

TO: Washington State University Faculty Senate

FROM: Greg Crouch, Senior Associate Dean and Associate Vice Provost for Graduate Academic Programs

DATE: September 21, 2026

RE: Retroactive Inclusion of Graduate Certificates within the Approved Master of Science in Food Manufacturing Technologies

This memo requests Faculty Senate approval to formally include two graduate certificates:

- **Food Technologies and Data Analytics**
- **Food Technologies and Sustainability**

as integrated components of the **Master of Science in Food Manufacturing Technologies (MS-FMT)**, approved by the WSU Faculty Senate on April 2, 2026. The program anticipates admitting their first cohort in fall 2027.

These certificates were part of the original program design and were referenced in the approved proposal, including within the Educational Offerings section and the Academic Plan. As such, the certificates and their integration into the MS in Food Manufacturing Technologies were considered as part of the degree proposal approved by Faculty Senate. However, the formal certificate rationale documents **were not included** in the final materials submitted to Faculty Senate. Those documents had previously been developed and submitted through the Major Curricular Change process but were inadvertently not linked to the final degree proposal at the time of submission. This memorandum is intended to complete the record and formally document the certificates as originally designed within the approved degree structure.

The MS in Food Manufacturing Technologies was approved as a 30-credit, fully online professional master's degree delivered through Global Campus. The program design included stacked graduate certificates intended to serve both standalone learners and degree-seeking students, providing structured pathways within the degree program.

II. Current Request

This request does **not** propose a new program or any change to the approved Master of Science in Food Manufacturing Technologies (MS-FMT). Instead, it formally introduces two graduate certificates that were part of the original program design and align directly with the existing curriculum.

Both certificates draw exclusively from existing coursework and represent structured 12-credit groupings within the MS-FMT curriculum. Their inclusion does not alter degree requirements, total credits, or program learning outcomes. Rather, this action formalizes clearly defined curricular pathways that are already embedded within the approved degree structure.

III. Certificate Descriptions

Certificate 1: Food Technologies and Data Analytics

Description: The Graduate Certificate in Food Technologies and Data Analytics is a 12-credit program designed to equip professionals with advanced skills in food engineering, smart manufacturing, and data-driven decision-making. Students will explore conventional and emerging food processing and packaging technologies alongside modern supply chain technology and management strategies. This certificate is part of a stackable curriculum including a companion certificate and a master's degree in Food Manufacturing Technologies currently proposed for official launch in Fall 2027.

Catalog Description: **Transform the food industry through data and technology.** This certificate delivers foundational and advanced knowledge in food preservation methods to enhance safety and extend the shelf life of fresh and packaged foods. Students will master data analytics to predict consumer trends, optimize processing and packaging designs, and make strategic decisions regarding pricing, production, and promotions. The curriculum also covers predictive modeling to monitor supply chains, mitigate operational risks, resolve bottlenecks, and streamline inventory control.

Courses Required: Take any two courses from FMT 501–506. Take DATA 115 and STAT 530.

Admission Criteria: Completed application form indicating satisfactory completion of an undergraduate degree from an accredited institution; GPA of 2.75; English Proficiency; Letter of recommendation; Possess the necessary technology and skills to fully participate in online education.

Rationale for the Certificate: This certificate will be a part of the proposed Master of Science in Food Manufacturing Technologies. This professionally oriented master's certificate is an academic program that prepares or enhances the preparation of a student in food technologies and data analysis and may be a stand-alone graduate certificate as well. The proposed online master's degree and constituent certificates are driven by evolving workforce needs and technological advances including automation, data analytics, and sustainability.

Delivery: This certificate will be offered online asynchronously through the Global Campus learning management platform.

CIP Code: 01.1099 Food Science and Technology, Other

Certificate 2: Food Technologies and Sustainability

Description: The Graduate Certificate in Food Technologies and Sustainability is a **12-credit program** focused on the intersection of advanced food manufacturing and environmental stewardship. Students will build critical competencies in conventional, thermal, and non-thermal food preservation and packaging technologies. The curriculum integrates essential systems-level evaluation tools, including life cycle analysis (LCA), technoeconomic analysis (TEA), and sustainable supply chain management. This certificate is part of a stackable curriculum—including a companion certificate and a master's degree in **Food Manufacturing Technologies** currently proposed for official launch in **Fall 2027**.

Catalog Description: **Drive environmental stewardship in the food manufacturing sector.** This certificate provides advanced training in food preservation and packaging technologies designed to minimize food waste and extend shelf life. Students will master quantitative frameworks such as life cycle and technoeconomic analyses to evaluate and reduce the environmental footprint of food production. The curriculum empowers professionals to build resilient, sustainable supply chains while balancing ecological impact with economic viability.

Courses Required: Take two courses from FMT 501–505. Take FMT 506 and FMT 507.

Admission Criteria: Completed application form indicating satisfactory completion of an undergraduate degree from an accredited institution; GPA of 2.75; English Proficiency; Letter of recommendation; Possess the necessary technology and skills to fully participate in online education.

Rationale for the Certificate: This certificate will be a part of the proposed Master of Science in Food Manufacturing Technologies. This professionally oriented master's certificate is an academic program that prepares or enhances the preparation of a student in food technologies and sustainability and may be a stand-alone graduate certificate as well.

Delivery: This certificate will be offered online asynchronously through the Global Campus learning management platform.

CIP Code: 01.1002 Food Technology and Processing

While both graduate certificates share a foundational core in advanced food processing and packaging technologies, they diverge completely in their functional specializations: the **Data Analytics certificate** trains students to leverage big data for predictive modeling, pricing strategies, and supply chain forecasting, whereas the **Sustainability certificate** focuses on environmental stewardship, and quantitative tools like life cycle and technoeconomic analyses. To ensure academic rigor and eliminate duplication for students pursuing both credentials, the online MS program utilizes a robust menu of **five distinct food technology courses**. This allows students to select entirely different technology electives for each certificate, gaining a broader spectrum of engineering expertise without repeating a single course.