

Washington State University
 MAJOR CHANGE FORM -- REQUIREMENTS

CSC #187

(Submit original signed form and **TEN** copies to the Registrar's Office, zip 1035.)

See <https://www.ronet.wsu.edu/ROPubs/Apps/HomePage.ASP> for this form.

*Submit an additional copy to the Faculty Senate Office, French Administration 338, zip 1038.

Department Name Master of Science in Agriculture

1. CHECK PROPOSED CHANGES.

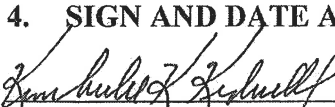
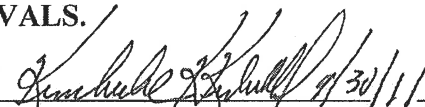
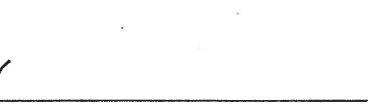
- * Change department/program name from _____ to _____
- * New degree or program in _____
- * Change name of degree from _____ to _____
- * Drop degree or program in _____
- * Extend existing degree or program to _____ campus
- New Major in _____
- Change name of Major from _____ to _____
- Revise Major requirements in _____
- Drop Major in _____
- Revise certification requirements for the Major in _____
- New Option in Master of Science in Agriculture with a Food Science and Management option
- Revise requirements for the Option in _____
- Drop Option in _____
- New Minor in _____
- Revise Minor requirements in _____
- Drop Minor in _____
- New Undergraduate Certificate in _____
- Revise Undergraduate Certificate requirements in _____
- Drop Undergraduate Certificate in _____
- Other _____

Effective term/year 2,012

Amy Sharp	(509) 335-8406	alsharp@wsu.edu
Contact Person	Contact Phone No.	Contact email

2. GIVE REASONS FOR EACH REQUEST MARKED ABOVE. (Attach additional paper if necessary; see reverse side.) **Please see additional paperwork.**

4. SIGN AND DATE APPROVALS.

 9/30/11  9/30/11 

Chair Signature/date Dean Signature/date General Education Com/date

 Catalog Subcom/date Academic Affairs Com/date Graduate Studies Com/date Senate/Date

Master's Degree in Agriculture – Food Science & Management Option

Option Title: MS in Ag: Food Science & Management

Department(s) or Program(s): School of Food Science

College(s): CAHNRS

Contact Name: Jeff Culbertson, PhD; Professor of Food Science

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1. DESCRIPTION AND RATIONALE

(a) Delivery Model:

All courses for the degree will be delivered online, asynchronously, through WSU's Learning Management System.

(b) Rationale for offering the option:

The land grant mission of the University is to extend access to education. Delivering the degree online, asynchronously, provides access to qualified place bound individuals state wide, nationally and internationally.

In Fall 2012, the Graduate Program will broaden its current MS in Agriculture online offerings with a new specialization in Food Science and Management, as approved by the Dean of CAHNRS, The Graduate Affairs Committee, the Graduate School and the Provost.

Based on research conducted in August 2010 by Eduventures (see Appendix A), an industry leader in research and consulting for higher education institutions, offering an online Master's Degree in Agriculture, especially one focused on a specialization such as food science, should address a viable opportunity for Washington State University due to future labor market needs.

Their study shows that online graduate level Agriculture programs are rare among "online active" universities who are leaders in distance education. They suggest that online Agriculture Master's programs can succeed as new market entrants since the market is far from saturated. Eduventures' advice was to consider re-branding or developing new online MS in Ag products that could capitalize on the strong labor market for Food Scientists which is considered to be the most logical specialization due to high demand.

Job growth among Agricultural and Food Scientists is predicted to increase faster than the average for all occupations: 16% from 2008-2018. Agricultural and food scientists held about 31,000 jobs in 2008 and the Bureau of Labor Statistics (BLS) projected this figure to increase by 4,800 jobs to 35,900 by 2018. Also, employment of agricultural and food scientists is relatively stable during periods of economic recession and layoffs are less likely among agricultural and food scientists than in other occupations, because demand for food fluctuates very little with economic activity. Career trajectories and promotion opportunities are typically correlated with education levels in this industry. Based on Eduventures' assessment (see attached Eduventures report, page 6), the appeal of being able to acquire a Master's degree in a Food Science discipline for people in this industry is tremendous.

While six of the 10 largest schools conferring Agriculture Master's Degrees offer online programs; the online market is far from saturated. Only three schools in Eduventures' list of online active schools have Agriculture programs and only one, Kansas State University, has an online program that can clearly be identified as Agribusiness.

2. NEEDS ASSESSMENT

Projected Number of Students and Degrees

It is difficult to anticipate the enrollment numbers for Fall 2012, as marketing and promotional efforts are on "hold" pending approval of the extension of the current online MS in Ag degree with a new program in Food Science and Management. As soon as approval is received, promotional efforts will commence and ideally applications will be accepted beginning March 2012. Given the market analysis, we do expect the program will grow very quickly. Dr. Jeff Culbertson, a faculty member who has worked in the food industry with the Kellogg Corporation and who has had extensive consulting experience within the food industry and who currently offers an online training certificate in Food Science has had over 50 telephone calls and other contacts since January 2, 2012 inquiring about the start date of an MS in Ag: Food Science and Management degree at WSU. In the food industry, the MS is a gatekeeper degree. Individuals with just a BS are limited in their growth and promotion opportunities, while those with an MS can move to the highest ranks, including the CEO position. Our clients/students are place bound, yet can see great value in pursuing an online Masters with WSU in the Food Science arena. Our degree offers a balance between science and business which is very attractive to potential students, some of which have considered getting just an online MBA, which lacks the technical aspects which many corporations value.

Dr. Culbertson's transferred his online certificate program from The Ohio State University to WSU in January of 2011, with initial cohort size of 31 students. We anticipate that the demand for the MS in Ag program will be similar based on preliminary inquirers and predict that enrollment in the MS in Ag program, which is currently 22 students, will increase 2-fold once the Food Science and Management Track is accessible. We anticipate a 20% increase annually in enrollment in this track once the program becomes better known to the industry, which based on the Eduventure report may be a conservative estimate of growth potential.

The time frame for completion of the online degree will vary based on the students' ambitions and flexibility. The FASTEST a student could transition through the program (given the timing of course offerings) would be 1.5 years. The slowest a student would move through the program (at one course per semester) would be 5.5 years. On average: 3.5 years to complete the online MA.

	Site	Year 1	Year 2	Year 3	Year 4	Year 5*
Enrollments	DDP	30	36	42	50	60

* Year of full enrollment

Core WSU/ UI Food Science Courses: 12 credits

Course	Course Offered	Status
FS 531 3 cr Advanced Food Safety and Quality	Every Spring	Major Curriculum Sheet and Paperwork Submitted to Registrar: 10/21/11 Approved by Catalog Subcommittee February 2012 Approved by Graduate Studies Committee 2/2012
FS 564 3 cr Food Toxicology	Every Fall	Cooperatively listed with WSU and UI
FS 509 3 cr Principles of Environmental Toxicology	Every Fall	Currently taught at UI. Will be cooperatively listed with WSU and UI Will be on next bulletin for review/approval during the Faculty Senate meeting Thursday, March 29, 2012.
FS 536 3 cr Principles of Sustainability	Every Spring	Currently taught at UI

MS Ag Required Core: 10 credits

STAT 412 (non- thesis) 3 cr Statistical Methods in Research I	Every Fall	Online version offered each fall
Agri 587: 3 cr Research in Agriculture	Every Fall	Online version offered each fall
Agri 702 V 1-18cr Master's Special Problems, Directed Study, and/or Examination (minimum total 4 cr required)	Every Semester	Offered each semester and in the summer for variable credit. Moderated by the student's advisor and committee members.

Additional 8 cr Coursework from:

EM 501 3 cr Management of Organization	Every Fall	Online version offered each fall
EM 522 3 cr Supervision and Leadership	Every Spring	Online version offered each spring

EM 526 3 cr Constraints Management or EM 564 3 cr Project Management	Every Spring	Online version offered each spring
Phil 530 2 cr Bioethics	Every Summer	Online version offered each summer
MBios 503 3 cr Molecular Biology <u>or</u> MBios 513 3 cr General Biochemistry	Every Semester	Online version offered each semester
EconS 505 3 cr Economics for Agriculture Decision Making	Every Fall	Online version offered each fall
Entom 555 3 cr Agricultural Chemical Technology for Crop Protection & Production	Every Fall and Spring	Online version offered each fall and spring
<u>Total: 30 cr hours</u>		

4. RESOURCE ASSESSMENT

Faculty

** Projected course coverage is shown in Appendix B*

The School of Food Science will be able to cover all Food Science courses with existing faculty (salaries indicated on 'Projected-5-Year Coverage' document attached).

We did not budget for new faculty for the urged increase in the Pullman-based enrollment because we have capacity to add that amount of students in our current class size & faculty workload assignments.

CAHNRS will direct resources generated through online course delivery for this program to varying departments as need for instructional support.

Dr. Culbertson, the clinical professor hired in Winter 2011, added the capacity for 2 new sections (at 1 per semester) of online classes to be taught per year. The online Master's course offerings do not require additional sections as they are not at capacity at present.