FSE Stackable Microcredentials Policy

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1. Introduction and Definitions

1.1 **Purpose**

The Fulton Schools of Engineering (FSE) is committed to providing a diverse range of educational opportunities that cater to the evolving needs of students and industry professionals in the fields of engineering and technology. Stackable Microcredentials are designed to offer flexible, specialized learning experiences that enable individuals to acquire specific skills and knowledge with shorter time commitment through stacked modular units. By stacking multiple units, the design structure is intended to promote lifelong learning while providing intermediate forms of skill achievement recognition. This policy outlines the guidelines and procedures for the development, delivery, and compensation of microcredentials across the Fulton Schools and applicable academic and research units.

1.2 **Guiding Principles**

Stackable Microcredentials are a core offering from the Fulton Schools of Engineering, designed to provide learners with knowledge and skill readiness in technical fields for emerging industries. As such, FSE Microcredentials are designed in a way to ensure they can be offered according to the following six guiding, and interdependent principles:

> 1.2.1 **Flexible**: Create flexible learning pathways based on interest and to meet the broadest and most diverse population of learners wherever they are in their academic preparation and experience level.
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> 1.2.2 **Accessible**: Expand access to individuals with diverse backgrounds and experiences, including by expanding through pipelines such as K12 systems, community college systems, and partnerships with industry, government, non-profits, and community organizations.
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> 1.2.3 **Scaleable:** Develop digital and physical infrastructure tools to reach as many diverse learners as possible.
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> 1.2.4 **Stackable**: Modular units enable learners to gain knowledge and skills in a shorter timeframe and offer flexibility for learners regardless of whether they are new to the workforce or seeking training for upskilling or reskilling purposes.
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> 1.2.5 **Affordable**: Learners are able to access microcredentials in a way that is manageable from both a time and cost perspective. Additionally, microcredentials offer a way for the university to develop content in smaller segments to address changing needs, providing an affordable mechanism to support learners with short courses to meet their needs.
>
> 1.2.6 **Agile**: With evolving technologies and rapid changes throughout industry, microcredentials offer a way for the university to quickly respond to market needs and provide learners with pathways that enable career mobility.

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1.3 **Scope**

This policy applies to all academic and research units within the Fulton Schools that offer microcredentials in the fields of engineering and technology. It sets forth the expectations and procedures for the development, assessment, and compensation of microcredentials, whether they are delivered fully online, through on-campus or onsite instruction or a combination of both (hybrid).

1.4 **Definitions**

> 1.4.1 **Stackable Credential:** A stackable credential is defined as being "part of a sequence of credentials that can be accumulated over time to build up an individual's qualifications and help them move along a career pathway or up a career ladder to different and potentially higher-paying jobs." - US Department of Labor.
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> 1.4.2 **Micro-Learning Unit (MLU)**: A concise, well-defined and targeted unit of skills development that a learner acquires by participating in one short course. Successful completion of one MLU and an accompanying assessment result in the learner earning a micro-badge. Content offered under each MLU is offered at one of four levels (Levels 1 through 4).
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> 1.4.3 **Micro-Badge:** A micro-badge is awarded to a learner after successful completion of a Micro-Learning Unit. Note that external marketing materials may refer to the 10-hour course as a "micro-badge" to avoid introducing too many terms to the general public.
>
> 1.4.4 **Microcredential Badge:** Microcredential badges are mini certifications for demonstrating proficiency in a specific skill or attainment of certain knowledge. A microcredential badge is earned when successfully completing four micro-learning units at the same or similar levels. Badges complement classes, certificates, and degrees and do not replace them.
>
> 1.4.5 **Level**: Each micro-badge or a full Microcredential badge is offered at Levels 1 through 4. A description of the levels can be seen below:

Level 1	Micro-badges are associated with **foundational knowledge**, broader picture, key terms, explanations around a specific topic and examples of the use across the technology sector. The content at this level is the easiest to translate to online asynchronous modalities of learning. The level should be **appropriate for learners with no prior knowledge of the subject** to be able to take the class.
Level 2	Content at Level 2 is associated with **applying foundational knowledge and introductory practical application within the emerging technology space**. This

	level involves hands-on practice to a portfolio project that demonstrates the knowledge and skills acquired.
Level 3	Content at Level 3 is associated with **higher value skills that build deeper into skill refinement towards industry-relevant hardware or software.** These often require analytical, critical thinking and **creative solution** building for specific problems related to industry-driven case studies and problem sets. Evidence is also presented by the learner to **demonstrate higher order analytical skills**.
Level 4	At this Level, content is associated with **experiential learning activities that demonstrate an ability of the learner to apply acquired skills** at an organization readily. It is also **associated with more hours of learning experience in specific hardware or software** used in the industry.

1.5 Roles and Responsibilities

FSE's commitment to providing quality educational services to students and learners requires the collaboration of individuals in a variety of roles. The primary roles and responsibilities are explained below:

1.5.1 **Instructor/Subject Matter Expert (SME):** ASU faculty/staff or external Industry Expert with the qualifications/experience in a particular field/topic by education, expertise, research, etc. The Instructor/SME champions the proposal and development of a microcredential. The Instructor/SME collaborates with Domain Expert, Learning Experience Designer, GOEE, and other Industry Experts as needed to develop the content and verification of attainment of knowledge/skill required for badge(s). The Instructor/SME is also responsible for the instruction of the course either as the instructor or working with another instructor to ensure successful implementation of the course design.

1.5.2 **Domain Expert:** ASU community member responsible for overseeing all micro-credentials in a given topic area. This includes the review and approval of badge proposals, guidance of badge strategy and with vertical and horizontal stacking across MLU, and curriculum alignment and quality assurance. Domain experts are expected to engage at strategic inflection points in the life cycle of a microcredential rather than manage day-to-day development.

1.5.3 **Learning Experience Designer:** Individual/group with qualifications/experience in learning theory, instructional design, educational technology, etc. Collaborates with media experts, data analysts, and others on the design and development of MLUs and collaborates with Domain Experts on the alignment of MLUs across microcredentials.

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1.5.4 **Global Outreach and Extended Education (GOEE):** The department under the Fulton Schools of Engineering Dean's Office supporting the planning and implementation of Stackable Microcredentials. GOEE supports instructors/SME with the development and delivery logistics for microcredentials and are the Learning Enterprise Liaisons for FSE. Specifically, GOEE provides project management, partnership with industry on badges, identifies and pursues funding opportunities for content development, alignment with industry needs, facilitation of instructor agreements, collaboration with school directors, badge design, learner profile and engagement, incentive distribution, and thought leadership.

1.5.5 **FSE Learning and Teaching Hub:** The Learning and Teaching Hub collaborates on definition of the curricular framework including level expectations (mapping), design of learning experiences including instruction and assessments (design and development), delivery (implementation), and content strategy, as well as thought leadership in the development of microcredentials. This includes support from the Learning Experience Designer, Multimedia team, and Instructional Innovation Coaches.

1.5.6 **Learning Enterprise (LE):** The CareerCatalyst team within ASU's Learning Enterprise provides the technology platform acquisition and management, course listing management, incentive distribution to colleges, develops and implements marketing and learner acquisition strategies, and can support with AI technology for language generation.

2. Expectations for Microcredential Development and Delivery

2.1 Microcredential Design

FSE Microcredentials consist of individual microlearning units (MLU), with each unit corresponding to 10 hours of student engagement. Microcredentials should be designed to provide students with targeted knowledge and skills in a specific area of engineering or technology. Their development is informed by regional and state workforce needs as well as new and emerging industry opportunities.

Badge themes will have multiple topics offered at various levels of content complexity, from Level 1 - Level 4. Individual MLUs can be stacked vertically for depth. MLU's can also be horizontally mapped for breadth of knowledge in a topic area. Learners are awarded digital credentials or micro-badges for completing MLUs across predefined topic areas. Multiple badges can be organized together to align with a specific career pathway within an industry sector.

Badges will be delivered to learners under the ASU Fulton Schools of Engineering brand, underscoring the rigor and quality consistent with the Fulton Schools. Microcredentials badges

are administered by GOEE and designs must adhere to institutional branding practices and guidelines.

2.2 **Quality Standards** FSE microcredentials must meet the following expectations to ensure rigor, quality, and alignment with workforce needs. MLU will be reviewed with the FSE Microcredential Quality Rubric to ensure consistency across offerings.

2.2.1 Skill-Based & Industry-Aligned Learning

Microcredentials must prioritize skill acquisition over passive knowledge transfer. Each MLU must be designed to meet workforce needs and align with industry standards. As such, courses should include real-world applications, such as projects, case studies, and hands-on experiences.

2.2.2 Modular & Stackable Design

Microcredentials must be modular, meaning they can be completed independently or as part of a broader learning pathway. Stackable options should be available, allowing learners to either deepen their expertise (vertical stacking) or broaden their knowledge (horizontal stacking).

2.2.3 Assessment & Demonstration of Mastery

Each MLU must have clear and measurable learning objectives that align with the desired outcomes. These objectives should be designed to meet industry standards and emerging trends. Assessments should be authentic and skill-based, such as projects, case studies, or practical demonstrations. Multiple-choice quizzes should not be the primary form of assessment given the skills-based nature of microcredentials. Instructors/SME should use hands-on assessments that mirror real-world applications. Courses should provide opportunities for feedback and revision, allowing learners to improve their work. Support will be provided to instructors as needed in order to plan and deliver quality assessments.

2.2.4 Accessibility & Inclusivity

Digital content must comply with accessibility guidelines, including closed captions, transcripts, and clear visuals. Microcredentials should be mobile-friendly and easy to navigate. Courses that do not meet minimum accessibility standards will not be approved.

2.2.5 Flexible Delivery Modes

Microcredentials may be offered fully online, hybrid, or in-person to meet the needs of different learners. Courses may be asynchronous when possible, providing flexibility for working professionals.

2.2.6 Branding & Quality Control

Microcredentials are delivered under the ASU Fulton Schools of Engineering brand and must meet FSE quality standards. All microcredentials undergo a quality assurance review before launch and must be updated based on learner feedback and workforce needs.

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Quality assurance may include peer review and assessment of learning outcomes. Feedback from learners and industry partners should be incorporated to continually improve program quality. The microcredential program's effectiveness will be assessed through metrics such as student enrollment, completion rates, and post-program employment outcomes if able to collect. A feedback mechanism for students and industry partners provides input on the program's content, delivery, assessment and relevance. Under-performing MLU content will be sunset to ensure ASU and FSE brands are maintained.

2.3 **Process for Offering Microcredentials**

FSE units and external instructors/SME interested in pursuing the development and delivery of microcredentials can expect to follow the following process:

2.3.1 **Ideation and Approval** - The instructor submits a microcredential proposal which is reviewed by a domain expert and assessed for industry demand. This step typically takes 2-5 weeks.
- Meet with the GOEE Team to discuss Microcredential Structure
- The instructor completes Badge Overview Form
- Domain Expert reviews proposal and provides feedback
- The GOEE Team conducts market research

2.3.2 **Design and Planning -** The instructor collaborates with the GOEE Team and Domain Expert to design the microcredential including logistics, assessments, and instructional methods. This step typically takes 3-10 weeks.
- Hold a Kickoff Meeting to discuss expectations and logistics
- Set course dates and finalize agreements
- Complete the Micro-badge Planning Form to outline content, structure, and assessments.

2.3.3 **Content Development and Marketing** - The instructor develops all course materials and prepares the Microcredential in Canvas. GOEE develops marketing collateral. This step typically takes 4-16 weeks.
- The instructor creates lecture materials, activities, and assessments.
- The GOEE Team reviews material to ensure alignment with FSE and the Microcredential standards
- The GOEE Team develops flyers, landing pages, and registration information
- Marketing material is distributed through available channels by the GOEE Team and the instructor.

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2.3.4 **Implementation & Evaluation -** Deliver the microcredential, award digital credentials, and gather feedback for continuous improvement. The typical timeframe is determined by the structure of the microcredential.
- Launch the microcredential in synchronous, asynchronous, or hybrid format
- Award digital credential upon completion of the microcredential
- Identify and document opportunities for improvements of future offerings based on feedback from learners, the instructor, and the GOEE Team.

2.4 Curriculum Development

The Instructor/SME responsible for microcredential development should collaborate to create relevant and up-to-date curricula. Curricula should incorporate a mix of instructional methods, assessment strategies, and resources that support student learning. Due to the modular nature of stacking MLUs, interdisciplinary collaboration with multiple Instructors/SMEs is possible to create a more aggregate learning experience.

2.5 Delivery Modes

Microcredentials can be delivered fully online, through on-campus or on-site instruction or a combination of both, depending on the program's design and target audience. The choice of delivery mode should align with the program's objectives and learner needs.

2.6 Pricing

The pricing of MLUs for learners will be driven by the delivery costs, market demand, level of badge or micro-badge, sponsors, and consultation with GOEE, Learning Enterprise and instructors. MLUs may also be marketed through channel partners with various pricing structures. Pricing will be clearly communicated to individuals and businesses.

2.7 Intellectual Property

The rights to the complete microcredentials rest with the Arizona Board of Regents. (Visit http://www.azregents.edu/ ABOR Manual- policy number 6-908 for more detailed information on intellectual property.) While the Instructor/SME member may use the course contents and its various elements in support of the Instructor/SME member's teaching, the Instructor/SME agrees not to use it in any way that conflicts with the Arizona Board of Regent's interest in this work.

3. Compensation for Microcredential Development and Delivery

3.1 Compensation Structure

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Instructors/SMEs involved in the development of microcredentials will be compensated based on multiple factors relative to each MLU. This includes modality, level of MLU, and the characteristics and complexity of what is needed for development.

3.2 Development Phase

Depending on availability of funding sources, Instructor/SMEs may receive compensation for their time spent on curriculum design, content creation, and assessment development. This compensation will be determined based on the number of micro-learning units and the complexity of the content. Multiple Instructors/SMEs can be involved in the development and instruction of the content. Graduate student assistants can also be deployed at the discretion of the main instructor.

3.3.1 Delivery Phase

Instructors/SMEs involved in delivering microcredentials will receive compensation for their preparation, instruction and student support activities. Compensation varies based on the level of microcredential, with standard rates increasing based upon higher levels of content.
In addition, delivery mode and complexity of development impacts compensation models as outlined below.

3.3.2 Delivery - Synchronous Live

Instructors/SMEs will receive hourly pay for in-person content delivery, with compensation subject to any sponsor-initiated limits. If multiple instructors collaborate to teach a 10-hour MLU, compensation will be divided accordingly based on the delivered contact time. Annual rate adjustments may be made in response to market demand and competitive market analysis.

In-person enrollment typically spans 10-30 learners, but sessions focused on equipment may have lower enrollment due to space and asset constraints. In-person content is scheduled during evenings, weekends, or over the summer to enhance accessibility for learners, ensuring that courses do not negatively impact offerings for ASU students.

3.3.3 Delivery - Asynchronous Online *(Under review)*

3.3.4 Delivery - Hybrid

Content delivered that utilizes both asynchronous, previously developed content, and synchronous live instruction will be compensated based upon the number of contact-hours planned. Compensation will be calculated on a case-by-case basis in these scenarios.

3.5 Additional Compensation

In addition to base compensation, faculty members may be eligible for additional compensation based on factors such as exceptional student outcomes, industry collaboration, or the development of complex and/or innovative teaching materials.

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3.6 Transparent Compensation Policies

FSE is committed to transparent compensation policies. Faculty members involved in microcredential development will receive detailed information on compensation rates, expectations, and the payment schedule before embarking on the development and delivery process.

4. Conclusion

Fulton Schools of Engineering acknowledges the importance of microcredentials in providing specialized education in engineering and technology. This policy ensures that microcredentials meet high-quality standards, offer flexibility in delivery, and provide fair compensation to faculty members involved in their development. By adhering to these guidelines, Fulton Schools of Engineering aims to contribute to the continuous advancement of knowledge and skills in the ever-evolving fields of engineering and technology.

Questions related to Microcredentials or this policy can be directed to fse-digitalcredentials@asu.edu.

5. Resources

ACD510-02: Supplemental Pay