New Course EFD Template

PURDUE UNIVERSITY | College of Engineering

Engineering Faculty Document No.:
EFD#05-26
April 30, 2025

TO: The Engineering Faculty

FROM: The Faculty of the School of Mechanical Engineering

RE: New graduate course – ME 51501 Wave Propagation in Solids

The Faculty of the School of Mechanical Engineering has approved the following new graduate course. This action is now submitted to the Engineering Faculty with a recommendation for approval.

FROM (IF ALREADY OFFERED WITH TEMPORARY NUMBER):

ME 59700 Wave Propagation (F19) and Wave Propagation in Solids (F23)

Fall Semesters

3 total credits; Lecture-based

ME 27000, ME 27400, ME 32300 or equivalents

Fall 2019 (enrollment 15), Fall 2023 (enrollment 8)

TO:

ME 51501 Wave Propagation in Solids

Fall

3 total credits; Lecture-based

ME 27000, ME 27400, ME 32300 or equivalents

Description: Theoretical and numerical techniques for the analysis of the propagation of elastic waves in solid media. The course will cover topics including wave propagation in infinite and half spaces, wave scattering and diffraction, Lamb waves and wave guides, wave propagation in layered and periodic materials.

RATIONALE:

This course was offered twice in the Fall of 2019 (enrollment: 15) and 2023 (enrollment: 8), and it will be offered again in Fall 2025. Starting in Fall 2025, the course will also be cross-listed with AAE. The faculty feel strongly that this course is an essential element for a ME graduate level curriculum while, at the same time, offering an opportunity to senior UG to specialize in dynamics related topics. The faculty believe that the topics covered in this new course are central to the needs of mechanical engineering graduates.

Dr. Eckhard Groll, Head/Director of the School of Mechanical Engineering

Link to Curriculog entry: https://purdue.curriculog.com/proposal:33346/form