

**TO:** The Engineering Faculty

**FROM:** The Faculty of the School of Engineering Education

**RE:** Change in Engineering Education's graduate certificate, Teaching and Learning in Engineering

The Faculty of the School of Engineering Education has approved the following change to the Teaching and Learning in Engineering graduate certificate from the College of Engineering. This action is now submitted to the Engineering Faculty with a recommendation for approval.

**DESCRIPTION/BACKGROUND:**

The Teaching and Learning in Engineering graduate certificate requires 10 credits (4 total courses), of which 7 credits are required:

- ENE 50600 - Content, Assessment and Pedagogy (3 credits)
- ENE 68500 - Educational Methods in Engineering (3 credits)
- ENE 68700 - Mentored Teaching in Engineering (1 credit)

The remaining 3 credits are satisfied by completing one of the following courses:

- ENE 69500 - Succeeding as an Engineering Professor (3 credits) (either under ENE 69500 or its proposed new permanent course number, ENE 68600, and name, Preparing to Be an Engineering Professor)
- ENE 58600 - Exploring Alternative Career Paths as an Engineering Educator (3 credits)

We are requesting to add ENE 59500 (below) to the list of options for the final 3 credits in the Teaching and Learning in Engineering graduate certificate.

- ENE 59500 - Teaching Engineering Online (3 credits) (either under ENE 595 or a new permanent course number yet to be proposed)

**RATIONALE:**

Originally, the ENE graduate certificate, Teaching and Learning in Engineering, was designed for Ph.D. students in any engineering discipline who wanted to pursue faculty positions, and the final course in the certificate program was ENE 695 "Succeeding as an Engineering Professor" (which is being changed to ENE 686 "Preparing to Be an Engineering Professor"). When growing numbers of ENE and other engineering students began telling us that they wanted to be involved in educating engineers but didn't want tenure-track faculty positions, we created "Exploring Alternative Career Paths as an Engineering Educator", which served online and on-campus students who wanted to explore their other career options. Then we began to market the online MS ENE and graduate certificate to people who had already begun or were perhaps well along in their

careers but were interested in improving their teaching skills. Neither of the original two options for the final 3 credits to complete the certificate were of particular interest or value to students already pursuing their career of choice. However, almost every educator in any role needs to be able to teach effectively online now, and not everyone has access to formal training in that skill. Offering ENE 59500 "Teaching Engineering Online" as another option for completing the final 3 credits of the graduate certificate broadens the potential audience for our online programs and serves the needs of an important student population.

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Head/Director of the School of Engineering Education

Link to Curriculog entry:

<https://purdue.curriculog.com/proposal:29284/form>

*Please attach documentation detailing the change in curriculum.*

**Details of Change in Curriculum  
for  
Teaching and Learning in Engineering  
Graduate Certificate in Engineering Education**

The **currently required** courses for the Teaching and Learning in Engineering graduate certificate are the first three listed below plus either ENE 69500 (now in the process of being changed to ENE 68600, Preparing to Be an Engineering Professor) or ENE 58600.

- ENE 50600 Content, Assessment and Pedagogy (3 credits)
- ENE 68500 Educational Methods in Engineering (3 credits)
- ENE 68700 Mentored Teaching in Engineering (3 credits)

And one of the following two courses

- ENE 69500 Succeeding as an Engineering Professor (3 credits) (either under ENE 69500 or its proposed new permanent course number, ENE 68600, and name, Preparing to Be an Engineering Professor)
- ENE 58600 Exploring Alternative Career Paths as an Engineering Educator (3 credits)

The **change we are proposing** is to add ENE 59500 (below) as one of the options for the fourth course in the Teaching and Learning in Engineering graduate certificate.

- ENE 59500 Teaching Engineering Online (3 credits)