Taught – For a substantive change prospectus/application, list the courses *to be taught*, not historical teaching assignments.



**JIMMY H. BAKER**  
Chancellor

**B. All Proposed Program Personnel**

Provide all personnel counts for the proposed program.

Employment Status of Program Personnel		Personnel Information		
		Count from Proposed Program Department	Count from Other Departments	Subtotal of Personnel
<b>Current</b>	Full-Time Faculty	1	5	6
	Part-Time Faculty			
	Administration	1	1	2
	Support Staff	2	2	4
<b>**New To Be Hired</b>	Full-Time Faculty	1		1
	Part-Time Faculty			
	Administration			
	Support Staff			
			<b>Personnel Total</b>	<b>13</b>

**\*\*Note: Any new funds** designated for compensation costs (Faculty (FT/PT), Administration, and/or Support Staff to be Hired) **should be included** in the **New Academic Degree Program Business Plan Excel file**. Current personnel salary/benefits (Faculty (FT/PT), Administration, and/or Support Staff) **should not be included** in the **Business Plan**.

Provide justification that the institution has proposed a sufficient number of faculty (full-time and part-time) for the proposed program to ensure curriculum and program quality, integrity, and review.

The proposed Additive Manufacturing and Drafting Design program will require one new instructor. Snead currently has a full-time instructor who teaches in the Machine Tool Technology program. This instructor is also qualified to teach various courses in Additive Manufacturing. It is expected that the program will hire at least one adjunct instructor to manage evening courses.

**C. Equipment**

Will any special equipment be needed specifically for this program? Yes  No

If yes, list the special equipment. Special equipment cost should be included in the **New Academic Degree Program Business Plan Excel file**.

Snead State Community College has received additional funding for the Additive Manufacturing program to purchase \$915,120 of printing equipment that is used in the program. This amount is \$1,000,000.





**JIMMY H. BAKER**  
Chancellor

Typical 3-D Desktop Printers	Voltage	1 EA	Cost
Stratasys Objet 260 3D Printer	120v 1P 14A	1 EA	\$3,000
Form 3L - SLA 3D Printer	120v 1P 8.5A	1 EA	\$9,999
Form 3 - SLA 3D Printer	120v 1P 2.5A	1 EA	\$3,499
Form 2 - SLA 3D Printer	120v 1P 1.5A	1 EA	\$2,750
Form 3B - SLA 3D Printer	120v 1P 2.5A	1 EA	\$3,999
Form 3BL - SLA 3d Printer	120v 1P 8A	1 EA	\$13,999
Maker Bot Replicator 5th Gen.	120v 1P 1A	1 EA	\$2,099
Maker Bot Replicator Z18	120v 1P 6A	1 EA	\$4,500
Markforged Mark Two	120v 1P 2A	1 EA	\$25,000
Markforged Metal X	120v 1P 12A	1 EA	\$124,990
Markforged Metal X	120v 1P 12A	1 EA	\$197,990
SKETCH 3D Printer	120v 1P 3A	1 EA	\$900
Stratasys Fortus 450MC	208v 3P 18A	1 EA	\$185,000
Typical Resin Cure	120v 1P 20A	1 EA	\$1,500
Form Cure - SLA Print Resin UV Cure	120v 1P 6A	1 EA	\$699
Form Cure L - SLA Resin Print UV Cure	120v 1P 15A	1 EA	\$2,999
Typical Wash Station	120v 1P 20A	1 EA	\$900
Waterjet Wash Station	120v 1P		\$12,000
Form Wash - SLA Resin Print IPA Wash	120v 1P 2A	1 EA	\$499
Form Cure L - SLA Resin IPA Wash	120v 1P 15A	1 EA	\$2,999
Markforged Metal X Wash-1	120v 1P 15A	1 EA	\$150,000
Markforged Metal X Sinter-2	208v 3P 30A	1 EA	\$150,000
V2 3D Scanner	120v 1P	1 EA	\$ 799
LaserPro X380RX	208v 8A	1 EA	\$15,000
Total			\$915,120.00

**D. Facilities**

Will any new facilities be required specifically for the program? Yes  No

If yes, list only **new** facilities. New facilities cost should be included in the **New Academic Degree Program Business Plan Excel file.**

Will any renovations to any existing infrastructure be required specifically for the program? Yes  No

If yes, list the renovations. Renovation costs should be included in the **New Academic Degree Program Business Plan Excel file.**

**E. Assistantships/Fellowships**

Will the institution offer any assistantships specifically for this program? Yes  No



**JIMMY H. BAKER**  
Chancellor

If yes, how many assistantships will be offered?

The expenses associated with any *new* assistantships should be included in the **New Academic Degree Program Business Plan Excel file**.

## F. Library

Provide a brief summarization (one to two paragraphs) describing the current status of the library collections supporting the proposed program.

Programs that are proposed to be offered at the Snead State Workforce and Career Institute will have access to the electronic resources afforded by the library located at the main campus. The Workforce Skills Training Center will have a portion of the facility reserved for students to conduct literature research through the Snead State Library. The core program curriculum for the Additive Manufacturing and Drafting Design program will offer industry certifications in order to prepare students in the field of manufacturing. Resources and text are all- inclusive to meet the needs of students in the program courses.

Should a student identify a need or have a desire to access Snead State library and learning services, they will have no problem doing so. Since the active Snead Library collection is fully online, all Snead State students regardless of type (dual enrollment, traditional, non-traditional) or location (on campus, off-campus instructional site, distance learning) have full access to all current library resources by simply logging into the library on the Internet with only their student identification number.

Online training available to all students includes LibGuides on using the Snead online library and doing library research, instructional videos within the LibGuides, embedded 'Guest Librarians' within online course shells at the request of instructors, as well as contact through email and social media. Information about the Snead State library including services and hours of operation is available on the Snead State website. Each course syllabus also includes information about the Snead State library and direct links to the online library are in every online course shell.

Will additional library resources be required to support the program? Yes  No

If yes, briefly describe how any deficiencies will be remedied, and include the cost in the **New Academic Degree Program Business Plan Excel file**.

## G. Accreditation Expenses

Will the proposed program require accreditation expenses? Yes  No

If yes, briefly describe the estimated cost and funding source(s) and include cost in the **New Academic Degree Program Business Plan Excel file**.

The Southern Association of Schools Commission on Colleges charges a fee of \$500 to review new program proposals.

## H. Other Costs



**JIMMY H. BAKER**  
Chancellor

Please explain any other costs to be incurred with program implementation, such as marketing or recruitment costs. Be sure to note these in the **New Academic Degree Program Business Plan Excel file**.

The sum of \$3,500 Marketing for program recruiting will be required for printing and binding and a cost of \$500 is estimated for social media outreach.

## I. Revenues for Program Support

Will the proposed program require budget reallocation? Yes  No

If yes, briefly describe how any deficiencies will be remedied and include the revenue in the **New Academic Degree Program Business Plan Excel file**.

It is expected that \$10,000 will be allocated for new budgeting that included costs of 3D printing material after initial program implementation during the first year. An additional \$3,000 will be allocated to the program each year from the local budget. Perkins IV will support any additional costs related to the program each year.

Will the proposed program require external funding (e.g., Perkins, Foundation, Federal Grants, Sponsored Research, etc.)? Yes  No

If yes, list the sources of external funding and include the revenue in the **New Academic Degree Program Business Plan Excel file**.

- Perkins IV
- Congressional Grant Funding
- State Workforce Development Grant Funding

Please describe how you calculated the tuition revenue that appears in the **New Academic Degree Program Business Plan Excel file**. Specifically, did you calculate using cost per credit hour or per term? Did you factor in differences between resident and non-resident tuition rates?

The calculated revenue was based upon enrollment estimates within a 60-mile radius of the College. The reasoning behind the local enrollment projecting is based upon the assumption that non-resident students would not be willing to commute to the campus due to the requirement of traditional classroom contact hours. Enrollment projections were based upon a progressive student registration forecast over a seven-year period. It is expected an initial enrollment of at least seven students will begin in year one, with an additional seven students added in year two. In years three through seven it is estimated that a 15% increase in enrollment will take place for each school year.



**JIMMY H. BAKER**  
Chancellor

#### IV. Employment Outcomes and Program Demand (Industry Need)

##### A. Standard Occupational Code System

Using the federal Standard Occupational Code (SOC) System, indicate the top three occupational codes related to post-graduation employment from the program. A full list of SOCs can be found at <https://www.onetcodeconnector.org/find/family/title#17>.

A list of Alabama's *In-Demand Occupations* is available at <https://www.ache.edu/index.php/policy-guidance/>.

SOC 1 (**required**): 17-3027.00

SOC 2 (*optional*): 17-3019.00

SOC 3 (*optional*):

Briefly describe how the program fulfills a specific industry or employment need for the State of Alabama. As appropriate, discuss alignment with Alabama's Statewide or Regional Lists of In-Demand Occupations (<https://www.ache.edu/index.php/policy-guidance/>) or with emerging industries as identified by [Innovate Alabama](#) or the [Economic Development Partnership of Alabama](#) (EDPA).

Additive manufacturing has quickly become one of the most disruptive technologies in modern manufacturing within the state of Alabama. A degree in additive manufacturing prepares individuals to work in this dynamic sector by providing in-depth knowledge of 3D printing processes, materials, design for additive manufacturing (DfAM), and quality control techniques.

The skills acquired through a degree in additive manufacturing are highly transferable across various in-demand careers and sectors such as Aerospace and Defense, Healthcare and Medical Devices and Automotive. Snead State's close proximity to these manufacturing sectors will provide students the opportunity to compete for open positions. Traditional manufacturing workers and employers will find that additive manufacturing complements conventional processes like CNC machining and injection molding. For companies transitioning to or incorporating AM, there is a need for skilled workers who understand both the existing manufacturing techniques and the emerging 3D printing technologies.

The Economic Development Partnership of Alabama (EDPA) has defined additive manufacturing as an emerging technological process that will reshape how businesses operate. The Alabama Committee on Credentialing and Career Pathways (ACCP) provides insight on the growth of engineering technicians and metal and plastic forming career fields over the next few years. A degree in additive manufacturing addresses a pressing demand for skilled professionals capable of designing, producing, and optimizing 3D-printed products and systems. As industries continue to evolve, the need for expertise in Additive Manufacturing is growing rapidly, offering a wide range of career paths in sectors that prioritize innovation, efficiency, and sustainability.



**JIMMY H. BAKER**  
Chancellor

**B. Employment Preparation**

Describe how the proposed program prepares graduates to seek employment in the occupations (SOC codes) identified.

Graduates with a degree in additive manufacturing can take on roles as technical specialists or trainers, helping organizations adopt Additive Manufacturing successfully. This degree program is expected to prepare students to work in various sectors of employment, bringing a working knowledge of various 3D printing technologies to the organization. Students will learn how to design parts that leverage the unique capabilities of additive manufacturing, such as optimizing geometry for strength, weight reduction, and minimizing material waste. Graduates will be trained to troubleshoot, fine-tune, and improve printing processes to ensure high-quality outputs, reduce defects, and improve production efficiency.

Additive Manufacturing technicians will learn to operate and manage 3D printing machines, ensure smooth operation, and perform routine maintenance. Graduates will also prepare materials and monitor the printing process to produce parts according to specifications. Students in the additive manufacturing program will be taught to understand manufacturing processes and quality control concepts.

**C. Professional Licensure/Certification**

Please explain if professional licensure or industry certification is required for graduates of the proposed program to gain entry-level employment in the occupations selected. Be sure to note which organization(s) grants licensure or certification.

No license is required for the AAS in Additive Manufacturing and Drafting Design.

**D. Additional Education/Training**

Please explain whether further education/training is required for graduates of the proposed program to gain entry-level employment in the occupations selected.

Students may wish to continue their education in materials science or computer integrated manufacturing at the accelerate level. However, no further training will be required to find employment in the field.

**V. Curriculum Information for Proposed Degree Program**

**A. Program Completion Requirements:** Enter the credit hour value for all applicable components (enter N/A if not applicable).

<b>Curriculum Overview of Proposed Program</b>	
Credit hours required in <b>general education</b>	15-16
Credit hours required in <b>program courses</b>	53
Credit hours in <b>program electives/concentrations/tracks</b>	3
Credit hours in <b>free electives</b>	0
Credit hours in <b>required research/thesis</b>	0
<b>Total Credit Hours Required for Completion</b>	<b>71-72</b>



**JIMMY H. BAKER**  
Chancellor

Note: The above credit hours **MUST** match the credit hours in the *Curriculum Components of Proposed Program* table in Section V.G.

- B. Maximum number of credits that can be transferred in from another institution and applied to the program: 54
- C. Intended program duration in semesters for full-time students: 5
- D. Intended program duration in semesters for part-time students: 7
- E. Does the program require students to demonstrate industry-validated skills, specifically through an embedded industry-recognized certification, structured [work-based learning](#) with an employer partner, or alignment with nationally recognized industry standards? **Yes**  **No**

If yes, explain how these components fit with the required coursework.

Students will be required to take one Capstone course and the option to take a cooperative course as a substituted elective during their enrollment in the program. It is expected that students will also be afforded the opportunity to engage in a registered apprenticeship with local business and industry.

- F. Does the program include any concentrations? **Yes**  **No**

If yes, provide an overview and identify these courses in the *Electives/Concentrations/Tracks* section in the Curriculum Components of Proposed Program Table in Section V.G.

- G. Please provide all course information as indicated in the following table. Indicate new courses with “Y” in the associated column. If the course includes a required work-based learning component, such as an internship or practicum course, please indicate with a “Y” in the WBL column.

<b>Program Name:</b>	<b>Additive Manufacturing and Drafting Design</b>			
<b>Program Level:</b>	<b>AAS</b>			
<b>Curriculum Components of Proposed Program</b>				
<b>Course Number</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>New? (Y)</b>	<b>WBL? (Y)</b>
<b>General Education Courses (Undergraduate Only)</b>				
MTH 116	Mathematical Applications	3		
CHM 101	Intro to Chemistry	4		
HUM 101	Intro to Humanities	3		
ENG 101	English	3		
HIS 101	Western Civilization	3		
<b>Program Courses</b>				



**JIMMY H. BAKER**  
Chancellor

DDT 111		3	Y	
DDT 113 or MTT 121		3	Y	
DDT 117		3	Y	
ADM 111		3	Y	
DDT 127		3	Y	
ADM 101 or MTT 127		3	Y	
ADM 106		3	Y	
ADM 112		1	Y	
ADM 114		3	Y	
ADM 130		3	Y	
ADM 162		3	Y	
DDT 144		3	Y	
ADM 128		3	Y	
ADM 160		3	Y	
ADM 164		3	Y	
ADM 261		3	Y	
ADM 161		3	Y	
ADM 255		3	Y	Y
WKO 101		1		
<b>Program Electives/Concentrations/Tracks</b>				
MTT 128	Geometric Dimensioning and Tolerancing I	3		
ADM 283	CO-OP (Can be substituted for any 200-level course)	3	Y	Y
<b>Research/Thesis</b>				
<b>*Total Credit Hours Required for Completion</b>		<b>71-72</b>		

\*Note: The total credit hours should equal the total credit hours in the Curriculum Overview table (V.B, p. 9).

## New Academic Degree Program Summary/Business Plan



**JIMMY H. BAKER**  
Chancellor

Use the Excel form from for **New Academic Degree Program Business Plan**, to complete the New Academic Program Degree Proposal.

---

## **Steps for Submitting the New Academic Degree Proposal**

1. Complete the **New Academic Degree Proposal** document.
2. Attach the letters of support from external entities listed in *Section I.D.* at the end of the **New Academic Degree Proposal** document.
3. Save the **New Academic Degree Proposal** document as a **.pdf file**.
4. Complete the **New Academic Degree Program Business Plan** and save as an **.xlsx file**.



**ACADEMIC DEGREE PROGRAM PROPOSAL SUMMARY**

<b>INSTITUTION:</b>	Snead State Community College		
<b>PROGRAM NAME:</b>	Additive Manufacturing and Drafting Design	<b>CIP CODE:</b>	15.0613
<b>SELECT LEVEL:</b>	UNDERGRADUATE (ASSOCIATE)		

**ESTIMATED \*NEW\* EXPENSES TO IMPLEMENT PROPOSED PROGRAM**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	TOTAL
FACULTY	\$80,058	\$80,058	\$80,058	\$80,058	\$80,058	\$80,058	\$80,058	\$560,406
ADMINISTRATION/STAFF	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
EQUIPMENT	\$915,120							\$915,120
FACILITIES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ASSISTANTSHIPS/FELLOWSHIPS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LIBRARY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ACCREDITATION AND OTHER COSTS	\$2,000	\$500	\$500	\$1,000	\$0	\$0	\$0	\$4,000
<b>TOTAL EXPENSES</b>	<b>\$997,178</b>	<b>\$80,558</b>	<b>\$80,558</b>	<b>\$81,058</b>	<b>\$80,058</b>	<b>\$80,058</b>	<b>\$80,058</b>	<b>\$1,479,526</b>

**\*NEW\* REVENUES AVAILABLE FOR PROGRAM SUPPORT**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	TOTAL
REALLOCATIONS	\$10,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$28,000
EXTERNAL FUNDING	\$1,000,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$1,030,000
TUITION + FEES	\$20,965	\$44,925	\$47,920	\$50,915	\$53,910	\$62,895	\$65,890	\$347,420
<b>TOTAL REVENUES</b>	<b>\$1,030,965</b>	<b>\$52,925</b>	<b>\$55,920</b>	<b>\$58,915</b>	<b>\$61,910</b>	<b>\$70,895</b>	<b>\$73,890</b>	<b>\$1,405,420</b>

**ENROLLMENT PROJECTIONS**

*Note: "New Enrollment Headcount" is defined as unduplicated counts across years.*

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	AVERAGE
FULL-TIME ENROLLMENT HEADCOUNT	No data reporting	13	15	16	20	23	24	18.50
PART-TIME ENROLLMENT HEADCOUNT		2	2	3	17	19	19	10.33
<b>TOTAL ENROLLMENT HEADCOUNT</b>		15	17	19	37	42	43	28.83
<b>NEW ENROLLMENT HEADCOUNT</b>		8	7	8	9	10	10	8.67
<b>Validation of Enrollment</b>			NO	NO	NO	NO	YES	

**DEGREE COMPLETION PROJECTIONS**

*Note: Do not count Lead "0"s and Lead 0 years in computing the average annual degree completions.*

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	AVERAGE
<b>DEGREE COMPLETION PROJECTIONS</b>	No data reporting	6	7	8	7	9	8	7.50



**JIMMY H. BAKER**  
Chancellor

## Appendix A Student and Industry Survey

### Snead State Community College Additive Manufacturing and 3D Printing Feedback Survey

1 - Would you consider pursuing a career in Additive Manufacturing and 3D Printing if a program were offered at Snead State?					
Response Option	Weight	Frequency	Percent	Percent Responses	Means
Yes, definitely interested	(1)				
Possibly, I'd like more information	(2)				
Not sure at the moment	(3)				
Probably not	(4)				
No, not interested	(5)				
					Question
<b>Response Rate</b>	<b>Mean</b>	<b>STD</b>			

2 - Please provide your contact information or specify what additional information you would like about the program.	
Response Rate	

3 - If Snead State offered an Additive Manufacturing program, would you be interested in enrolling as a high school student or a traditional college student?					
Response Option	Weight	Frequency	Percent	Percent Responses	Means
Yes, as a high school student (dual enrollment)	(1)				
Yes, as a traditional college student	(2)				
Yes, but I'm not sure which option fits me best	(3)				
No, I'm not interested	(4)				
					Question
<b>Response Rate</b>	<b>Mean</b>	<b>STD</b>			

4 - Please provide your contact information or let us know what additional information would help you decide between high school or traditional enrollment.	
Response Rate	



**JIMMY H. BAKER**  
Chancellor

Redacted Survey Results- Student Interest

Number of Participants	SubmitDevice	Question 1	Question 2	Question 3	Question 4
1	Desktop Browser	1	Redacted	1	Redacted
2	Desktop Browser	1	Redacted	2	Redacted
3	Desktop Browser	1	Redacted	2	Redacted
4	iOS Browser	1	Redacted	1	Redacted
5	iOS Browser	2	Redacted	1	Redacted
6	iOS Browser	2	Redacted	2	Redacted
7	Desktop Browser	2	Redacted	1	Redacted
8	iOS Browser	2	Redacted	3	Redacted
9	Desktop Browser	2	Redacted	3	Redacted
10	Desktop Browser	2	Redacted	1	Redacted
11	Desktop Browser	2	Redacted	1	Redacted
12	Desktop Browser	2	Redacted	1	Redacted
13	Desktop Browser	2	Redacted	2	Redacted
14	Desktop Browser	2	Redacted	1	Redacted
15	Desktop Browser	2	Redacted	3	Redacted
16	Desktop Browser	2	Redacted	1	Redacted
17	Desktop Browser	2	Redacted	1	Redacted
18	Desktop Browser	2	Redacted	1	Redacted
19	Desktop Browser	2	Redacted	1	Redacted
20	Desktop Browser	2	Redacted	3	Redacted
21	iOS Browser	2	Redacted	4	Redacted
22	iOS Browser	2	Redacted	1	Redacted
23	iOS Browser	2	Redacted	3	Redacted
24	Desktop Browser	2	Redacted	4	Redacted
25	Desktop Browser	2	Redacted	4	Redacted
26	Desktop Browser	2	Redacted	4	Redacted
27	Desktop Browser	2	Redacted	3	Redacted
28	Desktop Browser	2	Redacted	2	Redacted
29	Desktop Browser	2	Redacted	2	Redacted
30	Desktop Browser	2	Redacted	3	Redacted
31	Desktop Browser	2	Redacted	3	Redacted
32	Desktop Browser	2	Redacted		Redacted
33	Desktop Browser	2	Redacted	1	Redacted
34	iOS Browser	2	Redacted	3	Redacted
35	Desktop Browser	2	Redacted	2	Redacted
36	Desktop Browser	2	Redacted	1	Redacted
37	Desktop Browser	2	Redacted	4	Redacted
38	Desktop Browser	2	Redacted	4	Redacted
39	Android Browser	2	Redacted	3	Redacted
40	Android Browser	2	Redacted	1	Redacted
41	Android Browser	2	Redacted	2	Redacted
42	Desktop Browser	2	Redacted	4	Redacted
43	Desktop Browser	2	Redacted	4	Redacted



**JIMMY H. BAKER**  
Chancellor

44	Desktop Browser	2	Redacted	4	Redacted
45	Desktop Browser	2	Redacted	4	Redacted
46	Desktop Browser	2	Redacted	4	Redacted
47	iOS Browser	2	Redacted	4	Redacted
48	Desktop Browser	4	Redacted	4	Redacted
49	iOS Browser	4	Redacted	4	Redacted
50	iOS Browser	4	Redacted	4	Redacted
51	Desktop Browser	4	Redacted	4	Redacted
52	iOS Browser	4	Redacted	4	Redacted
53	Desktop Browser	4	Redacted	4	Redacted
54	Desktop Browser	4	Redacted	4	Redacted
55	Desktop Browser	4	Redacted	1	Redacted
56	Desktop Browser	4	Redacted	4	Redacted
57	Desktop Browser	4	Redacted	4	Redacted
58	Desktop Browser	4	Redacted	4	Redacted
59	iOS Browser	5	Redacted	4	Redacted
60	iOS Browser	5	Redacted	4	Redacted
61	iOS Browser	5	Redacted	4	Redacted
62	iOS Browser	5	Redacted	1	Redacted
63	iOS Browser	5	Redacted	4	Redacted
64	iOS Browser	5	Redacted	4	Redacted
65	Desktop Browser	5	Redacted	4	Redacted
66	iOS Browser	5	Redacted	4	Redacted
67	iOS Browser	5	Redacted	4	Redacted
68	Desktop Browser	5	Redacted	4	Redacted
69	Desktop Browser	5	Redacted	4	Redacted
70	Desktop Browser	5	Redacted	4	Redacted
71	Desktop Browser	5	Redacted	4	Redacted
72	Desktop Browser	5	Redacted	4	Redacted
73	Desktop Browser	5	Redacted	4	Redacted
74	Desktop Browser	5	Redacted	4	Redacted
75	iOS Browser	5	Redacted	4	Redacted
76	Desktop Browser	5	Redacted	4	Redacted
77	Desktop Browser	5	Redacted	4	Redacted
78	Desktop Browser	5	Redacted	1	Redacted
79	Desktop Browser	5	Redacted	4	Redacted
80	Desktop Browser	5	Redacted	4	Redacted
81	iOS Browser	5	Redacted	4	Redacted
82	Desktop Browser	5	Redacted	4	Redacted
83	Desktop Browser	5	Redacted	4	Redacted
84	Desktop Browser	5	Redacted	4	Redacted



**JIMMY H. BAKER**  
Chancellor

Column	Question												
Question 1	Would you consider pursuing a career in Additive Manufacturing and 3D Printing if a program were offered at Snead State?												
Question 2	Please provide your contact information or specify what additional information you would like about the program.												
Question 3	If Snead State offered an Additive Manufacturing program, would you be interested in enrolling as a high school student or a traditional college student?												
Question 4	Please provide your contact information or let us know what additional information would help you decide between high school or traditional enrollment.												



**JIMMY H. BAKER**  
Chancellor

## **Employer Survey Results**



**JIMMY H. BAKER**  
Chancellor

## **Appendix B** **Letters of Support**



**BK AEROSPACE**  
100 Technology Park  
Arab, AL 35016 US  
256.753.2252  
[www.b-kmfg.com](http://www.b-kmfg.com)

October 16, 2024  
Dr. Joe Whitmore  
President  
Snead State Community College  
PO Box 734  
Boaz, Alabama 35957  
Dr. Whitmore:

Strengthening of the local workforce is vital to the success of business and industry. We are excited to hear that Snead State Community College is pursuing the addition of a new technical training program. Additive Manufacturing and Drafting Design is a skillset much needed in our local industry. Your proposal of a new career path in additive manufacturing will be instrumental in advancing the skills of the workforce in our community and in the Northeast region of Alabama. We commend the efforts of Snead State in offering this new program that will support our changing industry.

We understand the purpose and goals of our local community college and support any effort to enhance the skilled workforce for Alabama industries. Please do not hesitate to contact BK Aerospace if you need further assistance.

Sincerely,  
**Randy Munger**  
Business Development  
100 Technology Park  
Arab, Alabama 35016-3750  
Ph.256-361.8925  
[Randy.munger@bkaerospace.com](mailto:Randy.munger@bkaerospace.com)



**JIMMY H. BAKER**  
Chancellor

**DIXIE**  
**GRINDERS**  
**INCORPORATED**  
1324 RAILROAD AVENUE  
GUNTERSVILLE, AL 35976  
(256) 582-0477 FAX: (256) 582-0478  
(800) 745-0586 OCTOBER 17, 2024

Dr. Joe Whitmore  
President  
Snead State Community Collage  
PO Box 734  
Boaz, Alabama 35957

Dr. Whitmore:

We are thrilled at the expansion that Snead State Community College has made in Marshall County this past year. We especially believe the Machine Tool Technology program will benefit Dixie Grinders Inc. with well trained employees that we desperately need. As you may recall, my grandson had to travel to Hanceville for his degree in Machine Tool Technology from Wallace. He excelled in their program and received the President's Excellence award.

Other programs that Wallace offers that are not available in this area are Drafting Design and Additive Manufacturing. In years past most companies might have an engineer or two but they had an army of draftsmen putting their ideas on paper. Computer aided design has eliminated perhaps some of this demand, but many young engineers technically are simply draftsmen.

Some 54 years ago I got a job as a draftsman while waiting to be drafted, this was during the Vietnam era, I had lost my student deferment, I was studying manufacturing engineering, and so many men my age had filled the collages that our government couldn't draft enough souls, so they had to cancel the college deferments.


I had taken drafting in high school and one year of drafting in college, so I had enough credentials to get a job as a draftsman. Luckily, I wound up in the National Guard instead of the swamps of Vietnam so I could continue working.

While in High School I took machine shop classes and as mentioned drafting, I also worked in the summers at a machine shop. The time spent running engine lathes and milling machines, surface grinders, and even a heat-treating oven became extremely valuable in my duties as a draftsman and eventually a designer.

I see so many young engineers, graduates from our fine University systems, that have no real skills because they do not know how to make anything. Learning how to run a lathe, a milling machine, a surface grinder, understanding why some metals are heat treated and how that affects the tensile strength and hardness. Knowing the processes of welding and its limitations, then sitting down behind once was a drawing board, now a computer will give the student the ability to design something that can actually be made.

It is true that I have never taken a class in calculus, I however have some programs in excel that amaze most that teach it. Ask your excel teachers to explain indirect referencing or the function goal seek.

Snead State Community Collage has the potential to produce some great designers with the courses you already offer by just adding some Drafting instruction. Finding students with some imagination, and with the courses you offer I can see some fine entrepreneurs emerging from your system.

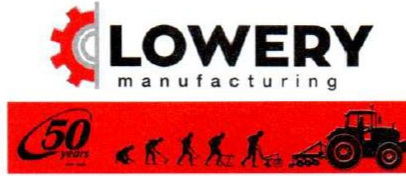
Sincerely,  
  
William F. Sellnow  
President/Designer  
Dixie Grinders Inc.





**JIMMY H. BAKER**  
Chancellor

145 AL Hwy. 179  
Boaz, AL 35957



256-593-8842  
1-855-646-9624

## **L&S Wholesale**

[www.lowerymanufacturing.com](http://www.lowerymanufacturing.com)  
[sales@lowerymanufacturing.com](mailto:sales@lowerymanufacturing.com)

October 17, 2024

Dr. Joe Whitmore  
President  
Snead State Community College  
PO Box 734  
Boaz, Alabama 35957

Dr. Whitmore:

Strengthening of the local workforce is vital to the success of business and industry. We are excited to hear that Snead State Community College is pursuing the addition of a new technical training program. Additive Manufacturing and Drafting Design is a skillset much needed in our local industry. Your proposal of a new career path in additive manufacturing will be instrumental in advancing the skills of the workforce in our community and in the Northeast region of Alabama. We commend the efforts of Snead State in offering this new program that will support our changing industry.

We understand the purpose and goals of our local community college and support any effort to enhance the skilled workforce for Alabama industries. Please do not hesitate to contact Lowery Manufacturing, Inc. if you need further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jimmy H. Baker', written in a cursive style.



**JIMMY H. BAKER**  
Chancellor



October 22, 2024

Snead State Community College  
Dr. Joe Whitmore  
PO Box 734  
Boaz, Alabama 35957

Dr. Whitmore,

Strengthening of the local workforce is vital to the success of business and industry. We are excited to hear that Snead State Community College is pursuing the addition of a new technical training program. Additive Manufacturing and Drafting Design is a skillset much needed in our local industry. Your proposal of a new career path in additive manufacturing will be instrumental in advancing the skills of the workforce in our community and in the Northeast region of Alabama. We commend the efforts of Snead State in offering this new program that will support our changing industry.

We understand the purpose and goals of our local community college and support any effort to enhance the skilled workforce for Alabama industries. Please do not hesitate to contact FSGroup if you need further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeff Saunders'.

Jeff Saunders  
Chief Operating Officer

✉ 20 Wall Street | Albertville | Alabama | 35951



**JIMMY H. BAKER**  
Chancellor



10/16/2024

Dr. Joe Whitmore

President

Snead State Community College

PO Box 734

Boaz, Alabama 35957

Dr. Whitmore:

Strengthening of the local workforce is vital to the success of business and industry. We are excited to hear that Snead State Community College is pursuing the addition of a new technical training program. Additive Manufacturing and Drafting Design is a skillset much needed in our local industry. Your proposal of a new career path in additive manufacturing will be instrumental in advancing the skills of the workforce in our community and in the Northeast region of Alabama. We commend the efforts of Snead State in offering this new program that will support our changing industry.

We understand the purpose and goals of our local community college and support any effort to enhance the skilled workforce for Alabama industries. Please do not hesitate to contact the Marshall County Manufacturers Association if you need further assistance.

Best Regards

  
Larry Brock



**JIMMY H. BAKER**  
Chancellor

## Sundown Aerospace, LLC

10/21/2024

Dr. Joe Whitmore

President

Snead State Community College

PO Box 734

Boaz, Alabama 35957

Dr. Whitmore:

Strengthening of the local workforce is vital to the success of business and industry. We are excited to hear that Snead State Community College is pursuing the addition of a new technical training program. Additive Manufacturing and Drafting Design is a skillset much needed in our local industry. Your proposal of a new career path in additive manufacturing will be instrumental in advancing the skills of the workforce in our community and in the Northeast region of Alabama. We commend the efforts of Snead State in offering this new program that will support our changing industry.

We understand the purpose and goals of our local community college and support any effort to enhance the skilled workforce for Alabama industries. Please do not hesitate to contact Sundown Aerospace, LLC if you need further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to be 'J. Baker'.

\_\_\_\_\_  
On behalf of Sundown Aerospace, LLC

10/21/2024  
Date

1535 Market Drive, Arab, AL 35016  
Phone: 256-586-5354 website: [www.sundownco.com](http://www.sundownco.com)



**JIMMY H. BAKER**  
Chancellor



**SOUTHERN METAL FABRICATORS, INC**  
1215 Frazier Road; P.O. Box 743  
Albertville, AL 35950  
**Phone:** 256-891-4343  
**Web:** SouthernMetalFab.com

---

October 17, 2024

Dr. Joe Whitmore  
President  
Snead State Community College  
PO Box 734  
Boaz, Alabama 35957

Dr. Whitmore:

The success of local business and industry is wholly dependent on its workforce and strengthening it is paramount. It is therefore exciting to hear that Snead State Community College has recognized this and is addressing the need in our community through their pursuit of the addition of a new technical training program. The proposed Additive Manufacturing and Drafting Design Program will address this deficit of skillset in our community and Northeast Alabama. We applaud your recognition of this need and the efforts you are making in offering this new career path program in support of the dynamic industrial environment.

We understand full well the importance of our local community college as well as its purpose and goals and are in complete support of your effort to enhance the skilled workforce for Alabama industry.

Should you need further assistance, feel free to reach out to me directly.

Regards,

*Charles Z. Bailey*

Charles Z. Bailey  
President  
Southern Metal Fabricators, Inc.



**JIMMY H. BAKER**  
Chancellor



October 16, 2024

Dr. Joe Whitmore  
President  
Snead State Community College  
PO Box 734  
Boaz, Alabama 35957

Dr. Whitmore:

We recognize the importance of strengthening the local workforce for the success of our businesses and industries. We are thrilled to learn about Snead State Community College's plans to introduce a new technical training program focused on Additive Manufacturing and Drafting Design. This skillset is greatly needed in our local industry. Your proposal for a new career path in additive manufacturing will play a key role in enhancing the skills of the workforce in our community and the northeastern region of Alabama. We applaud Snead State's efforts in launching this new program, which will support the evolving needs of our industry.

We fully understand the purpose and objectives of our local community college and fully support any initiatives aimed at enhancing the skilled workforce for Alabama industries. Please feel free to reach out if you need any further assistance.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Laura Braswell', is written over a horizontal line.

Laura Braswell  
Director of Workforce Development  
Marshall Co. Economic Development Council