



Michigan State University
Agriculture, Food, & Natural Resources Education
Student Handbook

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Michigan State University

Agriculture, Food, & Natural Resources

Education Student Handbook

AFNRE Programmatic Overview

Preparation of educators to teach in Agriculture, Food, Natural Resources Education (AFNRE) secondary programs requires a unique curriculum comprising a blend of pedagogy, natural science, technical agriculture and natural resource management, and community sustainability courses to address the program outcomes specified by the National Association for Career and Technical Education (CTE) Career Cluster Agriculture, Food and Natural Resources. CTE defines the AFNR Career Cluster as:

The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

Michigan State University as the Land Grant University for Michigan is the only institution positioned to offer a program that prepares an educator to be highly qualified to teach in this career cluster.

Due to changes in recent years, careers in agriculture, food and natural resources (AFNR) offer some of the most abundant opportunities for Michigan's future workforce. More than ever, several complex issues exist for agriculture and natural resources. The U.S. Department of Education aims to incorporate green- and sustainability-related knowledge and skills standards into the existing National Career Clusters including AFNR. Food safety issues such as national outbreaks of *E. coli*, concerns over food quality, transportation costs, climate change, and renewed focus on health benefits of fresh produce have led to a greater interest by the public in local food systems. Wildlife-livestock disease issues such as Chronic Wasting Disease (CWD) relate to public health concerns and create new avenues for study. Finally, Michigan's agricultural lands and natural resources are vital to the economy through agritourism and natural resources-based enterprises. Sustaining these lands affects overall community well-being. MSU's teacher preparation program in Agriculture, Food and Natural Resources Education is unique in the country, with its focus on AFNR sustainability for the benefit of communities in Michigan, the U.S. and the world. Community Sustainability is an interdisciplinary department within the College of Agriculture and Natural Resources, with the purpose of educating scholars and practitioners who are prepared to address current and future challenges across inter-related issues in agriculture, food, natural resources, recreation, tourism and communities.

AFNRE Educational Objectives

The educational objectives of the AFNRE program include those related to the sustainability core and those related more specifically to agricultural, food and natural resources education. For the sustainability core, the objectives are that students will demonstrate proficiency in the following areas: critical thinking, systems thinking, ecological literacy, economic literacy, boundary crossing, community, equity, civic engagement, leadership, ethics, initiative and practical skills.

The educational objectives specific to the AFNRE major are based on the Michigan Standards for Preparation of Teachers – Agriscience and Natural Resources (HX). A summary of how the educational objectives are categorized is presented here and the details can be found at the URL address below.

In summary, graduates of the program will fully understand and be able to apply:

- Program Development Content Knowledge (HX 1.0)
- Technical Content Knowledge (HX 2.0)
- Instructional Material Development Content Knowledge (HX 3.0)
- Program Management Content Knowledge (HX 4.0)
- Leadership Development Content Knowledge (HX 5.0)
- Supervised Agricultural Experience Content Knowledge (HX 6.0)
- Career Education Content Knowledge (HX 7.0)

Additionally, see the American Association for Agricultural Education (AAAE) Standards for a list of competencies required for Teacher Education in Agriculture majors. Standards can be found at the following URL address: <http://www.aaaeonline.org/files/ncatestds.pdf>

Programmatic Considerations for Students

Applying to Michigan State University as an incoming freshman

Students interested in studying Agriculture, Food, and Natural Resources Education should apply prior to beginning their senior year of high school at the beginning of MSU's open application period. *This usually occurs in mid-August.* If you have questions about the open application period or the [application process](#). **The enrollment code for the Agriculture, Food, and Natural Resources Education major is 5379.**

Applying to Michigan State University as a transfer student

Students interested in studying Agriculture, Food, and Natural Resources Education and are currently at another 4-year institution or community college should apply when appropriate based on advising from Michigan State University AFNR Education (Dr. Michael Everett, everettm@msu.edu, 517-581-5888). If you have questions about transfer student enrollment or the application process, you should contact [The Admissions Office](#). Transfer articulation of courses can be found at: <http://www.transfer.msu.edu/>. **The enrollment code for the Agriculture, Food, and Natural Resources Education major is 5379.**

Applying to the College of Education as a current MSU student

MSU students and transfer students will need submit a Teacher Preparation Program Declaration to the College of Education as part of the process to become certified as a Michigan School-based Educator. Students at MSU should apply during the fall of their sophomore year. Students that are transferring into MSU should apply the fall semester that they arrive on campus. The following Website link includes directions related to the [declaration process](#).

Scholarship opportunities for AFNR Education students

Scholarship monies are important opportunities for students on track to become Agriculture, Food, and Natural Resources Education teachers. Currently, the following scholarship opportunities exist for potential and current AFNR Education students.
[FFA Related Scholarships](#).

Undergraduate Degree Requirements

The University requirements for bachelor's degrees as described in the Undergraduate Education section of this catalog: 120 credits, including general elective credits, are required for the Bachelor of Science degree in Agriculture, Food, and Natural Resources Education. The University's Tier II writing requirement for the Agriculture, Food, and Natural Resources Education major is met by completing CSUS301. Those courses are referenced in the link below. [The requirements for the College of Agriculture and Natural Resources for the Bachelor of Science degree.](#)

Agriculture, Food, and Natural Resources Education Major

All of the following courses [61 credits]

___ ANS 110	Introductory Animal Agriculture (4)
___ BS 161	Cell and Molecular Biology (3)
___ BS 162	Organismal and Population Biology (3)
___ BS 172	Organismal Biology Laboratory (2)
___ CEM 141	General Chemistry (4)
___ CEP 240	Diverse Learners in Multicultural Perspectives (3)
___ CSS 101	Introduction to Crop Science (3)
___ CSS 210	Fundamentals of Soil Science (3)
___ CSUS 200	Introduction to Sustainability (3)
___ CSUS 222A	Seminar in Instructional Theory I (1)
___ CSUS 222B	Seminar in Instructional Theory II (1)
___ CSUS 222C	Seminar in Instructional Theory III (1)
___ CSUS 300	Theoretical Foundations of Sustainability (3)
___ CSUS 301	Community Engagement for Sustainability (W) (3)
___ CSUS 316	Campus Apprenticeship in AFNRE (3)
___ CSUS 317	Foundations of Teaching AFNR (3)
___ CSUS 343	Community Food & Agriculture Systems (3)
___ CSUS 493	Professional Internship in Community Sustainability (6)
___ FOR 202	Introduction to Forestry (3)
___ HRT 203	Principles of Horticulture (3)
___ IBIO 355	Ecology (3)
___ IBIO 355L	Ecology Laboratory (1)

One of the following [3 credits]

___ AFRE 100	Decision-making in the Agri-Food System (3)
___ AFRE 130	Farm Management I (3)

One of the following [3 credits]

___ CSUS 464	Environmental and Natural Resource Policy in Michigan (3)
___ CSUS 465	Environmental and Natural Resource Law (3)

All of the following [Teacher Education Certification, 12 credits]

___ CSUS 417	AFNR Apprenticeship/Clinical Experience (3)
___ CSUS 817	Instructional Design and Assessment in AFNRE (3)
___ CSUS 818	Theory and Practice of Program Planning in AFNRE (3)
___ CSUS 819	Instructional Theory and Practice in AFNRE (3)

All of the following [Non-Teacher Education Certification, 12 credits]

___ ANY XXX	Elective credits (9)
___ CSUS 430	Non-Profit Org. Mgt. for Community Sustainability (3)
OR	
___ CSUS 433	Grant Writing and Fund Development (3)

Teaching Minors/Biology Teaching Minor Requirements

The AFNRE teacher certification program does **NOT** require a teaching minor. However, students may consider a teaching minor as the relevance to classroom teaching and science is important. If students select a teaching minor, they must maintain a GPA of a 2.5 as well as pass the MTTC test in the selected teaching minor. If students select a teaching minor, they are encouraged to consider Biology as a Science-based minor (See below for course requirements), However, students may also consider English or Mathematics as another teaching minor option.

Biology Teaching Minor

All of the following courses [14 credits]

___ BS 161	Cell and Molecular Biology (3)
___ BS 171	Cell and Molecular Biology Lab (2)
___ BS 162	Organismal and Population Biology (3)
___ BS 172	Organismal Biology Laboratory (2)
___ IBIO 355	Ecology (3)
___ IBIO 355L	Ecology Laboratory (1)

One of the following [3 or 4 credits]

___ CSS350 [#]	Introduction to Plant Genetics (3)
___ IBIO341	Fundamental Genetics (4)

One of the following [3 or 4 credits]

___ HRT 361 [@]	Applied Plant Physiology (3)
___ PLB 301	Introductory Plant Physiology (3)
___ PSL 250	Introductory Physiology (4)
___ PSL 310	Physiology for Pre-Health Professionals (4)

One of the following [3 or 4 credits]

___ BMB 200*	Introduction to Biochemistry (4)
___ MMG 301*	Introductory Microbiology (3)

[#]CSS 350 is not listed in the official minor. Special dispensation has been provided to AFNRE to substitute this course for IBIO 341.

[@]HRT 361 is not listed in the official minor. Special dispensation has been provided to AFNRE to substitute this course for PLB 301, or PSL 250, or PSL 310.

*CEM 143 (4), OR CEM 251 (3), OR CEM351 (3) is a prerequisite for BMB 200 or MMG 301.

Interim Occupational Certificate (IOC)

Requirements for an Interim Occupational Certificate in Agriculture, Food, and Natural Resources Education include:

- 1) An earned bachelor's degree;
- 2) Has a major or minor in the field of specialization in which the occupational certificate is being requested;
- 3) Has a minimum of two years (4,000 hours) of experience in the occupational area concerned or has completed a planned program of directed supervised occupational experience approved by the State Superintendent. The occupational experience shall be characterized as relevant (AFNR) and recent (6 years);
- 4) Has passed both the MTTC Professional Readiness Examination (PRE-Test) and appropriate subject area exam or exams available at the time of application;
- 5) Has successfully completed a minimum of 6 semester credit hours of professional or occupational education credit (CSUS417/CSUS817); and
- 6) The Interim Occupational Certificate is valid for teaching in those courses in which instruction is limited to the occupation specified on the certificate in approved occupational programs.

Each Interim Occupational Certification experience must be verified with three forms of documentation. These methods may include: W-9 tax documents, letters from supervisors, pay stubs, etc. Note that this is not an exhaustive list. Questions about the IOC or documentation process should be directed to Dr. Aaron McKim (amckim@msu.edu, 517-432-0318). **See below for a document to help you keep track of your IOC hours.**

IOC Example Documentation

There are many ways to provide the three forms of documentation that are required for the 4,000 hours needed for IOC certification. Below is a list of potential ways to document your recent and relevant work experiences:

W-2 Form	Job/Position Description	Journal
Letter of Commendation	Animal Bill of Sale	Pay Stubs
Letter of Recommendation	Grain Harvest Bill of Sale	Transcripts (Internship only)
Time Sheets	Internship Assignments	
Internship Projects and Papers		
Letters verifying work experience from employers		
Statements from clients or suppliers (self-employment)		

Acquisition of IOC Hours¹

Candidates may use up to 3,000 hours earned from a combination of the following seven alternatives to meet the required 4,000 hours of relevant experience.

- ***Supervised Experiences*** (For-Credit Internships) – (up to 2,000 hours)
 - a. Must be completed through a planned program of directed and supervised experience by a postsecondary institution approved by MDE.
 - b. Carry course credit indicated on the candidate’s official transcript.
 - c. Be a planned and comprehensive experience in the candidate’s CTE specialty.
- ***Completion of the MSU CTE Teacher Certification Program*** – (up to 2,000 hours)
 - a. Student’s shall complete all academic requirements to complete the degree to receive these hours.
- ***Student Teaching*** – (up to 1,000 hours)
 - a. Student teaching placement must be in the specific CTE area for which the endorsement is being sought and within the state approved CTE program.
 - b. Must be supervised by the recommending CTE educator preparation program and documented on the candidate’s official transcript.
- ***Occupational Assessment*** – (up to 2,000 hours)
 - a. The assessment must be specific to the CTE field and performance must be documented.
 - b. The results must be retained by:
 - i. The candidate
 - ii. The postsecondary institution recommending CTE certification
 - iii. The school district applying for the Authorization
 - c. A candidate who uses the CTE competency assessment for experience may NOT also use the test for establishing university academic credit.
- ***Business or Industrial Training Program*** – (up to 2,000 hours)
 - a. Evidence must indicate that the candidate participated in or instructed a business or industry training program directly related to the specific CTE program in which the ACA or certification is being sought.
- ***Postsecondary Instructor*** – (up to 2,000 hours)
 - a. Postsecondary instruction of a CTE program must be in the specific CTE area for which the Authorization or CTE endorsement is sought.
- ***Paraprofessional*** – (up to 1,500 hours)
 - a. Paraprofessional hours earned within an approved CTE program may be accepted towards the 4,000 required hours.

Forms of documentation including: W-2’s, tax returns, job/position descriptions, letters verifying work experience from employers, and statements from clients or suppliers (self-employment)

¹ CTE: Recent and Relevant Experience Requirements, Michigan Department of Education, May 2018

A 4-Year Plan

As a student, it is critical that you develop a 4-Year Plan of your academic studies at Michigan State University. While developing a 4-year Plan it is very important that you consider: University, College of Agriculture and Natural Resources, AFNRE Major, and Minor requirements to obtain your degree. Additionally, students should consider prerequisites that are required prior to taking the next course in the sequence. Questions and concerns should be addressed to the AFNR Education Academic Advisor (Dr. Michael W. Everett, everettm@msu.edu, 517-581-5888).

A 4-Year Plan For (_____)

Fall Freshman

____ Credits

Spring Freshman

____ Credits

Summer Freshman

____ Credits

Fall Sophomore

____ Credits

Spring Sophomore

____ Credits

Summer Sophomore

____ Credits

Fall Junior

____ Credits

Spring Junior

____ Credits

Summer Junior

____ Credits

Fall Senior

____ Credits

Spring Senior

____ Credits

Summer Senior

____ Credits

_____ **TOTAL CREDITS (Minimum of 120 credits to graduate)**

A 4-Year Plan for **AFNRE Teaching Major/Biological Science Minor**

Fall Freshman

CSUS 200 (3)^{#**}
 CSUS 222A (1)^{**}
 MTH 103 (3)^{*}
 CSS 101 (3)^{*#}
 WRA 101 (4)^{*}

14 Credits

Fall Sophomore

BS 161 (3)^{**}
 BS 171 (2)^{*}
 CSUS 222B (1)^{**}
 HRT 203 (3)^{*#}
 EC 201 or 202 (3)^{*}
 ISS 2XX (4)^{*}

16 Credits

Fall Junior

CSUS 222C (1)^{**}
 CSUS 316 (3)^{*}
 HRT 361(3) ^{**}
 IBIO 355 (3)^{**}
 IBIO 355L (1)^{**}
 IAH 2XX (4)^{*}

15 Credits

Fall Senior

CSUS 417 (3)^{*}
 CSUS 817 (3)^{*}
 CSUS 818 (3)^{*}
 STT 200 (3)^{*}
 TE 409 (1)^{*}

13 Credits

Spring Freshman

AFRE 100 or 130 (3)^{*#}
 ANS 110 (3)^{*#}
 CEM 141 (4)^{**}
 IAH 20X (4)^{*}

14 Credits

Spring Sophomore

BS 162 (3)^{**}
 BS 172 (2)^{**}
 CEP 240 (3)^{**}
 CSS 210 (3) ^{*#}
 CSUS 301 (3)^{*#}
 FOR 202 (3)^{*#}

17 Credits

Spring Junior

CSUS 300 (3)^{*#}
 CSUS 317 (3)^{*}
 CSUS 343 (3)
 CSS 350 (3) ^{*#}
 ISS 3XX (4)^{*}

16 Credits

Spring Senior

CSUS 464 (3)^{*#}
 CSUS 493 (6)^{*}
 CSUS 819 (3)^{*}
 TE 503 (1)^{*}

13 Credits

Summer Fr/So

0 Credits

Summer So/Jr

CEM 143 (4) or CEM251 (3) [%]

3-4 Credits

Summer Jr/Sr

MMG 301 (3)^{*} or BMB 200 (4)^{*}

3 or 4 Credits

Summer Post Sr

0 Credits

124-126 Credits

*University Requirements

#Community Sustainability Core

*Biology Minor

#Technical Agriculture

*HRT361 is being substituted for PSL250 (4), PSL301 (3), or PLB301 (3) (for AFNRE students only)

#CSS350 is being substituted for IBIO341 (4) (for AFNRE students only)

*College Requirements

*AFNRE Degree Requirements

*Teacher Education

%Prerequisite for MMG 301 and BMB 200

A 4-Year Plan for **AFNRE Teaching Major/No Minor**

Fall Freshman

CSUS 200 (3)^{#**}
 CSUS 222A (1)^{**}
 MTH 103 (3)^{*}
 CSS 101 (3)[#]
 WRA 101 (4)^{*}

14 Credits

Spring Freshman

AFRE 100 or 130 (3)[#]
 ANS 110 (3)[#]
 CEM 141 (4)^{**}
 IAH 20X (4)^{*}

14 Credits

Summer Fr/So

0 Credits

Fall Sophomore

BS 161 (3)^{**}
 CSUS 222B (1)^{**}
 HRT 203 (3)[#]
 EC 201 or 202 (3)^{*}
 ISS 2XX (4)^{*}

14 Credits

Spring Sophomore

BS 162 (3)^{**}
 BS 172 (2)^{**}
 CEP 240 (3)^{**}
 CSS 210 (3)[#]
 CSUS 301 (3)^{#*}
 FOR 202 (3)[#]

17 Credits

Summer So/Jr

0 Credits

Fall Junior

CSUS 222C (1)^{**}
 CSUS 316 (3)^{*}
 Elective (3)
 IBIO 355 (3)^{**}
 IBIO 355L (1)^{**}
 IAH 2XX (4)^{*}

15 Credits

Spring Junior

CSUS 300 (3)^{#*}
 CSUS 317 (3)^{*}
 CSUS 343 (3)
 CSUS 433 (3)
 ISS 3XX (4)^{*}

16 Credits

Summer Jr/Sr

0 Credits

Fall Senior

CSUS 417 (3)^{*}
 CSUS 817 (3)^{*}
 CSUS 818 (3)^{*}
 Elective (3)
 STT 200 (3)^{*}

15 Credits

Spring Senior

CSUS 464 (3)^{#*}
 CSUS 493 (6)^{*}
 CSUS 819 (3)^{*}
 Elective (3)

15 Credits

Summer Post Sr

0 Credits

120 Credits (Elective Credits 9)

*University Requirements
 #Community Sustainability Core
 *Teacher Education

*College Requirements
 *AFNRE Degree Requirements
 #Technical Agriculture

A 4-Year Plan for **AFNRE Major Non-Teaching Certification**

Fall Freshman

CSUS 200 (3)^{#**}
 CSUS 222A (1)^{**}
 MTH 103 (3)^{*}
 CSS 101 (3)[#]
 WRA 101 (4)^{*}

14 Credits

Spring Freshman

AFRE 100 or 130 (3)^{*#}
 ANS 110 (3)^{*#}
 CEM 141 (4)^{**}
 IAH 20X (4)^{*}

14 Credits

Summer Fr/So

0 Credits

Fall Sophomore

BS 161 (3)^{**}
 CSUS 222B (1)^{**}
 HRT 203 (3)^{*#}
 EC 201 or 202 (3)^{*}
 ISS 2XX (4)^{*}

14 Credits

Spring Sophomore

BS 162 (3)^{**}
 BS 172 (2)^{**}
 CEP 240 (3)^{**}
 CSS 210 (3)^{*#}
 CSUS 301 (3)^{*#}
 FOR 202 (3)^{*#}

17 Credits

Summer So/Jr

0 Credits

Fall Junior

CSUS 222C (1)^{**}
 CSUS 316 (3)^{*}
 Elective (3)
 IBIO 355 (3)^{**}
 IBIO 355L (1)^{**}
 IAH 2XX (4)^{*}

15 Credits

Spring Junior

CSUS 300 (3)^{*#}
 CSUS 317 (3)^{*}
 CSUS 343 (3)
 CSUS 433 (3)
 ISS 3XX (4)^{*}

16 Credits

Summer Jr/Sr

0 Credits

Fall Senior

400/800-level Elective (3)
 400/800-level Elective (3)
 Elective (3)
 Elective (3)
 STT 200 (3)^{*}

15 Credits

Spring Senior

400/800-level Elective (3)
 CSUS 464 (3)^{*#}
 CSUS 493 (6)^{*}
 Elective (3)

15 Credits

Summer Post Sr

0 Credits

120 Credits (Elective Credits 21, 9 credits must be at the 400/800 level)

*University Requirements
 #Community Sustainability Core
 *Teacher Education

*College Requirements
 *AFNRE Degree Requirements
 #Technical Agriculture

Linked BS/MA program

This program links the AFNRE B.S. undergraduate curriculum with a AFNRE M.A. graduate program curriculum with the help of a graduate program academic advisor. In as little as 12 months after receiving their B.S. degree, students can complete a M.A. degree program in Agriculture, Food, and Natural Resources Education using this program. Application to the program requires a student to be **majoring in Agriculture, Food, and Natural Resources Education** and to have **maintained a 3.5 GPA** in undergraduate courses completed to date. Each completed Linked BS/MA Program application requires (4) important pieces. Please note that dual enrollment is **NOT RETROACTIVE**.

1) A completed Linked BS/MS Program Application Form.

The [Linked BS/MA Program Application](#) is available on the AFNRE MA Graduate Program web site. To complete the form requires items 2) through 4) below. An application including 2) through 4) must be submitted at least 2 semesters prior to completion of a B.S. program (Beginning of Fall Senior Year).

2) A Graduate Program Advisor.

This can be any AFNRE faculty who can advise a graduate student. In general, that means tenure stream faculty. Good choices are those faculty with whom the prospective student has conducted research, or those whose research is of interest to the student.

3) A Graduate Program Academic Plan (Course Program)

This document lists the courses the student plans to take. The student chooses these courses with the help of the program advisor. The Graduate Program includes a list of three courses (max) that are in the students' Undergraduate Course Plan and are waived from the graduate program. The courses waived should be related to the Graduate Program and "links" the two programs together. The Application Form required the student to explain that linkage.

4) A Graduate Program Application

This allows the AFNRE MA Graduate Program to formally admit the student so that the student can be assured that the "Linked BS/MA Program" can be completed. The admission will normally be provisional and list conditions that must be satisfied (for example, completing the BS program, minimum GPA on graduation) in order to be admitted. See the AFNRE MA Program Coordinator for help regarding the graduate program application process.

Linked/Dual Program Application Form

See Website link to download and fill out the form in conjunction with the AFNRE MA Graduate Program Coordinator.

REQUEST FOR DUAL ENROLLMENT STATUS

Dual enrollment provides an opportunity for academically talented undergraduate students to enroll in graduate courses and conduct research towards a graduate degree while completing the last two years of their bachelor's degree(s) programs.

Last Name	First Name	Middle Initial	PID	
Term/Year Dual Enrollment Begins				
Undergraduate Major			Undergraduate College	
Undergraduate Degree Program Advisor				
Graduate Major			Graduate College	
Graduate Degree Program Advisor				
Number of Undergraduate Credits Earned				
Number of Undergraduate Credits Needed for Bachelor Degree				
COURSES TO BE SHARED BETWEEN UNDERGRADUATE AND GRADUATE DEGREES (Maximum 9 credits allowed)				
TERM/YEAR	SUBJECT	COURSE NUMBER	SECTION	CREDITS
<p>Students will be classified as an undergraduate student until the minimum number of credits required for a first bachelor's degree is completed. When the student is classified as a graduate student, eligibility begins for graduate assistantships, other forms of graduate student financial aid, or those services and prerogatives normally reserved for graduate students.</p> <p>For further detail regarding dual enrollment by undergraduates please refer to the Graduate Education section of the Academic Programs catalog.</p>				
Approved by:				
Student Signature			Date	
Department Chairperson, Admitting Graduate Department			Date	
Associate Dean, Admitting Graduate College			Date	

**RETURN THIS FORM TO THE OFFICE OF THE REGISTRAR
426 AUDITORIUM ROAD, ROOM 150, EAST LANSING, MI 48824
OR FAX TO (517) 353-1935**

Michigan State University is an affirmative-action/equal-opportunity employer.

Example AFNRE M.A. Programs with AFNRE B.S. Linkages

AFNRE MA (Teaching w/minor and Teaching w/o minor)

Fall Senior

CSUS 817 (3)*#

CSUS 818 (3)*#

6 Credits

Fall Grad 1

CSUS 864 (3)#

3 Credits

Spring Senior

CSUS 819 (3)*#

3 Credits

Spring Grad 1

Education Conc (3)#

3 Credits

Summer Grad 1

CSUS 860 or CSUS861 (3)*

CSUS 863 (3)*

6 Credits

Summer Grad 2

CSUS 860 or CSUS861 (3)*

Education Conc (3)#

CSUS 898 (3)*

9 Credits

AFNRE MA (Non-Teaching Certification)

Fall Senior

400/800-level Elective (3)*#

400/800-level Elective (3)*#

6 Credits

Fall Grad 1

CSUS 864 (3)#

3 Credits

Spring Senior

400/800-level Elective (3)*#

3 Credits

Spring Grad 1

Education Conc (3)#

3 Credits

Summer Grad 1

CSUS 860 or CSUS861 (3)*

CSUS 863 (3)*

6 Credits

Summer Grad 2

CSUS 860 or CSUS861 (3)*

Education Conc (3)#

CSUS 898 (3)*

9 Credits

Interim Occupational Certificate Hours and Documentation

Interim Occupational Certificate (IOC) hours must be **RECENT** (within last 10 years prior to applying for your teaching certificate in May of your internship year (_____)). Additionally, hours must be **RELEVANT** or within the field of agriculture and natural resources. Consult with Dr. Aaron McKim (amckim@msu.edu, 517-432-0318) to determine relevance of IOC hours.

Interim Occupational Position/Job Description	Number of Hours	Documentation Type #1	Documentation Type #2	Documentation Type #3

Non-Teaching Internships

Teaching and non-teaching students are required to complete internships. Teaching students participate in a semester student-teaching experiences while non-teaching students participate in a professional internship that aligns with one's career goals.

Students are encouraged to participate in an internship each summer while a student at Michigan State University. Additionally, AFNRE students may also consider MSU Education Abroad experiences in the areas of agriculture, food, and natural resources broadly defined.

Students are also encouraged to participate in internships that build on their technical content knowledge in the areas of (animal, plant, ag business, or natural resources. Internships may include, however are not limited to examples such as:

Monsanto	Dekalb Seed	Pioneer Seed	Michigan Farm Bureau
Michigan Parks	Corteva Agriscience	John Deere	Case IH
The Andersons	Beck Seeds	MSU Extension	Crop Production Services
MDNR	MDEQ	MDARD	County Parks
State/Federal Parks	Helena	Michigan Corn	Grain Elevators

Note that this is not an exhaustive list, but only a few of the many examples. Please consult with AFNRE faculty to determine an appropriate internship.

Michigan State University's College of Agriculture and Natural Resources provides valuable information about internship opportunities through job fair opportunities (see the CANR website). If you plan on attending these fairs to find internship opportunities a strong resume and professional appearance is strongly recommended.

Calendar of Important Events

High School Junior Year

- Apply for the Challenge 24 Program (January)
- Take SAT
- Attend Challenge 24 Program (If selected, July)
- Collect IOC hours and documentation (all year)

High School Senior Year

- Apply to Michigan State University (August prior to senior year)
- Apply for the Michigan FFA AFNRE CDE Contest (September-October)
- Apply for Financial Aid (January)
- Freshman Orientation also known as AOP (June-August)
- Collect IOC hours and documentation (all year)

MSU Freshman Year

- CSUS222A (Fall)
- Collect IOC hours and documentation (all year)

MSU Sophomore Year

- CSUS222B (Fall)
- Declaration to the Teacher Preparation Program (College of Education) (September)
- Collect IOC hours and documentation (all year)

MSU Junior Year

- CSUS222C (Fall), CSUS316 (Fall), CSUS317 (Spring)
- If a **Transfer student**, Declaration to the Teacher Preparation Program (September)
- Submit student teacher preference paperwork
- MTTC Subject Major Area Test (Agriscience and Natural Resources)
- MTTC Subject Minor Area Test (e.g., Biology)
- Collect IOC hours and documentation (all year)

MSU Senior Year

- CSUS417 (Fall), CSUS817 (Fall), CSUS818 (Fall), CSUS493 (Spring), CSUS819 (Spring)
- Linked Program Application (See pages 12-13)
- Work with MSU Faculty and Michigan AFNR Teachers to develop an appropriate placement Student-Teaching experience (Spring)
- Complete all coursework as required by MSU
- Collect IOC hours and documentation (all year)

*Please go to the following link for the SAT, ACT, and alternative test scores to the MTTC PRE.
<https://education.msu.edu/academics/undergraduate/apply-teacher-prep.asp>

I _____ have read and acknowledge the calendar requirements for the AFNRE Program in the AFNRE Handbook.

Date _____ Signature _____

AFNR Education Student Checklist

Have you...	YES or NO
Applied for the Challenge 24 Program (H.S. Soph or Jr Year)?	
Applied for the Michigan FFA CDE (H.S. Fresh – Senior Year)?	
Applied to Michigan State University?	
Applied for Financial Aid?	
Applied for AFNR Scholarships?	
Met with your AFNR Major adviser?	
Developed a 4-Year Plan?	
Declared to the Teacher Preparation Program (College of Education)?	
Selected a Teaching Minor (If appropriate)?	
Met with your Teaching Minor adviser (If appropriate)?	
Met with your adviser in the College of Education?	
Taken the MTTC (Subject Area MAJOR) Test?	
Taken the MTTC (Subject Area MINOR) Test (If appropriate)?	
Determined your placement for your internship year?	
Apply for linked AFNRE BS/MA Program?	
Collected all of your IOC documents for certification (4,000 hrs R/R)?	
Applied for your Provisional Teaching Certificate?	
Applied for your Interim Occupational Certificate?	

I _____ have read and acknowledge the programmatic requirements for the AFNRE SBAE Program in the AFNRE Handbook.

Date _____ Signature _____

Networking Guide

Networking is an important part of the AFNRE profession. Networking is defined as information gathering utilizing family, friends, teachers, community members, and AFNRE career professionals. When networking, seek to gather as much information about the AFNRE career field as possible. Remember the more people you network with, the more successful you will likely be in your professional careers.

Name	Position, Title, and Affiliation	Email Address	Mailing Address	Phone	Record of Contact (Date and Comment)

MSU AFNR Education Team Faculty Bios

Dr. Michael Everett (everettm@msu.edu, 517-581-5888)

Michael Everett is a Professor of Practice, Undergraduate Adviser, and AFNRE MA Program Coordinator within the Department of Community Sustainability at Michigan State University. Michael has 10 years of teaching Agriculture, Food, and Natural Resources Education at the secondary level and holds a Michigan Professional Teaching Certificate in Agriculture and Natural Resources and Mathematics. Michael's teaching assignment includes courses in the environment, sustainability, organizational management, and teaching and learning. Michael's research interests include the use of socio-psychological methods to improve undergraduate education.

Educational Background

B.A., Mathematics, Olivet College

M.S., Crop and Soil Science, Michigan State University

Ph.D., Community, Agriculture, Recreation, and Resource Studies, Michigan State University

Mr. Mark Forbush (forbushm@msu.edu, 989-277-9249)

Mark Forbush is an Academic Specialist in the Department of Community Sustainability at Michigan State University. Mark has over 30 years of teaching Agriculture, Food, and Natural Resources Education and holds a Michigan Professional Teaching Certificate in Agriculture and Natural Resources and Science. Mark also serves as the Michigan State Advisor for Agriculture, Food, and Natural Resources Education as part of the Michigan Department of Education and Career and Technical Education and teaches courses preparing pre-service AFNRE teachers to become school-based AFNRE teachers.

Educational Background

B.S., Agricultural and Natural Resources Education

M.S., Agricultural and Natural Resources Education

Dr. Buddy McKendree (rhm@msu.edu, 334-403-3777)

Buddy McKendree is an Assistant Professor in the Department of Community Sustainability at Michigan State University. Buddy graduated with a degree in Agricultural Education from the University of Florida before teaching middle school and high school agriculture in Florida and Indiana. At Michigan State, Buddy teaches courses in agriculture, food, and natural resources education, and his research focuses on metacognition and self-regulated learning.

Educational Background

B.A., Agricultural Education, University of Florida

M.S., Agricultural Education, Kansas State University

Ph.D., Curriculum and Instruction, Kansas State University

Dr. Aaron McKim (amckim@msu.edu, 517-432-0318)

Aaron McKim is an Assistant Professor in the Department of Community Sustainability at Michigan State University. Aaron's teaching certification is in Indiana, where he taught middle school and high school agriculture. At Michigan State, Aaron teaches courses in agriculture, food, and natural resources education, leadership, and community sustainability. Aaron's research focuses on how teachers combine agriculture, leadership, and science content within their classrooms.

Educational Background

B.S., Agricultural Education, Purdue University
M.S., Agricultural Education, Oregon State University
Ph.D., Science Education, Oregon State University

Dr. Matt Raven (mraven@msu.edu, 517-432-0293)

Matt R. Raven is a Professor in the Department of Community Sustainability at Michigan State University. Dr. Raven obtained his Ag Specialist and Life Science Single Subject teaching credentials from University of California at Davis. Prior to Michigan State University he served on the faculty at Montana State University and Mississippi State University. His research interests include instructional technologies and their educational efficacy, teaching and learning in higher education, and knowledge sharing and creation in social networks with emphasis on diffusion and adoption of innovations.

Educational Background

B.S., Plant Science, University of California at Davis
M.S., Agricultural Education, Kansas State University
Ph.D., Agricultural Education, The Ohio State University

Dr. Tiffany Rogers-Randolph (roger187@msu.edu, 269-921-0583)

Tiffany Rogers-Randolph is the Michigan FFA Executive Secretary. Tiffany has 10+ years of experience in non-formal education and facilitation and she taught agricultural communications at the post-secondary level for 7 years. Among other responsibilities as State FFA Executive Secretary, she works closely with the state FFA officer team, directs the planning of the annual FFA State Convention, and coordinates the many leadership and career development events that occur throughout the year. Michigan's 122 FFA chapters have more than 7,500 members.

Educational Background

B.S., Agribusiness Management, Michigan State University
M.S., Agricultural Education and Communication, University of Florida
Ph.D., Agricultural Education and Communication, University of Florida