

University of Wisconsin Madison, College of Agricultural and Life Sciences
Department of Food Science, Five-Year Plan, 2019 – 2023
vs. December 31, 2018

Section A. Overview

The Department of Food Science has long been recognized as an internationally valued source of education, science and outreach. Significant accomplishments include publishing several seminal texts on food (e.g. *Confection Science and Technology*, *Fennema's Food Chemistry*, *Ice Cream*), the creation of world-leading extension programs and the stewardship of the iconic Babcock Dairy plant. The department holds three, current active endowed chair positions (Fennema, Friday, Winder) with total foundation holdings of ~\$4,750,000. This five-year plan document is designed to inform and direct administrative efforts in Food Science to further the mission, vision, initiatives and strategies of the department, college and campus.

Our main goals through the 2019-2023 time period are defined by specific initiatives, actions and performance measures, as defined in the following pages. These initiatives were reached by conducting a three-fold (Research, Instruction, Extension) strategic planning effort during the summer of 2018, in consultations with CALS' leadership and reviews at departmental faculty meetings. We view a future of continued productivity by implementing novel, impactful research, teaching and extension programs through independent efforts and in partnership with departments that hold mutual interests.

To achieve these goals, we have initiated an implementation plan as well. We are working to better educate ourselves relative to Project Management-driven skills and operations. In practice, we have an implementation committee (Rankin, Theis, Verhage) that meets approximately weekly to assure goals are stewarded with appropriate levels of communication and in concert with shared governance. Most actions are paired with their abilities to effect quantitative (with some qualitative) changes against our main goals using appropriate metrics (e.g. UG Enrollment, CFI, IDC generation, Research Expenditures, etc). To the best of our abilities, we have also included metrics requested by CALS as part of this document.

Department Mission: To develop highly-trained professionals with expertise in Food Science and Technology, and to advance interdisciplinary knowledge that enables innovation in food, health, and agricultural sustainability.

Department Vision: We will be leaders in training next-generation professionals through education and creation of basic and technological knowledge to improve food quality, safety, and security to advance the human condition.

Section B. Goals

Goal 1: Strengthen the Research Portfolio

Our research-focused, strategic planning and SWOT exercises held Summer 2018 as well as continued departmental discussions on this front, yielded the following actions we seek to achieve over the coming years targeting the increase of two main metrics: increased research expenditures (RE) and indirect cost generation (IDC).

Initiative: Increase Research Expenditures (RE) and Indirect Cost (IDC) Generation.

Actions	Impact	Target Start Date	Target End Date	Action Leader
1.1 Create a hiring plan designed to retain individuals capable of securing federal grants and contribute to diversity	RE, IDC	Jan 2019	ongoing	Verhage
1.2 Establish stronger relationships between our faculty and partners at federal funding agencies	RE, IDC	Jan, 2019	ongoing	JP, Parkin
1.3 Create/formalize strategic partnerships with other campus units (BacT, Biochem, BSE, DairySci)	RE, IDC	Jan, 2019	ongoing	Hartel, Theis

Performance Measures	Most Recent Data	5-Year Target (FY23)
Research Expenditures (2018)	\$696,679	\$2,000,000
Indirect Costs (133 & 144)	\$248,606	\$360,000
Total grant expenditures/Total Adjusted 101	0.4099	

Goal 2: Strengthen Academic Programs

Our instruction-focused, strategic planning and SWOT exercises held Summer 2018 as well as continued departmental discussions on this front, yielded the following actions we seek to achieve over the coming years. The main outcomes of these actions are to increase three core metrics: revenue generation (RG), enrollment (E) and CFI metrics.

Initiative: Increase revenue generation (RG), CFI metrics and enrollment (E).

Actions	Impact:	Target Start Date	Target End Date	Action Leader
2.1 Increase marketing efficacy for FS major, Fermentation certificate	E, CFI	Oct, 2018	Ongoing	Rankin
2.2 Develop high-enrollment course proposal, guide execution	CFI	Jan, 2019	Ongoing	Hartel
2.3 Increase summer online coursework (e.g. Fermented Foods)	RG	Oct, 2018	Summer, 2020	Theis
2.4 Develop VISP proposal, guide execution	RG, CFI	Jan, 2019	Fall, 2019	Bolling
2.5 Hold Fermentation retreat; goals of increasing enrollment, funding	E, CFI	Jan, 2019	Fall, 2019	Theis

2.6 Explore non-thesis MS degree option	RG	Jan, 2019	Jun, 2019	Parkin
2.7 Review Food Law learning outcomes, curricular design and assessment; use as a review model for other key subjects.	CFI	Jan, 2019	Spring, 2019	Theis
2.8 Adopt instructional load policy	CFI, RG	Jan, 2019	Fall, 2019	Rankin
2.9 Formalize (MOU) and maintain partnerships on subjects of mutual interests w/ BacT, BSE, NutriSci	E, CFI	Jan, 2019	Jan, 2020	Multiple

Performance Measures	Most Recent Data	5-Year Target (FY23)
Total Food Science Enrollment, Fall (VY18)	117	160
Total Fermentation, Fall	15	75
Degrees awarded (undergraduate)	35	40
Average time to degree (undergraduate) (FY17)	4.36 years	4.0 years
Total fall + spring CFI	2,488	3,175
Total fall + spring CFI/adjusted 101	.0015	
Total summer tuition revenues (FY18)	\$15,464	\$100,000
Total summer tuition revenues /adjusted 101	.0091	
Net revenue tied to instruction (Summer, VISP; FY18)	\$15,464	\$150,000

Goal 3: Strengthen Extension Programs and Outreach Activities

Our extension-focused, strategic planning and SWOT exercises held Summer 2018 as well as continued departmental discussions on this front, yielded the following actions we seek to achieve over the coming years. The main outcomes of these actions are to increase revenue generation (RG), the number of marketing tasks completed (MT; e.g. press releases) and annual attendance (OA).

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Initiative: Design a healthy future for Extension productivity: personnel, finances and documented impact.

Actions	Impact:	Target Start Date	Target End Date	Action Leader
3.1 Hold annual retreat with outreach faculty and staff as a means of identifying and executing areas of investment, personnel and priority	RG, OA	Jan, 2019	March, 2019	Ingham, Rankin
3.2 Develop a means of capturing and marketing outreach programs and impact	MT	Jan, 2019	Ongoing	Rankin

Performance Measures	Most Recent Data	5-Year Target (FY23)
Increased extension revenue.	\$332,942	\$425,000
Increased number of marketing tasks, annual attendees.	0, Undocumented	12 reports, 250 direct contacts
Ext/outreach funded programming, percentage reporting compliance	100%	100%
Departmental allocation for support per Extension FTE	\$21,754	

Goal 4: Foster Diversity and an Inclusive Climate

Through internal efforts to educate ourselves on issues of inclusivity and diversity (e.g. service on CALS ED Committee, WISELI climate survey, etc), the Food Science department proposes the following initiative to foster diversity and a more inclusive, safe environment.

Initiative: Assess (A) and invest (I) in a diverse, inclusive environment

Actions	Impact	Target Start Date	Target End Date	Action Leader
4.1 Conduct annual climate and diversity survey of undergraduate, graduate, faculty, academic and University staff	A	May, 2019	Ongoing	Theis
4.2 Increase the number of departmental community-building events	I	Jan, 2019	Ongoing	Theis
4.3 Celebrate and publicize FS accomplishments	I	Jan, 2019	Ongoing	Hodel
4.4 Provide means for annual ED training to FacStaff and students	I	2019	Ongoing	Bolling

4.5 Design hiring practices to effect increases in departmental diversity profile	I	2019	Ongoing	Verhage
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Performance Measures	Most Recent Data	5-Year Target (FY23)
Increased participation in required training (2018 = Preventing Sexual Harassment and Sexual Violence at UW-Madison)	NA	90% compliance
Departmental climate and diversity survey designed and completed annually and discussed in faculty/staff meeting	NA	Annual completion
Participation in departmental diversity liaison group	Yes	Yes
Increase departmental diversity, as defined by survey metrics	In process	In process

Goal 5: Strengthen Advancement Activities

We seek to complement the financial and operational structure of our department through external engagement and fundraising activities. As such, we have several goals in which we will invest, as detailed below.

Initiative 1: Improve alumni relations

Actions	Target Start Date	Target End Date	Action Leader
5.1 Establish, maintain alumni, donors mailing list	Jan, 2019	Ongoing	Verhage
5.2 Establish guidance/review boards	Jan, 2020	Ongoing	Rankin
5.3 Publish biannual departmental newsletter	Jan, 2019	Ongoing	Rankin

Initiative 2: Increase UWF accounts

Actions	Revenue Generating Action?	Target Start Date	Target End Date	Action Leader
5.4 Establish endowed chair through UWAA/UWF	Y	Jan, 2019	2023	Rankin

5.5 Establish food security program with American Family Insurance	Y	Jan, 2019	2023	Rankin
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Performance Measures	Most Recent Data	5-Year Target (FY23)
Increased number of external contacts	27	250
Total UWF holdings	\$4,750,000	\$6,000,000
233 expenditures FY18	\$299,982	\$350,000
Total discretionary giving (FY17)	\$140,998	\$250,000

Goal 6: Enhance Administrative, Service and Governance Efficacy

Food Science will be pursuing the following actions relative to enhancing administrative, service and governance efficacy and efficiency.

Initiative: Increase efficacy and financial efficiency of administrative staff.

Actions	Revenue Generating Action?	Target Start Date	Target End Date	Action Leader
6.1 Design the dairy plant operations to generate departmental revenue	Y	2019	2020	Klein
6.2 Restructure dairy plant HR design for shut-down, re-opening		2019	2019	Klein
6.3 Survey needs of faculty and staff in terms of administrative staff support		2019	2019/20	Theis

Performance Measures	Most Recent Data	5-Year Target (FY23)
Increase ratings of administrative staff performance (a function of 6.3)	In process	In process
Revenue from dairy plant provided to FS	\$0	\$50,000

Goal 7: Enhance Collaboration on Shared Priorities

Our goal is to strengthen a collection of informal strategic partnerships, summarized as follows.
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Animal Science: we currently hold several notable engagements with Animal Science faculty on research, instruction and outreach activities (Claus, Reed, Richards, Sindelar) and sense that a more comprehensive discussion with Animal Science would benefit each of our programs. We further recognize that Animal and Dairy Science are earnestly seeking a departmental merger. Although Rankin has met with Crenshaw regarding potential opportunities in the CALS redesign, FS proposes that it is best to first let the discussions with Dairy Science come to completion.

Bacteriology: we seek to enhance the design and operations between our departments, primarily focused on instruction. We currently have an operating MOU with Bacteriology focused on the offering of FS 324 and seek to increase the breadth of our agreement beginning with programming in Food Fermentations.

Biochemistry: we seek to partner with Biochemistry to strengthen the community of research involving food chemistry; an initial effort includes the service of Prof. Michael Sussman on our current Food Chemistry hire.

Biological Systems Engineering: although the external review/accreditation process has been a significant task with BSE, we continue to have good relations on the Food Engineering front. Our goals are to formalize these relations through a MOU designed to strengthen the research and instructional portfolio of the Food Engineering program through thoughtful, strategic hires.

Nutritional Science: NS recently (2018) completed their accreditation process and we foresee another fruitful engagement on this front inasmuch as our instructional tasks are involved. FS (Rankin and Theis) recently (11/18) met with NS (Eide, Ney) to discuss a design forward to assure instructional tasks were met and that a thoughtful approach was taken to aid both of our programs as far as instructional resources are concerned. Both programs also agreed in spirit that an MOU between the programs is called for.

Goal 8: Increase Revenue Generating Activities

The FS department has thoughtfully considered each of these goals and offers that we are initiating efforts to act in alignment with these goals. To that end, each of the Chancellor's goals is followed with a reference number for FS initiatives noted above, as follows:

- Growing research funds: 1.1-1.3
- Expanding summer semester: 2.3
- Growing master's degrees and certificate programs for professionals: 2.1, 2.3, 2.6
- Bringing tuition for out-of-state and professional students up to market levels: 2.4
- Exploring the student mix and numbers (e.g. increasing enrollment and out-of-state recruitment): 2.1, 2.3, 2.6
- Building alumni (and other philanthropic donor) support: 5.1-5.5

Section C. Resources Outlook: Action Plan to Meet Your Goals

What are your priorities for utilizing resources generated by the department over the next five years? What academic, scientific, or other investments are you hoping to make during this period to support your goals?

Are you anticipating any departures during this period that would result in resources for reinvestment in the department? What are your priorities for investment of resources in faculty and staff? How will these investments support your goals? Note: This section should reflect a summary of departmental priorities. It is not a submission of specific requests. Twice per year the college will issue a call for specific requests. Future requests will be compared to the priorities listed in this section.

We hold an optimistic view of FS in the future and offer that we have realistic actions to improve on each goal or metric proposed. We further offer that our outreach programs are not only successful from the standpoint of scholarship and external value, but have significant potential capacity in terms of revenue generation and market value. In complement, we see changes in administrative design, broad and specific marketing efforts and alumni support that will further advance each of these causes. Furthermore, we envision a dairy plant that will not only be more efficient in manufacturing and labor allocation/design, but much improved in terms of the overall ability to serve as a revenue stream and educational center. In short, “food” is a popular subject and our department is acting thoughtfully regarding our future and how we will generate and apply these new revenue streams. We are seeking CALS’s support in this future design, primarily in the realm of faculty and staff hires. Although there are a host of attractive opportunities in the food realm, such as culinology and product development, we propose that the best long term personnel design, especially at this campus and within this college and the overall Food Science discipline, remains as an investment in hiring within the core STEM-based disciplines that will continue to attract and support the best scientific minds, attract the most external support and ultimately be a source of the most impactful discoveries defining food.

As such, we are seeking the following personnel hires, noting that we have one currently underway (Food Chemistry) and another hire with a non-tenure decision (Ikeda); we further note that subsequent faculty PVLs will be in part dictated by each actual hire and their specific area of expertise, thus the specifics of faculty hires is yet to be fully defined. However, we propose the following hiring design:

Priority	Position - Area of Specialization	Target Release Date	Salary	Notes
1	Faculty (R/I) - Fermentation	July 1, 2019	Salary from non-tenure decision	Leads fermentation program
1	Staff (Instruction & outreach)	Jan 1, 2020	50% of salary from FS; 50% from CALS	Generates salary through outreach and summer online
2	Faculty (R/I) – Food Material Science	July 1, 2020	50% of full professor retirement, balance from CALS	Connection with BSE/Food Engineering program
2	Faculty (R/I) – Food Chemistry	July 1, 2021	50% of full professor retirement, balance from CALS	Support core programming
3	Faculty (E/R) – Food Material Science	July 1, 2022	CALS/Extension	Support outreach programming
4	Faculty (R/I) – Food Microbiology	July 1, 2023	CALS	Support core programming