NEW MAJORS PROPOSAL

March 18, 2019 (Rev. October 25, 2019)

The Department of Agricultural & Applied Economics (AAEC) requests approval to create four new majors, by elevating three of our existing concentrations (options) to major status: Environmental Economics Management & Policy (EEMP), International Trade & Development (ITD), and Community Economic Development (CED), and an entirely new major in Food & Health Systems Economics (FHSE).

Our current degree structure consists of two degrees: AGRIBUSINESS (AGRB) and APPLIED ECONOMIC MANAGEMENT (AEM). Underneath our AEM degree, we have a single major (AEM) with three concentrations/options: EEMP, ITD, CED.

Our **proposed** degree structure consists of the same two degrees (AGRB & AEM), with four new majors underneath the AEM degree: FHSE, EEMP, ITD, CED.

**Rationale**

Few high school graduates come to VT (or any university) with knowledge of “Agricultural Economics - AGECON” as a field of study and professional career. Hence, we attract most of our undergraduate majors via our introductory service courses to CALS and CLE/PATHWAYS.

However, even that process is confusing to enrolled VT students because our curricular programs concentrations/options are buried underneath our AEM degree/major, i.e., EEMP, ITD and CED are not listed on VT’s academic majors website, nor is the term Applied Economic Management (AEM) very meaningful to students exploring majors. Thus, we wish to elevate EEMP, ITD and CED to major status to more accurately reflect program content and facilitate recruitment.

Secondly, we want to create a timely new major focused on Food & Health Systems Economics (FHSE). We are excited about this new major for it will educate and prepare students for careers in both dimensions (production and distribution) of healthy food supply and demand systems, uniquely linking the two parameters essential to a safe and sustainable diet for consumers.

In the past 15-20 years, interest in the health implications of the food system has significantly increased. There is emerging demand for graduates capable of evaluating policies and practices that promote healthier systems of food production, distribution, processing, and preparation. With its cluster hire of three senior faculty in health economics, AAEC is uniquely positioned among U.S. Land Grant Colleges to address holistic linkages across food systems and health outcomes. AAEC is committed to providing coursework and experiential learning, fitting the
VT shaped curriculum, that give students an in-depth understanding of the linkages among systems of food production and health outcomes.

Though our current students consider themselves as majoring in EEMP, ITD or CED, this information is stated only on their transcript. Should our request be approved, our graduates will be able to accurately claim that they majored in their area of concentration and have it confirmed on their diplomas.

Future students internal and external to VT will be more readily able to identify and understand what majors are available in AAEC at VT. With enhanced visibility, we also anticipate more VT students will see and take our courses for minors and as electives.

Under separate documentation, we are submitting our Revised Checksheets for each new major.

**Students Serviced**
AAEC currently educates 200+ undergraduate majors and 49 minors.

**Resource Needs**
No new resources are necessary to implement these changes. Please find attached letters of support from all VT departments whose courses our students take. No comments or concerns were received via 15-Day Review.

**Teach-out Plan**
For discontinued options:
- How many students are enrolled in the options: ITD = 36, EEMP = 28, CED = 12.
- Approximate graduation term for those in the options: Spring 2023. Last term to graduate Fall 2023.
- What is the last term to enroll for the options: Spring 2020 for current students; Fall 2019 or Spring 2020 for new students.
- How will the students get through, if they don’t want to change to the major? Other than PATHWAYS courses, the required courses on the current versus new Checksheets are identical; plus, we will make substitutions as needed on a student-by-student basis.

For new majors:
- When is the first term to declare the new majors: Summer 2020.
- When is the first graduation term for the new majors: Winter 2022.

**Administration**
These major changes would be effective for all students graduating in 2022 and for those currently enrolled freshmen in the Class of 2022 who wish to convert their Checksheets and adjust their curricula accordingly (<20%).

If approved, we will:
- Post the information on our departmental website;
- Request Registrar authorization and ;
- Notify all current students via email;
- Educate CALS and VT Advisors formally and informally.

Matt Holt, AAEC Department Head
Mike Ellerbrock, AAEC Undergraduate Director
March 26, 2019

Dr. Susan Sumner, Associate Dean
College of Agriculture & Life Sciences
1060 Litton Reaves, VT
Blacksburg, VA 24061

Dear Dr. Sumner:

Please find attached documentation of our request in AAEC to create four new majors, by elevating three of our existing concentrations (options) to major status: Environmental Economics Management & Policy (EEMP), International Trade & Development (ITD), and Community Economic Development (CED). We are also submitting a fourth proposal to create a new major in Food & Health Systems Economics (FHSE).

Our current degree structure consists of two degrees: AGRIBUSINESS (AGRB) and APPLIED ECONOMIC MANAGEMENT (AEM). Underneath our AEM degree, we have a single major (AEM) with three concentrations/options: EEMP, ITD, CED.

Our proposed degree structure consists of the same two degrees (AGRB & AEM), with four new majors underneath the AEM degree: FHSE, EEMP, ITD, CED.

**Rationale**
Few high school graduates come to VT (or any university) with knowledge of “Agricultural Economics - AGECON” as a field of study and professional career. Hence, we attract most of our undergraduate majors via our introductory service courses to CALS and CLE/PATHWAYS.

However, even that process is confusing to enrolled VT students because our curricular programs concentrations/options are buried underneath our AEM degree/major, i.e., EEMP, ITD and CED are not listed on VT’s academic majors website, nor is the term Applied Economic Management (AEM) very meaningful to students exploring majors. Therefore, we wish to elevate EEMP, ITD and CED to major status to more accurately reflect program content and facilitate recruitment.

Secondly, we also wish to create a timely new major focused on Food & Health Systems Economics (FHSE). We are excited about this new major for it will educate and prepare students for careers in both dimensions (production and distribution) of healthy food supply and demand systems, uniquely linking the two parameters essential to a safe and sustainable diet for consumers.

Though our current students consider themselves as majoring in EEMP, ITD or CED, this information is stated only on their transcript. Should our request be approved, our graduates will
be able to accurately claim that they majored in their area of concentration and have it confirmed on their diplomas.

Future students internal and external to VT will be more readily able to identify and understand what majors are available in AAEC at VT. With enhanced visibility, we also anticipate more VT students will see and take our courses for minors and as electives.

Under separate documentation, we are submitting our proposal and justification for each new major.

**Students Serviced**
AAEC currently educates 200+ undergraduate majors and 49 minors.

**Resource Needs**
No new resources are necessary to implement these changes (pay raises accepted!). Please find attached letters of support from all VT departments whose courses our students take.

**Teach-out Plan**
For discontinued options:

- How many students are enrolled in the options: ITD = 36, EEMP = 28, CED = 12.
- Approximate graduation term for those in the options: Spring 2023.
- What is the last term to enroll for the options: Spring 2020 for current students; Fall 2019 or Spring 2020 for new students.
- How will the students get through, if they don’t want to change to the major? Other than PATHWAYS courses, the required courses on the current versus new Checksheets are identical; plus, we will make substitutions as needed on a student-by-student basis.

For new majors:
- When is the first term to declare the new majors: Fall 2020.
- When is the first graduation term for the new majors: Spring 2022.

**Administration**
These major changes would be effective for all students graduating in 2022 and for those currently enrolled freshmen in the Class of 2022 who wish to convert their Checksheets and adjust their curricula accordingly (<20%).

If approved, we will:
- Post the information on our departmental website;
- Request Registrar authorization and ;
- Notify all current students via email;
- Educate CALS and VT Advisors formally and informally.

Sincerely,

Matthew Holt, PhD
Professor & Department Head

Mike Ellerbrock, PhD
Professor & Undergraduate Director

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
An equal opportunity, affirmative action institution
Part I. UNIVERSITY, COLLEGE, AND DEPARTMENT PATHWAYS*
* The total number of credit hours will vary depending upon whether Pathways courses are used to meet specific requirements in Part II. Some Pathways courses may also fulfill departmental requirements, but the credit hours may not be counted twice.

Pathways Concepts (45 hours):

Concept 1 - Discourse – Foundational
ENGL 1105-1106  3___, 3___
Discourse – Advanced
COMM 2004  3___
Concept 2 – Critical Thinking in the Humanities
Any Concept 2 Courses  3___, 3___
Concept 3 – Reasoning in the Social Sciences
AAEC 1005, 1006\(^1\)  3___, 3___
Concept 4 – Reasoning in the Natural Sciences
Any Concept 4 Lecture Courses  3___, 3___
Concept 5 – Quantitative & Computational Thinking-Foundational
MATH 1025-1026\(^2\)  3___, 3___
Quantitative & Computational Thinking-Advanced
STAT 3615\(^3\)  3___
Concept 6 – Critique & Practice in Design and the Arts-Design
Any Concept 6 Design Course  3___
Critique & Practice in Design and the Arts-Arts
Any Concept 6 Arts Course  3___
Concept 7 – Critical Analysis of Identity & Equity in the US
Any Concept 7 Course  3___

Part II. ENVIRONMENTAL ECONOMICS, MANAGEMENT AND POLICY MAJOR (EEMP)

A. Degree Core Courses (19 credit hours)

*AAEC 2434    Foundations of Agribusiness  3___
*AAEC 3004    Agricultural Production and Consumption Economics  3___
*AAEC 3024    Monetary and Global Issues in Applied Economics  3___
AAEC 3015    AAEC Internship  1___
*AAEC 3014\(^4\)    Analytical Methods in Applied Economics  3___
ACIS 2115    Principles of Accounting  3___
* ENGL 3774\(^5\)    Business Writing  3___

B. Major Core Courses (18 hours):

AAEC 3314    Environmental Law  3___
*AAEC 3324    Environment and Sustainable Development Economics  3___
*AAEC 4314    Environmental Economic Analysis and Management  3___
*AAEC 4324    Rural and Regional Development Policy  3___
ENSC 1015    Foundations of Environmental Science  3___
*FIN 3104\(^6\)    Introduction to Finance  3___

C. Analytical Methods (2-3 hours)

Take 1 of:

*AAEC 4504    Agricultural Price and Market Analysis  2 or 3___
GEOG 2084\(^7\)    Principles of Geographic Information Systems
*AAEC 3514    Agricultural Futures and Options
*AAEC 4804    Elementary Econometrics
*ALS 4614    Watershed Assessment, Management, and Policy

D. Restricted Electives – 9 hours total (6 hours must be at the 3000 level or higher)

AAEC    3___
AAEC    3___
AAEC    3___

Part III. AREA OF SPECIALIZATION AND FREE ELECTIVES

A. Area of Specialization (18 hours) – AAEC advisor must approve area of specialization courses and the student must file an area of specialization form with the AAEC undergraduate office. Students should consider minors or double majors. At least 9 hours must be at the 3000 level or higher (unless noted otherwise for a minor in another academic department).


B. Free Electives (9 hours -Number needed to complete 120 hours)


NOTES:

*Pre-requisites:* Some courses required for this major have pre-/co-requisites and/or enrollment requirements. Please refer to the Undergraduate Course Catalog or consult your advisor for information about pre-/co-requisites and enrollment requirements.

**Program Total Hours:** 120 credit hours required for graduation with this degree.

**Foreign Language Requirement:** Students who do not successfully complete at least two units of a single foreign language, classical language or American Sign Language during high school must successfully complete six semester hours of a single college level foreign or classical language at the college level. Such semester hours are in addition to those normally required for graduation. Please see the Undergraduate Catalog for details.

**GPA:** In major calculation is from all AAEC and ECON classes taken. An overall GPA of at least 2.0 is required to meet the University’s minimum standard for good academic standing. Overall and in-major GPA’s of at least 2.00 are required for graduation.

**Satisfactory progress:** By the end of the academic year in which the student has attempted 72 hours (including transfer, advanced placement, advanced standing and credit by examination), “satisfactory progress” will consist of 1) an overall GPA of at least 2.0; 2) at least 30 credits that apply to the Pathways to General Education, and 3) 9 semester credits of departmental requirements.

---

1 Or take ECON 2005-2006: Principles of Economics
2 Or take MATH 1225-1226: Calculus of a Single Variable. Students considering graduate school in applied economics are encouraged to take MATH 1225-1226.
3 Or STAT 3005
4 Or BIT 2406, or STAT 3006, or STAT 3616
5 Or ENGL 3764: Technical Writing; or ENGL 3754: Advanced Composition.
6 Or ACIS 2116: Principles of Accounting.
7 May also take BSE 4344 Geographic Information Systems for Engineers.
February 26, 2019

Mike Ellerbrock, PhD
Professor and Undergrad Director
AAEC Dept, VT
218 Hutcheson Hall (0401)
Blacksburg, VA 24061

Dear Mike:

The Department of Mathematics supports the continued inclusion of

**MATH 1025-1026: Elementary Calculus**

as requirements in your three current options that you propose to elevate to majors

- *International Trade & Development*,
- *Environmental Economics Management & Policy*,
- *Community/Rural Economic Development*.

In addition, we support the inclusion of MATH 1025-1026 in the new major

- *Food & Health Systems Economics*.

We accept your analysis that we will require no new resources to teach these courses. We will, of course, monitor enrollments to see that this is the case.

Best regards,

Robert C. Rogers
Professor and Associate Chair

*VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY*

An equal opportunity, affirmative action institution
From: Easterwood, John <jceast@vt.edu>
Sent: Monday, February 18, 2019 11:55 AM
To: Ellerbrock, Mike <mebrock@vt.edu>
Subject: RE: Letters of Support

Mike, we are happy to have your students continue to take **FIN 3104**. Please note that our prerequisites for that course are ACIS 2115, BIT 2405 (or STAT 3005/06), and ECON 2005.

John

From: Ellerbrock, Mike <mebrock@vt.edu>
Sent: Thursday, February 14, 2019 3:23 PM
To: Easterwood, John <jceast@vt.edu>
Cc: Keown, Art <emily@vt.edu>; Holt, Matthew <mattholt@vt.edu>; Davis, George <georgedavis@vt.edu>; White, Katie <katiewhite@vt.edu>
Subject: Letters of Support

Dear John:

In AAEC, we are seeking Governance approval to elevate our three current undergraduate Options to Majors.

- **International Trade & Development (ITD),**
- **Environmental Economics Management & Policy (EEMP),**
- **Community/Rural Economic Development (C/RED).**

We need your support for allowing our students to continue taking:

- **FIN 3104.**

In addition to elevating these three Options to Major status, we are also submitting a proposal for a fourth Major:

- **Food & Health Systems Economics.**

Therefore, we also need your support to allow our students into:

- **FIN 3104.**

FYI – we do not anticipate any new resources will be needed.

Please let us know if you have any questions; otherwise, email us back to confirm your support by February 22nd if possible.
February 15, 2019

To Whom It May Concern:

The Department of Statistics is happy to support the required and optional courses necessary to support the new Food & Health Systems Economics majors. These are International Trade & Development (ITD), Environmental Economics Management & Policy (EEMP), Community/Rural Economic Development (C/RED), and Food & Health Systems Economics (FHSE).

These new majors will require students to continue taking Biological Statistics (STAT 3615); In addition, students in the C/RED major may take Methods of Regression Analysis (STAT 4214) and/or Sample Survey Methods (STAT 4524) as electives.

We anticipate that the Statistics Department can continue providing these courses with no additional resources. If enrollment numbers are beyond expectations, or if the combined effects of other courses push the limits of our capacity, the level of resources required will have to be revisited.

Sincerely,

[Signature]

David Higdon
Professor and Interim Head
Good!

From: Douglas Cannon <dfcannon@vt.edu>
Sent: Friday, February 15, 2019 9:28 AM
To: Ellerbrock, Mike <mebrock@vt.edu>
Subject: Fwd: FW: Letters of Support

The Department of Communication supports the inclusion of COMM 2004: Public Speaking on Agriculture and Applied Economics checksheets for four proposed majors:
- Community/Rural Economic Development.
- Environmental Economics Management & Policy.
- Food & Health Systems Economics.
- International Trade & Development.

Teaching students from these four proposed majors will not require additional department resources.

Douglas F. Cannon, Ph.D., APR+M, Fellow PRSA
Assistant Head, Department of Communication
Virginia Polytechnic Institute and State University (Virginia Tech)

------------- Forwarded message -------------
From: Denton, Robert <rdenton@vt.edu>
Date: Thu, Feb 14, 2019 at 3:24 PM
Subject: FW: Letters of Support
To: Cannon, Douglas <dfcannon@vt.edu>

This should have gone to you...

Thanks,

Bob
Hello Mike,

I support your students taking ACIS 2115 and no new resources will be needed. I cannot predict which semester your students will be able to take ACIS 2115 (i.e. Fall or Spring), but I support them taking the course. Good luck with your new majors.

Jack Maher

John J. (Jack) Maher  
Department Head 
Carroll Endowed Professor 
Dept. of Accounting and Information Systems 
Pamplin College of Business, Suite 3007, Virginia Tech 
880 West Campus Drive 
Blacksburg, VA 24061 USA

Dear Jack:

In AAEC, we are seeking Governance approval to elevate our three current undergraduate Options to Majors.

- *International Trade & Development (ITD)*,  
- *Environmental Economics Management & Policy (EEMP)*,  
- *Community/Rural Economic Development (C/RED)*.

We need your support for allowing our students to continue taking:

ACIS 2115.

In addition to elevating these three Options to Major status, we are also submitting a proposal for a fourth Major:

- *Food & Health Systems Economics*.

Therefore, we also need your support to allow our students into:
ACIS 2115.

FYI – we do not anticipate any new resources will be needed.

Please let us know if you have any questions; otherwise, email us back to confirm your support by February 22nd if possible.

Thank You!

Mike Ellerbrock & Katie White

Mike Ellerbrock, PhD
Prof & Undergrad Dir
AAEC Dept, VT
218 Hutcheson Hall (0401)
Blacksburg, VA 24061
(540) 231-7722 Office
(540) 239-9996 Cell
(540) 552-4009 Home
mellbrock@vt.edu
February 19, 2019

Dear Dr. Ellebrock,

I am writing to indicate my support of your inclusion of GEOG 2084 Principles of GIS to be included in the following AAEC majors:

- International Trade & Development (ITD),
- Environmental Economics Management & Policy (EEMP),
- Community/Rural Economic Development (C/RED).

No new resources are needed.

Sincerely,

Tom Crawford
Professor and Chair
Department of Geography
Mike:

We support including ENSC 1015 in your undergraduate options. majors

Cheers

Matt

Matthew Eick
Professor of Environmental Soil Chemistry
School of Plant and Environmental Sciences
185 Ag Quad Lane
236 Smyth Hall
Virginia Tech
Blacksburg, VA 24061
540-231-8943

"People are persuaded to spend money we don't have; on things we don't need; to create impressions that won't last; on people we don't care about."

Tim Jackson

---

On Feb 14, 2019, at 3:32 PM, Ellerbrock, Mike <mehrock@vt.edu> wrote:

Dear Matt & Jen:

In AAEC, we are seeking Governance approval to elevate our three current undergraduate Options to Majors.

- International Trade & Development (ITD),
- Environmental Economics Management & Policy (EEMP),
- Community/Rural Economic Development (C/RED).
From: Ellerbrock, Mike <mbrock@vt.edu>
Sent: Tuesday, February 26, 2019 1:20 PM
To: White, Katie <katiewhite@vt.edu>
Cc: Eska, Joe <eska@vt.edu>
Subject: FW: Letters of Support

Katie,

FYI ... and please respond to Joe with enrollment estimates.

Thanks, Mike

From: Joe Eska <eska@vt.edu>
Sent: Tuesday, February 26, 2019 11:36 AM
To: Ellerbrock, Mike <mbrock@vt.edu>
Subject: Re: Letters of Support

Hello Mike,

For the shift of your three Options to Majors, we are glad to have you continue having your students take ENGL 1105, 1106, and 3774. Can you tell me how many students you would expect to direct to 3774 per semester for your new Food & Health Systems Economics Major?

Thanks,
MEMORANDUM

TO: CALS Curriculum Committee
FROM: Susan Sumner, Associate Dean and Director of Academic Programs
DATE: March 28, 2019
SUBJECT: ALS 4614, Watershed Assessment, Management, and Policy

I am in support of ALS 4614, Watershed Assessment, Management, and Policy, being an elective course on the Environmental Economics, Management, and Policy (EEMP) major checksheet. This course is already listed on EEMP option checksheet, and this will not require any new resources.
From: Bosch, Darrell <bosch@vt.edu>
Sent: Friday, February 15, 2019 8:52 AM
To: Ellerbrock, Mike <mebrock@vt.edu>
Cc: Schoenholtz, Stephen <schoenhs@vt.edu>
Subject: RE: Letters of Support

I confirm my support.

Darrell Bosch
Professor
Department of Agricultural and Applied Economics
Virginia Tech
Blacksburg, VA 24061
540-231-5265

From: Ellerbrock, Mike <mebrock@vt.edu>
Sent: Thursday, February 14, 2019 3:40 PM
To: Bosch, Darrell <bosch@vt.edu>; Schoenholtz, Stephen <schoenhs@vt.edu>
Cc: Holt, Matthew <mattholt@vt.edu>; White, Katie <katiewhite@vt.edu>; Sumner, Susan <sumners@vt.edu>; Slocum, Stephanie <sslocum@vt.edu>
Subject: Letters of Support

Dear Darrell & Stephen:

In AAEC, we are seeking Governance approval to elevate our three current undergraduate Options to Majors.

- International Trade & Development (ITD),
- Environmental Economics Management & Policy (EEMP),
- Community/Rural Economic Development (C/RED).

We need your support for allowing our students to continue taking ALS/NR 4614 as an elective for our EEMP option, not a required course.

FYI – we do not anticipate any new resources will be needed.

Please let us know if you have any questions; otherwise, email us back to confirm your support by February 22nd if possible.
Hello Mike,
As co-instructor of record for ALS/NR 4614 Watershed Assessment, Management, and Policy I approve having this course listed as an elective for the Environmental Economics Management and Policy major in AAEC. Please note that effective summer I 2019 the course descriptor will be changed to ALS/WATR 4614.

Best regards,
Stephen

---

Stephen H. Schoenholtz, Ph.D.
Director, Virginia Water Resources Research Center (MC0444)
Professor, Department of Forest Resources and Environmental Conservation
Cheatham Hall, Suite 210, Virginia Tech
310 West Campus Drive
Blacksburg, VA 24061-1036
540-231-0711
stephen.schoenholtz@vt.edu
Water Center: vwrrc.vt.edu
Research Lab: water.vwrrc.vt.edu
Water Degree: frec.vt.edu/waterdegree

From: Ellerbrock, Mike <mebrock@vt.edu>
Sent: Thursday, February 14, 2019 3:40 PM
To: Bosch, Darrell <bosch@vt.edu>; Schoenholtz, Stephen <schoenhs@vt.edu>
Cc: Holt, Matthew <mattholt@vt.edu>; White, Katie <katieworthy@vt.edu>; Sumner, Susan <sumners@vt.edu>; Slocum, Stephanie <sslocum@vt.edu>
Subject: Letters of Support

Dear Darrell & Stephen:

In AAEC, we are seeking Governance approval to elevate our three current undergraduate Options to Majors.

- *International Trade & Development (ITD)*,
- *Environmental Economics Management & Policy (EEMP)*,
- *Community/Rural Economic Development (C/RED).*
Part I. UNIVERSITY, COLLEGE, AND DEPARTMENT CLE*
* The total number of credit hours will vary depending upon whether Curriculum for Liberal Education courses are used to meet specific requirements in Part II. Some Curriculum for Liberal Education courses may also fulfill departmental requirements, but the credit hours may not be counted twice.

(Area 1) ENGL 1105-1106
(Area 2) (Ideas, Cultural Traditions, and Values)
(Area 3) AAEC 1005-1006^1
(Area 4) (Scientific Reasoning and Discovery)
(Area 5) MATH 1525-1526^2
(Area 6) (Creativity and Aesthetic Experience)
(Area 7) (Critical Issues in a Global Context)

Freshman English
Econ. of the Food and Fiber System
Lecture
Lab
Elem. Calculus with Matrices
Principles of Accounting
Introduction to Finance
Public Speaking
Comm. Ag. & Life Sci. in Speaking
Business Writing

Part II. ENVIRONMENTAL ECONOMICS, MANAGEMENT AND POLICY OPTION (EEMP)
A. Disciplinary Core Courses (28 credit hours)

AAEC 2434^4
AAEC 3004
AAEC 4324
AAEC 3314
AAEC 3324
AAEC 4314
AAEC 3024
BNSC 1015
AAEC 3015

Foundations of Agribusiness
Agricultural Production and Consumption Econ.
Rural and Regional Development Policy
Environmental Law (also Area 7 Class)
Environment and Sustainable Dev. Economics
Environmental Economic Analysis and Mgmt.
Monetary and Global Issues in Applied Econ.
Foundations of Environmental Science
AAEC Internship

B. Analytical Methods (8-9 hours)

STAT 3005, STAT 3615 or BIT 2405 Statistical Methods or Quantitative Methods
and AAEC 3014^7

Analytic Methods in Applied Economics

Take 1 of:

AAEC 4504
GEOG 2084^8
AAEC 3514
AAEC 4804
ALS 4614

Agricultural Price and Market Analysis
Introduction to Geographic Information Systems
Agricultural Futures and Options
Elementary Econometrics
Watershed Assessment, Management, and Policy

C. Restricted Electives -- 9 hours total (6 hours must be at the 3000 level or higher)

AAEC
AAEC

Part III. AREA OF SPECIALIZATION AND FREE ELECTIVES
A. Area of Specialization (18 hours) – AAEC advisor must approve area of specialization courses and the student must file an area of specialization form with the AAEC undergraduate office. Students should consider minors or double majors. At least 15 hours must be at the 3000 level or higher (unless noted otherwise for a minor in another academic department).

Course

________________________
________________________
________________________

________________________
________________________
________________________

________________________
________________________

________________________
________________________

3
3
3
3
3
3
3
3

B. Free Electives (number needed to complete 120 hours)

________________________
________________________
________________________

________________________
________________________

________________________
________________________

________________________
________________________

3
3
3
3
3
3
3
3

Pre-requisites: Some courses required for this major have prerequisites. Please refer to the Undergraduate Course Catalog or consult your advisor for information about prerequisites.

Foreign Language Requirement: Students who do not successfully complete at least two units of a single foreign language, classical language or American Sign Language during high school must successfully complete six semester hours of a single college level foreign or classical language at the college level. Such semester hours are in addition to those normally required for graduation. Please see the Undergraduate Catalog for details.

GPA: In major calculation is from all AAEC and ECON classes taken. An overall GPA of at least 2.0 is required to meet the University's minimum standard for good academic standing. Overall and in-major GPA's of at least 2.00 are required for graduation.

Satisfactory progress: By the end of the academic year in which the student has attempted 72 hours (including transfer, advanced placement, advanced standing and credit by examination), "satisfactory progress" will consist of 1) an overall GPA of at least 2.0; 2) at least 24 credits that apply to the University Curriculum for Liberal Education, and 3) 9 semester credits of departmental requirements.

1 Or take ECON 2005-2006: Principles of Economics
2 Or take MATH 1025-1026: Elem. Calculus; or MATH 1225-1226: Calculus of a Single Variable. Students considering graduate school in applied economics are encouraged to take MATH 1225-1226.
3 Or take ACIS 2116: Principles of Accounting.
4 Or take COMM 2014: Speech Communication; or COMM 3134: Argumentation and Decision-Making.
5 Or take ENGL 3764: Technical Writing; or ENGL 3754: Advanced Composition.
6 Or AAEC 2104: Personal Financial Planning.
7 Or BIT 2405-2406, or STAT 2005-3006 or STAT 3615-3616.
8 Or BSE 4344: Geographic Information Systems for Engineers.