



# WISCONSIN

UNIVERSITY OF WISCONSIN-MADISON

University of Wisconsin - Madison  
College of Engineering [EGR]  
Last Offered: 2014 Fall [1152]  
Direct Link to this Syllabus :

<http://aefis.engr.wisc.edu/index.cfm/page/CourseAdmin.ViewABET?coursecatalogid=720&pdf=True>

1. **E C E 749, Coherent Generation and Particle Beams**
  2. **Credits : 3    Contact Hours :**
  3. **Textbook and Materials :**
  4. **Specific Course Information :**
    - a. **Brief description of the content of the course (Course Catalog Description) :** Fundamental theory and recent advances in coherent radiation charged particle beam sources (microwave to X-ray wavelengths) including free electron lasers, wiggler/wave-particle dynamics, Cerenkov masers, gyrotrons, coherent gain and efficiency, spontaneous emission, beam sources and quality, related accelerator concepts experimental results and applications.
    - b. **Pre-requisites or Co-requisites :** ECE 740 or Physics 721, or equiv, or cons inst
- **Specific Goals for the Course :**
    - a. **Course Outcomes :**
    - b. **ABET Student Learning Outcomes :**