

Senate Reference No. 25-21

MEMORANDUM

TO: 2025-2026 Senate Executive Committee
FROM: Alan Legg
Chair, Curriculum Subcommittee
DATE: 02/13/2026
SUBJECT: Certificate in Entrepreneurship and Enterprise Engineering

The Curriculum Subcommittee reviewed a proposal from the Doermer School of Business for a baccalaureate certificate in Entrepreneurship and Enterprise Engineering. We find that the proposal requires no Senate review.

Thank you for the opportunity to review this proposal.

Approve	Oppose	Abstain	Absent	Present Non-Voting
Alan Legg			Steve Carr	Nurgul Aitalieva
Tara Lewis			Carl Drummond	Abe Schwab
Terri Swim			Yanfei Liu	Lucas Mollema
Cigdem Gurgur			Sabene Rizvi	Tiffany Taylor-Smith
				Lacy Watson



Undergraduate Academic Program Memo

Date: 11/24/25

From: David Cochran

To: Nodir Adilov, Dean Doermer School of Business

Re: Entrepreneurship and Enterprise Engineering (EEE) Certificate

Brief description of the program:

The Doermer School of Business (DSB) proposes, in collaboration with the College of Engineering, Technology, & Computer Science, to offer a 12- credit baccalaureate certificate in Entrepreneurship and Enterprise Engineering (EEE). Additionally, the certificate has been designed to serve students from majors across campus as a way for students to develop the mindset and skills necessary to build and sustain an enterprise business.

Brief rationale for program request:

Due to our changing climate, higher education needs to shift how we engage students in learning. This certificate will teach students to learn how to think about, formulate and ask better questions. The EEE Nexus will connect incoming high school students with successful business leaders, faculty, and entrepreneurs in the Fort Wayne Community. The why is three-fold:

1. Enhances student capability and interest that will manifest new enterprises.
2. Supports economic development and startup enterprises in the Fort Wayne area.
3. Facilitates PFW Faculty connections with the community and provides examples to feed back into their courses and the curriculum.

CIP Code: 15.1501

For completion by Office of Academic Affairs

Department Chair Signature

Date

Signed by:

Nodir Adilov

11/22/2025

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School Dean Signature

Date

DocuSigned by:

Carl Drummond

11/24/2025

27109142004745C...

Vice Chancellor for Academic Affairs Signature

Date

PLEASE NOTE: The Office of Academic Affairs will collect electronic signatures from the Chair, Dean, and Vice Chancellor for Academic Affairs after the form has been filled out and submitted to the Associate Vice Chancellor for Academic Programs with the rest of the program proposal.

Request for a New Certificate Program

Campus: **Purdue University Fort Wayne (PFW)**

College/School and Department: **Doermer School of Business**

Proposed Title of Certificate Program: **Entrepreneurship and Enterprise Engineering (EEE) Certificate**

Projected Date of Implementation: **Fall Term 2026**

TYPE OF CERTIFICATE: (check one)

UNDERGRADUATE CERTIFICATE: Award of less than 1 academic year; requires less than 30 credits of undergraduate-level academic work. (most common – undergraduate)

UNDERGRADUATE CERTIFICATE: Award of at least than 1 academic year but less than 2 academic years; requires less than 31-60 credits of undergraduate-level academic work. (most common – undergraduate)

POST-BACCALAUREATE CERTIFICATE – These programs generally require 12-29 credits of graduate-level academic work; all students enrolling in these programs must have completed their baccalaureate degrees. (most common – graduate)

POST-MASTERS CERTIFICATE –These programs generally require 12-18 credits of graduate-level academic work; all students enrolling in these programs must have completed their Master’s degree.

Technical Characteristics of Certificate

- I. Certificate Description: *A brief explanation of the student experience and what the student will learn; no more than 2-3 sentences. This can be published in the Catalog.*

This certificate program enables students to practice and learn the mindset and skills necessary to build and sustain an enterprise business of their choosing. The program accelerates students’ ideas into action through pitch competitions and the enterprise engineering methodology to collaborate, design, build, and improve their chosen product or service enterprise. The program consists of 12 credit hours – 6 hours of core courses and 6 hours of self-directed courses.

- II. CIP Code: Engineering / Industrial Management – 15.1501

- III. Modality: Proposal must speak to all selected modalities.
- a. Residential –
 - b. Hybrid
 - c. Online

The EEE Certificate will be offered as a Residential option.

If hybrid or online, please respond to the following prompts/questions:

- a. What technologies will be used to give students access to instruction?
- b. If the program is being offered residentially and digitally (hybrid and/or online), is the curriculum offered identical?
 - a. If no, explain.
 - c. If applicable, explain how students will complete labs, studios, clinicals, etc.

- IV. If more than one modality selected, will the curricula be identical across modalities?
- a. Not Applicable - only one modality –
 - b. Yes
 - c. No

V. Number of credits required in Certificate program. 12 Credit Hours.

- VI. Describe target audience to be served as well as the goal for the number of participants.

The target student population to be served is incoming PFW students in any major. The initial focus will be DSB, and ETCS students to solidify this two-college collaboration. The next groups anticipated are General Education, Science, and Art/Music students.

- VII. Admission requirements - *Please include any specific requirements above and beyond the standard entry requirements for Applicants.*

No Specific requirements above and beyond the standard entry requirements for Applicants is expected.

- VIII. List all specific **program completion** requirements, including courses, minimum course GPA, minimum overall GPA, number of credits completed in residence, maximum time allowed from the completion of the first course, how many courses can be applied to another certificate or program of study, etc.

A. Core Courses: 6 Credit Hours Total

3 Credit Hours - BUS 23787 – Entrepreneurial Ventures Powered by Incubator Edu, BUS 31201- Entrepreneurship, or a comparable course with customer discovery or a pitch competition – Initial Ideation/Pitch Competition Course

3 Hours - Cross listed Entrepreneurship and Innovative Design BUS-49006/ ECE 49500/ ECE59500 / CS49200 Course– Final Accelerator Course

B. Elective and/or Self-Directed Courses: 6 Credit Hours Total

Students may choose from a list of other courses offered as listed in Appendix A or complete a self-directed study as explicated below.

1, 2, or 3 Hours – Faculty Coaching – with EEE Lifecycle Design Questions Decision Template – compiled by Business School and ETCS Faculty experts.

Note: The 1 to 3 Hour variable credit per semester will be self-directed to address specific design questions from the EEE Lifecycle Design Questions Decision Template. Faculty will determine the number of hours to be credited based on the scope of work for the semester.

Credit is 6 Semesters of 1 hour credit, 2 Semesters of 3-hour credit, etc.

C. Business Venture Progress Card

To satisfy this requirement, the student must show that they have created a minimum viable product and used it to engage in meaningful customer discovery and business creation. Evidence could include, but is not limited to, testing activities, user feedback, securing paying customers, securing investor funding, or creating a business venture. In essence, the evidence should demonstrate the student's ability to focus on essentials and bring a workable version of their idea to life.

Academic Characteristics of Certificate

IX. Why is this certificate needed? (Rationale and purpose, including market research)

As AI reshapes the labor market, coupled with persistent criticism of the value of many academic programs and unfavorable media narratives about higher education, institutions risk a gradual loss of workplace relevance and a decline in student interest over the coming years. Higher education must adapt and address these changes.

The traditional approach to education pushes knowledge onto students because information was limited, hard to access, hard to evaluate and summarize. The advent of the internet and now AI learning models that are increasing in relevance and accuracy exponentially requires a new role for education and educators.

We think that a starting point is to transition the push model of education to a pull model. The pull model will teach students to ask questions and to learn how to think about how to formulate and ask better questions. Most importantly, the pull model will provide a safe environment at the University for students to learn how to communicate their thinking to achieve an objective (a new enterprise) that they have self-created. The EEE Nexus will establish a collaborative environment that connects incoming high school students with successful business leaders, faculty, and entrepreneurs in the Fort Wayne Community. The why is three-fold:

1. Enhances student capability and interest that will manifest in their own enterprise or other enterprises.
2. Economic development and startup enterprises in the Fort Wayne area.
3. Enhances PFW Faculty connections with the community and provides examples to feed back into their courses and the curriculum.

X. Prospective Curriculum: *Please create a plan of study for the degree. If new courses are being created, all course proposals must be completed in order to add to this block.*

6 Hours Required:

First Semester of Certificate (BUS 23787, BUS 31201, or a comparable course)¹ – Initial Ideation/Pitch Competition Course

Final Semester of Certificate (BUS 49006/ ECE 49500/ECE 59500/CS 49200)² – Final Accelerator Course

6 Hours Self-Directed:

Faculty Coaching – Variable Credit 1, 2, or 3 Hours

Or

Any two, 3-Hour Credit Courses from the list in Appendix A.

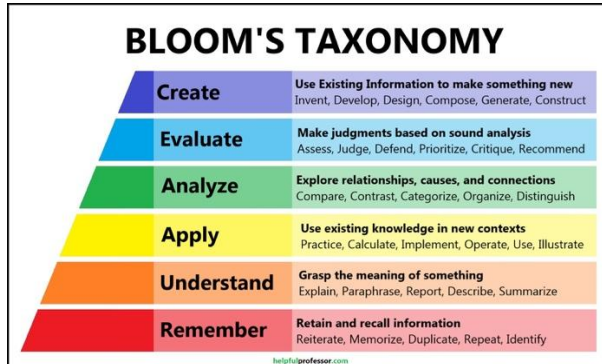
Business Venture Progress Card Required (evidence/portfolio-based)

¹ BUS 23787: Entrepreneurial Ventures Powered By IncubatorEdu;
BUS 31201: Entrepreneurship.

² BUS 49006: Entrepreneurship & Design: Business Competition;
ECE 49500: Entrepreneurship and Innovative Design;
ECE 59500: Entrepreneurship and Innovative Design;
CS 49200: Topics In Computer Science.

XI. Learning outcomes for the EEE Certificate:

1. Understand that Entrepreneurship and Enterprise Engineering is about design decision-making.
2. Apply the EEE Lifecycle Design Questions Decision Template to determine the questions that must be answered to develop their enterprise business.
3. Analyze and determine if the Decision Template is asking all the relevant questions and determine the other questions that must be addressed.
4. Evaluate the alternative solutions to answer the Decision Template questions.
5. Create and implement the chosen solution for each aspect and relevant lifecycle phase of their enterprise business – codified as a business plan and strategy.
6. Remember to be successful, requires tenacity and learning how to deal with failures.



Ref: <https://tigerlearn.fhsu.edu/the-revised-blooms-taxonomy-as-a-framework-for-writing-learning-objectives/>

XII. Explain how student learning outcomes will be assessed (student portfolios, graduate and/or employer survey, standardized test, etc.) and describe the structure/process for reviewing assessment findings for the purpose of ensuring continuous improvement of the certificate.

1. Enterprise Value and Creation Assessment
 - + Did a firm invest in the enterprise?
 - + Is there a letter of intent in place to invest in the enterprise?
 - + Is there a letter of intent to purchase the enterprise?
 - + Are clients purchasing the product or service offered by the enterprise?
 - + Does the enterprise have enough cash flow to sustain the people and facilities?
2. Student Learning and Assessment
 - + Students present a portfolio of the EEE Lifecycle Design Questions Decision Template Solution Evaluation and Answers
 - + Initial Pitch Competition Course Evaluation
 - + Final Accelerator Course Evaluation
3. Feedback and Continuous Improvement
 - + Feedback from Competition Judges (entrepreneurs in community) regarding student learning and required course structure and materials. Feedback will be obtained through in-person interviews and with written feedback.

- + Feedback from Faculty Coaches regarding EEE Lifecycle Design Questions Decision Template regarding what students are struggling with, and structure and types of questions in the Template. Feedback will be obtained through in-person interviews and with written feedback.
- + Feedback from Students regarding all courses taken regarding relevance, structure and materials presented through in-person interviews and written feedback.

XIII. How does this certificate complement the university's/department's/school's strategic plan(s)?

- + Enhances Quality of Place
- + Enhances Quality of Learning
- + Expected to improve student retention and increase overall enrollment.

XIV. Describe any innovative features of the program (e.g., involvement with local or regional agencies, or offices, cooperative efforts with other institutions, etc.).

- + Establishes a pipeline of students from regional high schools.
- + Provides college credit for courses taken at the regional high schools.
- + Partnership with Incubator.Edu that fosters entrepreneurship and pitch competitions with over 200 high schools nationwide.
- + Provides a foundation to work with VC Firms (Plug and Play, Elevate Ventures, etc.) and local maker spaces and services for entrepreneurs (NIIC, Amp lab, CDC, etc.).
- + Collaboration of two Colleges: DSB and ETCS and their faculty on enterprise design problems with students.

XV. Describe any relationship to existing programs on the campus or within the university.

- + The certificate leverages the courses from various units at PFW: BUS, ECE, CS, OL, and THTR.
- + It unites the department faculty within the DSB to develop business startups with students and leverage many of the existing DSB courses.

XVI. List and indicate the resources required to implement the proposed program. Indicate sources (e.g., reallocations or any new resources such as personnel, library holdings, equipment, etc.) of resources.

The EEE Nexus facility is now operational, thanks to the Avis Foundation Grant and VCAA Drummond's support totaling over \$340k. Three EEE Nexus courses and one ECE Senior Design course have been delivered in the new space.

An additional \$174,000 grant has been received to expand equipment for the EEE Innovation Lab, advancing its enterprise simulation and modeling capabilities and student spaces.

XVII. Include a Liaison Library Memo

Attached.

XVIII. Include a completed Gainful Employment Certificate Worksheet.

Not applicable.

Appendix A: The list of EEE Certificate elective courses³

AD 46700 - Entrepreneurship In The Arts
BUS 20102 – Marketing For The Small Business
BUS 31201 – Entrepreneurship
BUS 35000 - Healthcare Entrepreneurship
BUS 42300 - New Product Development
BUS 48004 - Project Management
CE 33000 - Construction Management
CS 36000 - Software Engineering
CS 37200 - Web Application Development
ECE 40500 Senior Design I
ECE 40601 Senior Design II
ECON 30600 – Innovation and Startup Economics
HTM 18100 - Introduction To Lodging Management
HTM 19100 - Sanitation And Health In Foodservice, Lodging, And Tourism
HTM 31000 - Food And Beverage Operation Management
HTM 49400 - Advanced Restaurant Management
MUSC 46700 - Entrepreneurship In The Arts
MUSC 48401 - Music Marketing, Promotion, And Entrepreneurship
OLS 27400 - Applied Leadership
OLS 35100 - Innovation And Entrepreneurship
SE 51000 Introduction to Systems Engineering
SE 53000 Systems Engineering Management
THTR 46700 - Entrepreneurship In The Arts

³ If not used to satisfy the initial ideation/pitch competition course requirement.
Approved by DSB UPC on 12 November 2025

Liaison Librarian Memo

Date:

From:

To:

Re:

Describe availability of library resources to support proposed new program:

Comments:

Liaison Librarian Signature *Date*