



OFFICE OF THE PRESIDENT  
Dr. Joe Schaffer

To: LCCC Board of Trustees  
From: Dr. Joe Schaffer, President  
CC: Members, President's Cabinet  
Dr. Jill Koslosky, Dean, School of Business, Agriculture, & Technical Studies  
Lindsey Freeman, Program Director, Agriculture  
Date: 16 July, 2023  
Subject: New Program Proposal, Emerging Agriculture Technologies, AAS

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The Guided Pathways initiative at the College created a deep examination of our academic offerings. This examination has challenged us to ensure our programs adhere to the tenets of the Pathways framework in supporting our students' success. Specifically, the College has committed to offering academic programs that are clear and intentional in design to meet students' goals in employment or further education. It is with respect for these tenets that I seek approval for a new Associate of Applied Science, Emerging Agriculture Technologies (EAT).

**PROGRAM OVERVIEW:**

The Emerging Agriculture Technologies program represents the expansion of programming in our School of Business, Agriculture & Technical Studies (BATS). This program was developed through input from and expressions of need by members of the Agriculture & Equine Pathway Advisory Committee. Members of that committee applauded our faculty team for considering *future* careers in Agriculture in their program development.

The College is proposing this program to distinguish agriculture programming at LCCC from that of Wyoming's other colleges. While aspects of this program are embedded in the Agriculture programs of our sister colleges, the proposed program is multi-disciplinary in nature and focuses knowledge and skills development in the intersection of agriculture and technology. This unique approach distinguishes our program; an advantage we believe will attract a new student population to LCCC. Additionally, the degree was developed to align with other programs in the Agriculture & Equine Pathway which affords students opportunities to explore the rich content while acquiring credits that are applicable in multiple program areas across the College. Finally, completers of the proposed degree are well-positioned to continue their education through LCCC's Applied Management BAS degree either as a direct path or in the years following their completion at the Associate's level.

**PROGRAM OUTCOMES:**

The program has completed the required development and review process and has received approval of the Academic Standards Committee. The program is comprised of 65-72 credits.

Upon successful completion of the AAS students will be able to:

- Develop technical skills for agriculture applications.
- Interpret data from precision agriculture technologies.
- Utilize data from precision agriculture technologies to make informed management decisions.
- Utilize existing technology to innovate future agriculture solutions.

Students will have the opportunity to meet these outcomes through the following program sequence:

Emerging Agriculture Technologies, AAS   Program Sequence			
1 <sup>st</sup> Semester			
	ANSC 1010	Intro to Animal Science	4
	STRT 1000	Strategies for Success	3
	AECL 1000	Agroecology	4
OR			
	BIOL 1010	General Biology	4
	ENGL 1010	English Composition I	3
	MATH 1400	College Algebra	3
SEMESTER TOTAL:			17
2 <sup>nd</sup> Semester			
	ANSC 2025	Livestock Nutrition	2
OR			
	CROP 1150	Pesticide Safety & Application	2
	ANSC 2560	Reproductive Technology	3
	GEOG 1100	Intro to Geographic Information Systems	4
	AGRI 1015	Emerging Agriculture Technology	3
	CMAP 1250	Principles of Information Technology	4
SEMESTER TOTAL:			16
3 <sup>rd</sup> Semester			
	AGRI 2470	Agriculture Internship I	8
OR			
	AECL 2395	Agricultural Science Research Methods Capstone	3
SEMESTER TOTAL:			3-8
4 <sup>th</sup> Semester			
	SOIL 2010	Intro to Soil Science	4
	GEOG 1040	Mobile Mapping with GPS	3
	REWM 2000	Principles of Range Management	3
	AGRI 2395	EAT Transition Experience Capstone	1
		Choice, CMAP or MSFT elective	3-4
SEMESTER TOTAL:			14-15
5 <sup>th</sup> Semester			
	COMM 2010	Public Speaking	3
		Choice, CMAP Elective	3
	RESP 2985	Choice, approved US/WY Statutory	3
		Choice, approved departmental elective	3-4
		Choice, Creative Expression (general education)	3
SEMESTER TOTAL:			15-16

**STAFFING IMPACT:**

The program can be delivered by current faculty. It only requires the addition of two new departmental classes that can be absorbed by the current faculty in the Ag & Equine department.

**BUDGET IMPACT:**

Increased budgetary needs may include the costs of specific equipment not currently available at the College. The interdisciplinary nature of the required courses may result in costs allocated to departments outside of Agriculture.

More detailed information about this proposed program is provided in the attached New Program Request Form prepared for the Wyoming Community College Commission.

# Wyoming Community College Commission

## NEW PROGRAM REQUEST FORM

<b>College</b>	Laramie County Community College				
<b>Date</b>	July 10, 2023				
<b>Program Title</b>	Emerging Agriculture Technologies				
<b>Type of Credential</b>	<input type="checkbox"/> AA	<input type="checkbox"/> AS	<input type="checkbox"/> AFA	<input checked="" type="checkbox"/> AAS	<input type="checkbox"/> Certificate
	<input type="checkbox"/> Other	Click or tap to enter text.			
<b>Total Credit Hours</b>	64-71				
<b>CIP Code</b>	01.0000				
Classification of Instructional Programs/CIP obtained from the National Center for Educational Statistics at <a href="https://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55">https://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55</a> . Double check your recommendation with the course coordinator and/or Student Records.					
<b>Title</b>	Agriculture Technician				

Rationale for request	
<b>Type of Program</b>	<input type="checkbox"/> Transfer preparation <input checked="" type="checkbox"/> Short term workforce placement <input type="checkbox"/> One-year workforce placement <input type="checkbox"/> Special need endorsement
<b>Certificate Questions</b> <i>More than one may apply</i>	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> local or state employer or industry specific <input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> nationally recognized <input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> examination or licensure preparation <input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b> practicum <input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>No</b> stackable  <u>Title IV</u> Financial Aid Eligible <input checked="" type="checkbox"/> <b>Yes</b> <input type="checkbox"/> <b>No</b> (minimum of 16 semester hours) (Stafford Loans, Perkins Grants, Pell Grants and Federal Campus-based Grants)
<b>New program start</b>	<input type="checkbox"/> NA <b>OR</b> identify the semester the program will start: Fall 2024
<b>Taught by non-accredited vendors?</b>	<input type="checkbox"/> YES (see below) <input checked="" type="checkbox"/> NO  Click or tap to enter text.
<b>WCCC or State Priority</b>	<input checked="" type="checkbox"/> YES (see below) <input type="checkbox"/> NO (See the <a href="#">WCCC website</a> , there are several programs which have a state priority, such as the Governor's Economically Needed Diversity Options for Wyoming/ <a href="#">ENDOW</a>  ENDOW seeks to diversify and grow agriculture production and commerce, while enhancing existing products. Agriculture is also an area of emphasis and an opportunity for growth in the WIP initiative. This new program aims to develop new value-added processing operations, leverage research and workforce training, and maximize water and soil resources.

Program Curriculum	
<b>Program Description</b>	The Emerging Agriculture Technologies AAS is designed to prepare graduates for a career in a wide array of positions including: crop consulting, precision farm management, equipment technicians, sales support, innovative production agriculture technologies, and more. Students will develop technical skills and learn to

	interpret, analyze, and utilize data gathered from agriculture technologies to improve both crop and livestock production yields.				
<b>New Curriculum</b>	<input checked="" type="checkbox"/> YES (see below) <input type="checkbox"/> NO				
List the new courses <b>alphabetically</b> . Include prefix, course number, course title, credit hours. Check the <a href="#">Wyoming Transfer Catalog</a> for possible courses and numbers. Additionally, WCCC has a statewide common course numbering system (CCNS). Colleges must ensure all new courses are aligned with the CCNS. Confirm this alignment with the course coordinator and/or Student Records. Note that CCNS alignment and/or new course title and number requests to the WCCC will take at least a week to process.					
<b>College Catalog Considerations</b> (check all that apply)	<b>Prefix</b>	<b>Number</b>	<b>Title</b>	<b>Credits</b>	<b>^LOI</b>
<input checked="" type="checkbox"/> New course <input checked="" type="checkbox"/> New number <input checked="" type="checkbox"/> New prefix <input checked="" type="checkbox"/> New title <input type="checkbox"/> CCNS alignment	AGRI	1015	Emerging Agriculture Technology	3	Click or tap here.
<input checked="" type="checkbox"/> New course <input checked="" type="checkbox"/> New number <input checked="" type="checkbox"/> New prefix <input checked="" type="checkbox"/> New title <input type="checkbox"/> CCNS alignment	CMAF	1250	IT Fundamentals	3	Click or tap here.
<input checked="" type="checkbox"/> New course <input checked="" type="checkbox"/> New number <input checked="" type="checkbox"/> New prefix <input checked="" type="checkbox"/> New title <input type="checkbox"/> CCNS alignment	AGRI	2395	EAT Transition Experience Capstone	1	Click or tap here.
<i>Add new rows to this table by clicking the "+" at the end of the row above.</i>					
<b>TOTAL CREDITS</b>				<b>7</b>	

^Course Coordinator can provide.

<b>Similar programs in Wyoming?</b> <a href="#">(See WCCC Program List)</a>	<input checked="" type="checkbox"/> <b>Yes (list Colleges below)</b> <input type="checkbox"/> <b>No</b> Elements of the proposed program are seen at Eastern Wyoming College, Central Wyoming College, Casper College, Northwest College, and NWCCD. Currently there is not an equivalent program at any of the Wyoming colleges.		
<b>Discussions with other Community Colleges</b>	<input checked="" type="checkbox"/> <b>Yes (see below)</b> <input type="checkbox"/> <b>No (see rationale below)</b> Eastern Wyoming College (EWC) offers a certificate and an AAS in Precision Agriculture. The program at EWC focuses heavily on traditional technology utilized within crop farming. There has not been much work done within the program that would encompass livestock production, which is where our program will focus.		
<b>Additional Resources (faculty, support services, equipment or supplies)</b>	<input checked="" type="checkbox"/> <b>Yes (see below)</b> <input type="checkbox"/> <b>No</b>  <b>STAFFING IMPACT:</b> The program can be delivered by current faculty. <b>BUDGET IMPACT:</b> May require the purchase of additional technological equipment.		
<b>Primary Student Audience</b>	Traditional-aged students.		
<b>Anticipated three-year unduplicated headcount</b>	<b>Year one:</b> 12	<b>Year two:</b> 15	<b>Year three:</b> 20

### Projected Demand Nationally and in Wyoming

(Labor market anticipated demand upon completion of the program and wages for this career field)

Suggested data sources for Occupational Outlook and Wages:

- Career One Stop- [US Department of Labor](#)
- Bureau of Labor Statistics (occupational outlook handbook) <https://www.bls.gov/ooh/>
- Wyoming Labor Market Information (WLMI) <http://doe.state.wy.us/lmi/>

## Projected Demand

Location	Employment			
	Year 2021	+10 years	Percent Change	Job Openings
	16,400	18,000	10%	2,600
<b>UNITED STATES</b>				
<b>Data Source:</b> <a href="https://www.onetonline.org/link/summary/19-4012.00">https://www.onetonline.org/link/summary/19-4012.00</a>				

<b>WYOMING</b> ^Occupational data for precision agriculture indicates Bright Outlook in Wyoming. Additionally, data presented represents the "Agriculture General" CIP code. While that is the closest relatable CIP, it is not representative of the occupations supported by this degree. Finally, Grow Next Gen sites job growth for technical and mechanical agriculturalists at 10-	Employment			
	Year 2021	+10 years	Percent Change	Job Openings
	110	120	9%	20 (annually)
<b>Data Source:</b> <a href="https://www.onetonline.org/link/localtrends/19-4012.01?st=WY">https://www.onetonline.org/link/localtrends/19-4012.01?st=WY</a>				

## State and National Wages

Location	Pay Period	Year Enter 4-digit year.				
		10%	25%	Median	75%	90%
<b>UNITED STATES</b>	Hourly	14.62	17.40	21.49	26.97	32.36
	Yearly	30,400	36,200	44,700	56,100	67,300
	<b>Data Source:</b> <a href="https://www.bls.gov/ooh/life-physical-and-social-science/agricultural-and-">https://www.bls.gov/ooh/life-physical-and-social-science/agricultural-and-</a>					

Location	Pay Period	Year Enter 4-digit year.				
		10%	25%	Median	75%	90%
<b>WYOMING</b>	Hourly	13.56	15.66	21.06	26.32	35.38
	Yearly	28,200	32,580	43,800	54,750	73,600
	<b>Data Source:</b> <a href="https://jobseq.eqsuite.com/landing/all-tools/occupation-">https://jobseq.eqsuite.com/landing/all-tools/occupation-</a>					

**APPENDIX A- PROGRAM TERM BY TERM PLAN**

Provide the program's term by term plan below

**WCCD PROPOSED PROGRAM OF STUDY FOR:** Emerging Agriculture Technologies, AAS

<b>RECOMMENDED CURRICULUM SEQUENCE: PROPOSED</b>			
<b>COURSE</b>			
<b>Prefix</b>	<b>Number</b>	<b>Title</b>	<b>Credits</b>
<i>Fall Semester 1<sup>st</sup> Year</i>			
ANSC	1010	Intro to Animal Science	4
STRT	1000	Strategies for Success	3
AECL	1000	Agroecology	4
OR			
BIOL	1010	General Biology	4
ENGL	1010	English Composition I	3
MATH	1400	College Algebra	3
<b>Approved Elective options in this semester:</b> <input checked="" type="checkbox"/> n/a			
TOTAL FALL SEMESTER			17
<i>Spring Semester 1<sup>st</sup> Year</i>			
ANSC	2025	Livestock Nutrition	2
OR			
CROP	1150	Pesticide Safety & Application	2
ANSC	2560	Reproductive Technology	3
GEOG	1100	Intro to Geographic Information Systems	4
AGRI	1015	Emerging Agriculture Technology	3
CMAP	1250	Principles of Information Technology	4
<b>Approved Elective options in this semester:</b> <input checked="" type="checkbox"/> n/a			
TOTAL SPRING SEMESTER			16
<i>Summer Semester 1<sup>st</sup> Year</i>			
AGRI	2470	Agriculture Internship I	8
OR			
AECL	2395	Agricultural Science Research Methods Capstone	3
<b>Approved Elective options in this semester:</b> <input checked="" type="checkbox"/> n/a Click or tap here to enter text.			
TOTAL SUMMER SEMESTER			3 - 8
<i>Fall Semester 2<sup>nd</sup> Year</i>			
SOIL	2010	Intro to Soil Science	4
GEOG	1040	Mobile Mapping with GPS	3
REWM	2000	Principles of Range Management	3
AGRI	2395	EAT Transition Experience Capstone	1
CMAP OR MSFT		Approved CMAP or MSFT elective	3-4
<b>Approved Elective options in this semester:</b> <input type="checkbox"/> n/a CMAP 2251, CMAP 1815, CMAP 1275, MSFT 2825			
TOTAL FALL SEMESTER			14-15
<i>Spring Semester 2<sup>nd</sup> Year</i>			
COMM	2010	Public Speaking	3
		CMAP Elective	3
		Choose from an approved U.S./WY Constitution course	3
		Choose from an approved Ag & Equine Program Elective	3-4
		Choose an approved Creative Expression Course	3
<b>Approved Elective options in this semester:</b> <input type="checkbox"/> n/a CMAP 2251, CMAP 1815, CMAP 1275, departmental prefixes of AGECE, ANSC, AGRI, SOIL			
TOTAL SPRING SEMESTER			15-16
<b>TOTAL PROPOSED PROGRAM CREDITS</b>			<b>65-72</b>

## SIGNATURE PAGE

By signing below the Vice President for Academic Affairs verifies that institutional curriculum approval processes have been completed and that the community college Board of Trustees has approved this program request as per institutional policy.

### Submitted by the Vice President for Academic Affairs:

_____ Signature	_____ Date
_____ Printed Name	_____ Title

### Approved by the WCCC Academic Affairs Council:

_____ Signature	_____ Date
_____ Printed Name	_____ Title

### Approved by the Program Review Committee:

_____ Signature	_____ Date
_____ Printed Name	_____ Title