

Academic Program Proposals for July 28, 2023

The following is a list of academic program proposals being reviewed for possible consideration for approval at the July 28, 2023, Arkansas Higher Education Coordinating Board meeting. The summary contents are subject to change. The finalized version of the summaries will be available in the board book.

The institution's name, program title, and program summary are listed below. Contact ADHE for a copy of the proposals.

If you have concerns, objections, questions, or comments concerning a specific proposal, please send them to **Mason Campbell, Assistant Director of Academic Affairs** (mason.campbell@adhe.edu) at ADHE no later than June 16, 2023.

ARKANSAS STATE UNIVERSITY JONESBORO (ASUJ) COLLEGE OF VETERINARY MEDICINE AND DOCTOR OF VETERINARY MEDICINE

The administration of Arkansas State University Jonesboro (ASUJ) and Board of Trustees of the Arkansas State University System request approval to establish the College of Veterinary Medicine and to offer the Doctor of Veterinary Medicine effective Fall 2025. ASUJ is accredited by the Higher Learning Commission and the proposed administrative unit and program is within the role and scope established for the institution. The ASU System Board of Trustees approved the administrative unit and program on March 10, 2023.

ADHE received two separate proposals for Veterinary Medicine, one for the doctorate program and one for the creation of the college. ADHE staff combined the two proposals based on their contingency to one another.

Program Description

The proposed 153 credit-hour Doctor of Veterinary Medicine program will prepare students to prevent, control, diagnose, and treat diseases affecting the health of domestic and wild animals. In addition, this program will enable students to engage in the prevention of transmission of non-human animal diseases to humans and ensure a safe food supply by monitoring and maintaining the health of food-producing animals.

The Doctor of Veterinary Medicine program will be housed in the proposed College of Veterinary Medicine. This new administrative unit will consist of 40 new faculty and staff dedicated to the DVM program. The university will utilize existing facilities, including classrooms, laboratories, and A-State farm facilities to meet the needs of the Doctor of Veterinary Medicine faculty and students. Startup operating expenses and facility renovations and updates will be funded by a combination of philanthropy, bonds, and internal funds.

The program's enrollment is projected to be 120 students in each cohort, with 50% Arkansas residents and 50% non-residents, and retain 98% of those students each year.

Program Need

The veterinary medicine profession is currently facing a workforce crisis that includes historic shortages in veterinarians, veterinary nurses/technicians, and veterinary specialists. Implications for this shortage extend beyond the wellbeing of the veterinary workforce but include potential widespread negative impacts on animal welfare, public health, business, and the economy. One key recommendation to address this issue is to increase the number of veterinary college graduates.

In the Fall of 2021, 42 Arkansas residents were enrolled as first-year students in out-of-state veterinary medical colleges/schools across the United States. The Arkansas Health Grant Program (ARHEG) provides financial assistance to students seeking professional training in many areas, including veterinary medicine, to allow them to attend out-of-state institutions. The ARHEG program spends over \$1,000,000 each year for veterinary medical education and has only 36 total slots, with only 9 new slots each year. Therefore, 33 of the 42 Arkansas students face the higher cost of nonresident tuition and likelihood of substantial student education loans.

Program Cost

The proposed College of Veterinary Medicine and Doctor of Veterinary Medicine program will be led by one Dean, four Associate Deans, two Department Chairs, 30 Faculty members, and three veterinary technicians. Upon startup, only four administrators will be required, and faculty will be hired a semester before they are needed. This ramp-up hiring approach will spread out the start-up cost until the program is fully offered.

Overall program costs for the first three years are estimated at year one: \$7,114,296, year two: \$8,182,296, and year three: \$11,198,296. Each year's cohort is expected to have 120 students, and the college will implement block tuition for this program. Regardless of credit hour load, Arkansas residents will be charged \$17,000 per semester while out-of-state students will be charged \$27,000 per semester. Overall revenue for the first three years is projected at \$5,280,000 for year one, \$10,472,000 for year two, and \$15,576,000 for year three.

Prior to year one of operations, an anticipated bond issuance, in the amount of \$15,000,000, will be used in support of a new building and associated furniture, fixtures, and equipment. Years one through three bond operational expense is projected at approximately \$1,700,000 annually. Year one of operations will require approximately \$1,840,000 of institutional reserves to cover expenses in excess of revenue (operational expense). While philanthropic giving is anticipated to defer the cost of the new building, ASUJ has budgeted \$0.00 philanthropic funds for the first three years of operation.

Program Duplication

The College of Veterinary Medicine and the Doctor of Veterinary Medicine program would be the first of their kind in the state of Arkansas.

Program Goals/Objectives

1. The student will exhibit competency in comprehensive patient diagnosis (problem solving skills), appropriate use of clinical laboratory testing, and record management.
2. The student will exhibit competency in providing comprehensive treatment planning including patient referral.
3. The student will exhibit competency in anesthesia and pain management, and patient welfare.
4. The student will exhibit competency in basic surgery skills, experience, and case management.
5. The student will exhibit competency in basic medicine skills, experience and case management.
6. The student will exhibit competency in emergency and intensive care case management.
7. The student will exhibit competency in health promotion, disease prevention/biosecurity, zoonosis, and food safety.
8. The student will exhibit competency in client communications and ethical conduct.
9. The student will exhibit competency in critical analysis of new information and research findings relevant to veterinary medicine.

Program Enrollment and Graduation Projections

Academic Year	Projected Enrollment	Projected Graduates
2025 - 2026	120	
2026 - 2027	238	
2027 - 2028	356	
2028 - 2029		118
2029 - 2030		118

Program Requirements

<i>DRVM 711V</i>	<i>Academic Resilience</i>
<i>DRVM 7115</i>	<i>Anatomy I</i>
<i>DRVM 712V</i>	<i>Physiology I</i>
<i>DRVM 7121</i>	<i>Veterinary Histology</i>
<i>DRVM 7123</i>	<i>Parasitology</i>
<i>DRVM 7131</i>	<i>Veterinary Foundations I</i>
<i>DRVM 7141</i>	<i>Clinical Skills I</i>
<i>DRVM 715V</i>	<i>Research Methods in Veterinary Medicine</i>

DRVM 7161	<i>Anatomy & Physiology Applied</i>
DRVM 7132	<i>Professional Life Skills I</i>
DRVM 7151	<i>Medical Science</i>
DRVM 716V	<i>Veterinary Immunology</i>
DRVM 717V	<i>Veterinary Virology</i>
DRVM 714V	<i>Bacteriology & Mycology</i>
DRVM 7171	<i>Clinical Skills II</i>
DRVM 7162	<i>Animal Husbandry & Welfare</i>
DRVM 7181	<i>Basic Veterinary Pharmacology</i>
DRVM 7214	<i>Anatomy II</i>
DRVM 7213	<i>Veterinary Pathology I</i>
DRVM 721V	<i>Toxicology</i>
DRVM 7223	<i>Clinical Pathology</i>
DRVM 7233	<i>Veterinary Foundations II</i>
DRVM 724V	<i>Clinical Skills III</i>
DRVM 7222	<i>Veterinary Nutrition</i>
DRVM 7242	<i>Surgery I</i>
DRVM 726V	<i>Surgery II</i>
DRVM 725V	<i>Small Animal Orthopedic Surgery III</i>
DRVM 7232	<i>Professional Life Skills II</i>
DRVM 7243	<i>General Pathology II</i>
DRVM 7253	<i>Diagnostic Imaging</i>
DRVM 727V	<i>Clinical Skills IV</i>
DRVM 7252	<i>Anesthesia & Analgesia I</i>
DRVM 7251	<i>Integrated Diagnostics</i>
DRVM 7382	<i>Veterinary Pharmacology I</i>
DRVM 7392	<i>Veterinary Pharmacology II</i>
DRVM 7314	<i>Small Animal Medicine I</i>
DRVM 7324	<i>Small Animal Medicine II</i>
DRVM 7322	<i>Theriogenology</i>
DRVM 7333	<i>Food Animal Production & Health Maintenance I</i>
DRVM 7343	<i>Food Animal Production & Health Maintenance II</i>
DRVM 7353	<i>Equine Medicine & Surgery I</i>
DRVM 7363	<i>Equine Medicine & Surgery I</i>
DRVM 7342	<i>Clinical Skills V</i>
DRVM 7332	<i>Professional Life Skills III</i>
DRVM 735V	<i>Introduction to Clinical Year</i>
DRVM 7351	<i>Avian & Exotic Animal Medicine</i>
DRVM 7372	<i>Clinical Skills VI</i>
DRVM 7391	<i>Practice Management</i>
DRVM 7381	<i>Radiology Interpretation</i>
DRVM 7418	<i>CR-Small Animal General Practice</i>
DRVM 7424	<i>CR-Specialty Practice</i>
DRVM 7434	<i>CR-Small Animal Shelter Practice</i>
DRVM 7412	<i>CR-Diagnostic Veterinary Medicine</i>
DRVM 7442	<i>CR-Large Animal</i>

<i>DRVM 7422</i>	<i>Clinical Diagnostic Imaging</i>
<i>DRVM 745V</i>	<i>CRE-Elective Externship</i>
<i>DRVM 7433</i>	<i>NAVLE Administration</i>
<i>DRVM 7451</i>	<i>Assessment of Clinical Year</i>

Italics = New Courses

NORTHWEST ARKANSAS COMMUNITY COLLEGE (NWACC) CERTIFICATE OF PROFICIENCY AND TECHNICAL CERTIFICATE IN BIOTECHNOLOGY

The administration and Board of Trustees of Northwest Arkansas Community College (NWACC) request approval to offer the Certificate of Proficiency in Pre-Biotech: Molecular and Cellular Biology and Technical Certificate in Biotechnology, effective Fall 2024. NWACC is accredited by the Higher Learning Commission and the proposed program is within the role and scope established for the institution. The Northwest Arkansas Community College Board of Trustees approved the program on February 13, 2023.

ADHE received two separate proposals for Biotechnology, one for the Certificate of Proficiency and one for the Technical Certificate. ADHE staff combined the two proposals based on their stackable curriculum.

Program Description

The proposed Certificate of Proficiency in Pre-Biotech: Molecular and Cellular Biology and Technical Certificate in Biotechnology will provide students with instruction in a study of technology based on biology and chemistry especially pertinent to agriculture, food science, medicine, and forensics. Students will gain knowledge in a combination of areas such as genetics, cell biology, molecular biology, biochemistry, and microbiology.

The 20 credit-hour Certificate of Proficiency in Pre-Biotech: Molecular and Cellular Biology and 31 credit-hour Technical Certificate in Biotechnology offers hands on experience with biotechnology equipment, processes, and techniques to create a needed skilled workforce. Students wishing to continue their education can move seamlessly into the already approved Associate of Applied Science in General Technology offered at Northwest Arkansas Community College.

These proposed programs will rely on existing infrastructure. No new faculty will be required given that current faculty already have experience in the biotechnology area, with additional training offered to further their knowledge. Additionally, new equipment needed for instruction will be funded by grants received by the College.

Program Need

Biotechnology is a booming career option with its demand emerging in sectors such as pharmaceutical, animal husbandry, agriculture, healthcare, medicine, genetic engineering, etc. In 2021, there were 76,150 biotechnician positions with a mean salary

of \$51,770. Arkansas was in the top quartile of the annual mean wage for biological technicians.

Demand for biological technician positions has increased 6% and is expected to continually increase until 2030. Local employers, such as Tyson and Pel-Freez, were interviewed, and all stated an interest and need for individuals with certificate and/or associate-level training. These same employers stated their willingness to pay between \$15-\$35 per hour.

Program Cost

The Certificate of Proficiency in Pre-Biotech: Molecular and Cellular Biology and Technical Certificate in Biotechnology program is designed to use pre-existing faculty and facilities. NWACC will use NSF and Perkins grant funds to purchase new equipment to support the program's hands-on instruction. In addition, approximately \$1,000 will be spent on micro certifications for faculty through the Bioscience Core Skills Institute.

Program Duplication

No active, associate-level or below Biotechnology programs exist in Arkansas. The University of Arkansas Little Rock offers a Molecular Biotechnology concentration in the Bachelor of Science in Biology and Arkansas State University Jonesboro has a Bachelor of Science in Biotechnology.

Program Goals/Objectives

Upon completion students will be able to:

1. Apply hands on knowledge of genetics, cell biology, tissue culture, chemical identification, and isolation for biotechnology disciplines.
2. Use techniques, skills, and modern scientific and technical tools necessary for professional practice.
3. Identify and solve discipline related problems.
4. Understand professional and ethical responsibility in biotechnology disciplines.
5. Design and conduct experiments/ investigations, as well as to analyze and interpret data in the laboratory.
6. Communicate effectively in a professional environment.
7. Demonstrate knowledge of the contemporary and ethical issues surrounding the biotechnology disciplines.
8. Recognize the need for and an ability to engage in professional development in pursuit of life-long learning.
9. Understand the impact of biotechnology disciplines for solutions in a global and societal context.

Program Enrollment and Graduation Projections

Academic Year	Projected Enrollment	Projected Graduates
2024 - 2025	10	
2025 - 2026	12	
2026 - 2027	14	6
2027 - 2028		8
2028 - 2029		10

Program Requirements

Certificate of Proficiency in Pre-Biotech: Molecular and Cellular Biology

BIOL 2534 Cell Biology
BIOL 2324 Genetics
CHEM 1074 Fundamentals of Chemistry OR
CHEM 1104 College Chemistry I
CHEM 2614 Organic Physiological Chemistry

Choose 1 course from below:

BIOL 1103 Introduction to Biotechnology
BIOL 1544 Principles of Biology
BIOL 1604 General Zoology
BOTY 1614 Plant Biology
BOTY 1614H Plant Biology, Honors
CHEM 1124 College Chemistry II
MBIO 2014 General Microbiology

Technical Certificate in Biotechnology

BIOL 2534 Cell Biology OR
BIOL 2324 Genetics
CHEM 1074 Fundamentals of Chemistry OR
CHEM 1104 College Chemistry I
CHEM 2614 Organic Physiological Chemistry
BIOL 1103 Introduction to Biotechnology
BIOL 2104 Biotechnology I
BIOL 2204 Biotechnology II

Complete 8 hours from the following:

BIOL 2534 Cell Biology
BIOL 2324 Genetics
CMJS 2013 Intro to Criminal Justice
CMJS 2093 Forensic Anthropology
CMJS 2343 Crime Scene Investigation
CHEM 1124 College Chemistry II
MBIO 2014 General Microbiology
AFLS 2921 Agricultural Undergraduate Research I
AFLS 2931 Agricultural Undergraduate Research II
ENSC 2921 Undergraduate Research I
ENSC 2931 Undergraduate Research II

SOUTHEAST ARKANSAS COLLEGE (SEARK) CERTIFICATE OF PROFICIENCY AND TECHNICAL CERTIFICATE IN MEDICAL ASSISTANT TECHNOLOGY

The administration and Board of Trustees of Southeast Arkansas College (SEARK) request approval to offer the Certificate of Proficiency in Administrative Medical Assistant and Technical Certificate in Medical Assistant Technology, effective Fall 2023. SEARK is accredited by the Higher Learning Commission and the proposed program is within the role and scope established for the institution. The Southeast Arkansas College Board of Trustees approved the program on May 10, 2023.

ADHE received a combined proposal for the Medical Assistant Technology program detailing two separate credentials, the Certificate of Proficiency in Administrative Medical Assistant, and the Technical Certificate in Clinical Medical Assistant.

Program Description

The proposed Medical Assistant Technology program will prepare students to work in a hospital and outpatient clinic settings. The program will offer credentials in either Administrative or Clinical assistance.

The 19 credit-hour Certificate of Proficiency in Administrative Medical Assistant will provide training in communication and patient relations, medical law and ethics, scheduling, medical record and privacy practices, and general clinic office practices including basic medical coding and insurance billing. In addition, the 30 credit-hour Technical Certificate in Clinical Medical Assistant offers students a broad foundation in basic medical assisting skills, including classroom, skills lab, and practicum hours, in a medical setting under the supervision of a physician or other clinic personnel.

By utilizing existing coursework and facilities, no new faculty will be required for this program. Only three new courses of the CP and four new courses of the TC will be required.

Program Need

Employment of medical assistants is projected to grow 16% from 2021 to 2031, much faster than the average for all occupants. On average, approximately 123,000 job openings for medical assistants are projected each year. Many of these openings result from the need to replace workers who transfer to different occupations or retire. Given that the large baby-boom population continues to age, their healthcare needs will result in a need for more medical assistants to perform routine administrative and clinical duties in physicians' offices and other primary care settings.

Jefferson Regional Medical Center, one of the largest employers in Pine Bluff, AR, contacted SEARK requesting the offering of a Medical Assistant Technology program.

Several letters of support from local physicians and medical hiring staff were written to express their need and/or backing of the proposed program.

Program Cost

The proposed Medical Assistant Technology program is designed to use pre-existing faculty, facilities, and resources. One adjunct faculty member will be hired. All startup costs will be funded by Southeast Arkansas College.

Program Duplication

Medical Assistant Technology is offered at five colleges or universities in Arkansas. These institutions and their distance from Pine Bluff are Arkansas State University Mid-South (137 miles), Arkansas Tech University (118 miles), Cossatot Community College of the University of Arkansas (161 miles), East Arkansas Community College (100 miles), and University of Arkansas Pulaski Technical College (45 miles).

Program Goals/Objectives

Upon completion students will be able to:

1. Demonstrate skills for assisting healthcare providers in an outpatient clinical setting giving direct patient care assistance.
2. Demonstrate competence in preparing patients for tests, procedures and examinations and performing vital sign documentation common to the outpatient clinic setting. Students will also perform CLIA-waived laboratory procedures and simple office procedures within the scope of the CMA role.
3. Exhibit patient safety in the clinic setting, using universal, standard precautions to prevent disease transmission, recognize and respond to emergencies, and administer select medications under the direction of the physician or nurse.
4. Use correct medical terminology to communicate and document care, manage patient records, obtain patient history and insurance data using electronic health record technology and will demonstrate competency in basic diagnostic and procedural coding.
5. Exhibit lawful and ethical care; assuring patient rights, maintenance of safety in the healthcare environment, following chain of custody procedures and reporting illegal or unsafe practices to proper authorities.

Program Enrollment and Graduation Projections

Certificate of Proficiency in Administrative Medical Assistant

Academic Year	Projected Enrollment	Projected Graduates
2024 - 2025	10	
2025 - 2026	12	
2026 - 2027	15	12
2027 - 2028		12
2028 - 2029		12

Technical Certificate in Clinical Medical Assistant

Academic Year	Projected Enrollment	Projected Graduates
2024 - 2025	8	
2025 - 2026	10	
2026 - 2027	12	10
2027 - 2028		10
2028 - 2029		10

Program Requirements

Certificate of Proficiency in Administrative Medical Assistant

MATH 1233	Technical Mathematics
COMP 1123	Introduction to Computers
<i>MEDI 1013</i>	<i>Medical Office Management</i>
<i>MEDI 1225</i>	<i>Administrative Medical Assistant</i>
<i>MEDI 2222</i>	<i>Administrative Medical Assistant Lab</i>
HEAL 1113	Medical Terminology OR
HEAL 1123	Medical Terminology and Anatomy for Coding

Technical Certificate in Clinical Medical Assistant

MATH 1233	Technical Mathematics
COMP 1123	Introduction to Computers
<i>MEDI 2325</i>	<i>Clinical Medical Assistant</i>
<i>MEDI 2322</i>	<i>Clinical Medical Assistant Lab</i>
<i>MEDI 1003</i>	<i>Orientation to Clinical Laboratory Science</i>
<i>MEDI 1013</i>	<i>Medical Office Management</i>
HEAL 1113	Medical Terminology OR
HEAL 1123	Medical Terminology and Anatomy for Coding
BIOL 2454	Human Anatomy & Physiology I
BIOL 2464	Human Anatomy & Physiology II

Italics = New Courses

UNIVERSITY OF ARKANSAS MONTICELLO (UAM) GRADUATE CERTIFICATE IN FOREST BUSINESS

The administration of the University of Arkansas Monticello (UAM) and Board of Trustees of the University of Arkansas System request approval to offer the Graduate Certificate in Forest Business effective Fall 2023. UAM is accredited by the Higher Learning Commission and the proposed program is within the role and scope established for the institution. The University of Arkansas System Board of Trustees will consider the program for approval on May 24-25, 2023.

Program Description

The proposed Graduate Certificate in Forest Business will prepare individuals to work in the areas of consulting forestry, forest industry logistics and supply chain management,

and finance and investment in forests. Coursework will consist of instruction and hands-on experience in forest finance, timber appraisals, business leadership, forest operations and forest products supply chain management.

The 15 credit-hour program can be completed in 2 semesters. All courses will be offered in a hyflex format, simultaneously in-person and on-line. The proposed Graduate Certificate is efficiently integrated into the existing graduate Forest Resources program and, therefore, will use existing faculty, resources, and facilities.

Program Need

The College of Forestry, Agriculture, and Natural Resources regularly monitors employment needs of Arkansas' natural resource management industries and organizations. For the past several decades, forests and forest industry have contributed substantially to the economic well-being of rural Arkansas and has had significant cultural influence. Currently, in terms of percentage of state total GDP, Arkansas is the third most timber economy in the United States and the most timber dependent economy in the US South. Annually, forestry contributes more than \$6 billion in state GDP and supports more than 60,000 jobs in the state.

To assess the needs of the forestry profession in Arkansas for advanced forest business classes, a survey was sent to all 406 foresters who hold a current license to practice forestry in Arkansas. UAM received 94 survey responses, a 23% response rate. Survey respondents indicated that a certificate program in forest business would be very useful and reported a high interest in the curriculum containing topics in financial analysis and decision making, valuation and appraisal, forest products marketing, accounting, advanced forest economics, forest operations and supply chain management, and forest policy and law. Comments received from respondents included a need for sales experience in forest products, negotiation and persuasion, and business decorum.

Program Cost

As previously stated, the proposed Graduate Certificate is integrated into the existing graduate Forest Resources program and, therefore, will use existing faculty, resources, and facilities in order to offer this program. An initial technology purchase of \$11,406, funded by the Arkansas Center of Forest Business, will be made to support the offering of the courses in a hyflex format.

Program Duplication

The proposed Graduate Certificate in Forest Business program would be the first of its kind in the state of Arkansas.

Program Goals/Objectives

Upon successful completion, a student will be able to:

1. Understand the different cash flows in timberland investment.
2. Use financial decision tools on forestry projects.
3. Estimate the value of forest land and understand appraisal concepts.
4. Know the concept of property tax and its effect on the optimum rotation of timber.
5. Understand accounting and financial statements.
6. Demonstrate effective communication skills that include adaptability, active listening, transparency, clarity, empathy, and an understanding of how body language impacts communication. Understanding communication styles.
7. Understand how to employ time management, maintaining personal and team focus, and promote a healthy work/life balance for your team.
8. Applying the practices of authenticity, trust, and vulnerability with a team.
9. Understanding of different personality types, decision making, and leadership styles.
10. Understand how to develop resiliency in an organization or project, manage conflicts, effect/enable change and creativity, and lead from values of fairness and ethics.
11. Have good working knowledge of current domestic and global wood markets and emerging trends and wood product development.
12. Understanding sales transactions of forest products from tree to end consumer.
13. Assess customer experiences with existing wood products and manage customer value and brand evaluation.
14. How to apply social media and digital marketing for wood products
15. Understand the fundamentals of B2B and B2C marketing of wood products and their linkages.
16. Use market analytics to predict future customer purchases, segmenting markets, and customer lifetime value determination in consideration of forest product certification.
17. Understanding antitrust law considerations in forest product markets.

Program Enrollment and Graduation Projections

Academic Year	Projected Enrollment	Projected Graduates
2023 - 2024	10	
2024 - 2025	15	
2025 - 2026	20	20
2026 - 2027		25
2027 - 2028		28

Program Requirements

NRM 5XX3 Forest Finance
NRM 5XX3 Leadership in a Forest Business
NRM 5XX3 Forest Products Marketing

Choose two of the following:

NRM 5XX3 Forest Operations and Supply Chain Management
NRM 5XX3 Forest Appraisals
NRM 5XX3 Life Cycle Assessment of Forest Products
NRM 5XXV Independent Study in Forest Business

Italics = New Courses

UNIVERSITY OF ARKANSAS PINE BLUFF (UAPB) BACHELOR OF SCIENCE IN CYBERSECURITY

The administration of the University of Arkansas Pine Bluff (UAPB) and Board of Trustees of the University of Arkansas System request approval to offer the Bachelor of Science in Cybersecurity effective Fall 2023. UAPB is accredited by the Higher Learning Commission and the proposed program is within the role and scope established for the institution. The University of Arkansas System Board of Trustees approved the program on May 24-25, 2023.

Program Description

The proposed Bachelor of Science in Cybersecurity at the University of Arkansas Pine Bluff will combine knowledge acquired in computer science, mathematics, science, information technology, and criminal justice to prepare students as cybersecurity professionals ready to detect and prevent cybersecurity attacks. Students successfully completing this program will possess the technical knowledge and hands-on skills necessary for an entry-level career in the high-demand field of Cybersecurity.

Through the UA System Consortium in Cybersecurity, known as CyberLearN, this proposed 120 credit-hour program will offer high-quality, standardized coursework in cybersecurity leading to stackable, transferable undergraduate certificates and degrees that will be valued by Arkansas industry and employers. Graduates of this program could pursue a masters degree in cybersecurity, computer science, law, and other related fields.

Although this consortium-based program is not unique to the state, similar educational opportunities within the cybersecurity field are unique to southeast Arkansas and the state's only public HBCU.

Program Need

Cybersecurity continues to be a high-demand field in Arkansas and the United States. According to Cyberseek.org, the number of current cybersecurity job openings exceeds 750,000 nationwide and more than 7,800 in Arkansas. With demand rising, there is a

critical need to establish academic programs able to train potential employees with the necessary skills to close this employment gap.

The *Occupational Outlook Handbook (2022)*, published by the Department of Labor Statistics, projects employment in the Information Security Analysts field to grow 7% from 2020 to 2030 with a median salary of \$69,000 in the state of Arkansas.

Program Cost

Using existing facilities, the proposed Cybersecurity program will be housed in the STEM Research and Conference Center on UAPB's campus. Two doctorate-level and two part-time faculty members will be hired to teach in the program. Funding for one faculty position will be reallocated from the Mathematics and Computer Science Department budget. Administrative support will be provided by a Program Coordinator and Administrative Assistant, both to be hired upon approval. This program will also employ 2 Graduate Teaching Assistants. Funding for this program will come from new student tuition and fees as well as a previously obtained Title III grant.

Program Duplication

Three public, 4-year institutions offer a Bachelor of Science in Cybersecurity. They are Arkansas Tech University, University of Central Arkansas, and University of Arkansas Little Rock. The UA-Little Rock program is the foundation of the CyberLearn consortium.

Program Goals/Objectives

Upon completion students will be able to:

1. Develop critical thinking and problem-solving skills.
 - a. Change a complex problem, system, or task into small pieces which can be easily understood, implemented, and maintained.
 - b. Produce an algorithmic solution to a problem as a result of problem decomposition and pattern identification.
2. Apply mathematical foundations to the discipline of computer science and cybersecurity.
 - a. Understand the interplay between computational theory and practice.
 - b. Use modern tools of the computing and cybersecurity profession appropriately.
3. Gain a working knowledge of the theoretical foundations of cybersecurity and its application to real-world problems.
 - a. Understand strategies for prevention, detection, and defense of cyber systems.
4. Obtain communication and interpersonal skills necessary to perform effectively in a technical environment.
 - a. Use oral and written communication skills to convey technical information effectively and accurately.

- b. Employ effectively interpersonal skills to work cooperatively and productively in a team environment with those outside of computing.

Program Enrollment and Graduation Projections

Academic Year	Projected Enrollment	Projected Graduates
2023 - 2024	40	
2024 - 2025	75	
2025 - 2026	117	17
2026 - 2027		32
2027 - 2028		45

Program Requirements

Institutional Requirements

BAS 1210 Personal & Social Development

BAS 1120 Career Life Planning

General Education Core

ENGL 1311 English Composition 1

ENGL 1321 English Composition 2

MCOM 2390 Oral Communication

MATH 1330 College Algebra

BIOL 1450 Biological Science

PHYS 2310/2110 Gen Physics I/Lab OR Chem/Lab

ART 2340 Art Appreciation OR

MUSI 2330 Music Appreciation

HUMN 2301 Humanities

SOCI 1320 Introduction to Social Science

PSYS 2300 General Psychology

HIST 2315 U.S. History OR

PSCI 2312 American Government

Other Requirements

ENGL 2300 Intro to Literature

HLPE 1110-1125 Physical Education

HLPE 1310 Personal Health & Safety

MATH 2311 Business Calculus I

MATH 2312 Business Calculus 2

MATH 2370 Introduction to Statistics

MATH 3390 Discrete Math

PHYS 2320/2120 Gen Physics II/Lab OR Chem/Lab

Required Courses

CPSC 2300 Computer Science I

CPSC 2301 Computer Science II

CPSC 2344 Local Area Networking

CPSC 3352 Algorithmic Lang/Comp

CPSC 4389 Operating Systems

CPSC 4394 Database Management

CPSC 2151/2251	Computer Organization & Programming/Lab
CPSC 3210/3102	Data Structures Lecture & Lab
CRJU 4300	Cyber Crimes
<i>CSEC 2300</i>	<i>Intro to Cybersecurity</i> OR
CPSC 3310	Intro to Information Technology
<i>CSEC 2310</i>	<i>System Security</i> OR
CSIT 3320	Information Technology Security (IT/II)
<i>CSEC 2320</i>	<i>Access Control</i>
<i>CSEC 3312</i>	<i>Applied Cryptography</i>
<i>CSEC 3314</i>	<i>Incident Response</i>
<i>CSEC 3322</i>	<i>Software Security</i>
<i>CSEC 4290</i>	<i>Cyber Security Capstone</i>
<i>CSEC 4300</i>	<i>Network Forensics</i> OR
CSIT 4310	Network Forensics (IT/III)
<i>CSEC 4312</i>	<i>Risk Management</i>
<i>CSEC 4324</i>	<i>Data Security</i>
<i>CSEC 4344</i>	<i>Networking Security (GCST 5344)</i>

Italics = New Courses

UNIVERSITY OF ARKANSAS PINE BLUFF (UAPB) BACHELOR OF SCIENCE IN ENGINEERING

The administration of the University of Arkansas Pine Bluff (UAPB) and Board of Trustees of the University of Arkansas System request approval to offer the Bachelor of Science in Engineering effective Fall 2023. UAPB is accredited by the Higher Learning Commission and the proposed program is within the role and scope established for the institution. The University of Arkansas System Board of Trustees approved the program on May 24-25, 2023.

Program Description

The proposed Bachelor of Science in Engineering will be the first of its kind at the state's only public Historically Black College or University. This program of study will offer underrepresented minorities in the Arkansas Delta region an educational opportunity in the areas of STEM.

This 123 credit-hour curriculum will include two tracks, Construction Project Management or Industrial Manufacturing. The Construction Project Management track will provide students with a general engineering background needed to solve construction related problems. It will also provide the management skills necessary to serve as a liaison between the owner and contractor, with an understanding of what is safe, efficient, aesthetic, and amenable for all parties involved. The Industrial Manufacturing track will prepare students with applicable knowledge in mathematical and scientific principles in the management and design of systems, execution of new

product designs, improvement of manufacturing processes, and the management and direction of the physical or technical functions of an organization.

The proposed program will use existing facilities and coursework, with the need to develop only six new courses. UAPB plans to hire two new, doctorate-level faculty members to teach and conduct research in the Engineering program.

Program Need

Engineers are vital in the creation of structures and products across the State, Nation, and the world. The U.S. Bureau of Labor Statistics projects employment growth with nearly 140,000 new jobs expected for engineers over the next decade. In 2021, engineers had a median annual salary of \$104,000, more than twice the median wage for all workers.

In recent years, the state of Arkansas has made a strong push for student interest, and subsequent enrollment, in STEM programs. UAPB is committed to this initiative and to the advancement of industrial growth in Arkansas through the development of the proposed degree program. Graduates of this program will be able to apply their knowledge of engineering and production with a goal of improving efficiency across the State.

Program Cost

The Bachelor of Science in Engineering program will use existing facilities, equipment, and faculty for the first two years. Starting year three, new equipment, expanded laboratory capacity, and additional faculty will be funded by State General Revenue (E and G) and corporate sponsorships. A Title III grant has been secured to assist with personnel, equipment, software, and travel costs associated with this program.

Program Duplication

Two other public institutions, Henderson State University and Southern Arkansas University, offer a bachelor's level degree such as the proposed program. Many other institutions offer programs in engineering. However, those programs are specified as Civil Engineering, Mechanical Engineering, Electrical Engineering, or Computer Engineering.

Program Goals/Objectives

1. Prepare graduates with the knowledge, skills and abilities to complete computer-aided design of parts, facilities and project design by the end of their freshman enrollment year.
2. Prepare graduates to communicate effectively utilizing engineering terminology and techniques for effective results.
3. Prepare graduates with the knowledge, skills and abilities in design, quality, safety, project management, and supervision to lead employees and technical

operations used to create products, goods and services by the end of their second year of enrollment.

4. Prepare graduates to collaborate with clients, architects, other engineers, upper management and other project members to determine and complete tasks.
5. Prepare graduates to use computer applications to solve problems related to data, management, spread sheets and Internet utilization.
6. Prepare graduates with a general education, which enables them to communicate verbally, perform mathematical computations, and exhibit social interest and responsibility.
7. Prepare graduates to display the sensibilities and character of a freethinking person capable of being a critical thinker, problem-solver and be a responsible citizen.
8. Prepare graduates to possess a range, depth, and scope of knowledge about engineering, management, operations and production efficiency.
9. Prepare graduates with skill sets that lead to continuous improvement.

Program Enrollment and Graduation Projections

Academic Year	Projected Enrollment	Projected Graduates
2023 - 2024	30	
2024 - 2025	58	
2025 - 2026	90	3
2026 - 2027		15
2027 - 2028		30

Program Requirements

General Education Core

BAS 1120	Career Life Planning
BAS 1210	Personal & Social Development
ENGL 1311	English Composition I
ENGL 1321	English Composition II
MCOM 2390	Oral Communications
MATH 2510	Calculus I
BIOL 1350/1150	Biological Science
CHEM 1330/1130	General Chemistry I
ECON 2311	Macroeconomics
ECON 2321	Microeconomics
HLPE 1310	Personal Health and Safety
HLPE 11XX	Physical Education

Choose one of the following:

ENGL 2300	Introduction to Literature OR
ENGL 2360	World Literature I OR
ENGL 2361	World Literature II

Choose two from the following:

HUMN 2301 Humanities OR
HUMN 2310 Logic OR
MUSI 2330/ART Music Appreciation OR
ART 2340 Art Appreciation

Choose one of the following:

HIST 2315 US History to 1877 OR
HIST 2318 US History since 1877 OR
PSCI 2312 American Government OR

Engineering Core

MATH 2370 Statistics OR
MATH 3320 Statistics and Probability
CHEM 1340/1140 General Chemistry II
PHYS 3310/1110 University Physics I
PHYS 3320/3120 University Physics II
CPSC 2300 Computer Science OR
CPSE 3300 Software Engineering
MATH 2520 Calculus II
MATH 3311 Linear Algebra OR
MATH 4320 Differential Equations
ENGL 3350 Tech Writing OR
ENGL 3301 College Grammar
ENGN 1100 Engineering Orientation
ENGN 1302 Engineering Graphics
ENGN 2310 Fundamentals of Engineering
ENGN 3333 Thermodynamics OR
CPSE 3347 Data Analytics
ENGN 1201 Industrial Safety Management Engineering
ENGN 3300 Engineering Economics
ENGN 4320 Project Management/Estimating and Scheduling
ENGN 4307 Quality Control Engineering
ENGN 4242 Senior Project Capstone

Construction Project Management Track – complete 24 hours

ENGN/TECH 1320 Material, Construction, Proc. & Practices
ENGN/TECH 2308/3313 Strength of Materials (Mechanics of Materials)
ENGN/TECH 2315 Site Planning & Layout
ENGN/TECH 2321 Codes, Specs & Law
ENGN/TECH 2600 Cooperative Education
ENGN/TECH 4300 Internship
ENGN/TECH 3302 Advanced Design
ENGN/TECH 3317 Structural Design
ENGN/TECH 3319 Energy Conversion
ENGN/TECH 3363 Plant Layout/ Facilities Planning
ENGN/TECH 4318 Mechanical/Electric/Equipment
ENGN 2303 Fundamentals of Statics
ENGN 3303 Fundamentals of Dynamics
ENGN/TECH 3399 Alternative Energy

Industrial Manufacturing Track – complete 24 hours

ENGN/TECH 2309 Introduction to Robotics
ENGN/TECH 2367 Manuf. Process of Materials & Assembly
ENGN/TECH 2600 Cooperative Education
ENGN/TECH 4300 Internship
ENGN/TECH 3302 Advanced Design
ENGN/TECH 3307 Supply Chain & Inventory Management
ENGN/TECH 3310 Ergonomics and Human Factors Engineering
TECH 3365 Manufacturing, Process & Planning
ENGN/TECH 4310 Logistics Engineering Management
ENGN/TECH 4366 Automation Production Systems
TECH 4370 CAD/Computer-Aided Manufacturing
ENGN/TECH 4372 Fluid Power Systems
Italics = New Courses

INSTITUTIONAL CERTIFICATION ADVISORY COMMITTEE (ICAC)

The following applications may be reviewed by ADHE for possible consideration at the AHECB meeting in July 2023.

Fielding Graduate University, Santa Barbara, California

Post-Baccalaureate Certificate in Clinical Psychology
Post-Doctoral Certificate in Neuropsychology Specialization
Post-Doctoral Certificate of Respecialization in Clinical Psychology

University of Massachusetts Global, Irvine, California

Bachelor of Arts in Social Work
Master of Arts in Marriage and Family Therapy
Master of Social Work

University of Southern California, Los Angeles, California

Graduate Certificate in Medical Product Quality
Graduate Certificate in Regulatory and Clinical Affairs
Master of Science in Health Systems Management Engineering
Master of Science in Materials Engineering (Machine Learning)
Master of Science in Operations Research Engineering
Master of Science in Petroleum Engineering - Digital Oilfield Technologies
Master of Science in Petroleum Engineering (Geoscience Technologies)
Master of Science in Management of Drug Development
Master of Science in Medical Product Quality
Master of Science in Regulatory Science