



**THE OHIO STATE UNIVERSITY**  
COLLEGE OF ENGINEERING

# Advanced Topics in Biomechanics and Musculoskeletal Disorders: Upper Extremity Biomechanics

## ISE 7620

**Credit Hours:**

3.00 - 3.00

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**Course Levels:**

Graduate (5000-8000 level)

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**Course Components:**

Lecture

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**Course Description:**

Advanced readings course of papers on occupational epidemiology, physiology, work-related musculoskeletal disorders, pathophysiology, biomechanics, anthropometry, electromyography, imaging, and modeling as related to upper extremity biomechanics.

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**Prerequisites and Co-requisites:**

Prereq: 5600 (660), or permission of instructor.

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**Course Goals / Objectives:**

- Provide students with an opportunity to review portions of the literature concerning the upper extremity, with regards to work-related musculoskeletal disorders and biomechanics
  - Develop and enhance students' abilities to critically review papers describing original research or reviews of such research
  - Develop and enhance students' understanding of how to conduct high-quality research and describe that research in a paper suitable for publication in a peer-reviewed journal
  - Provide students with opportunities to practice conceptualizing and developing research ideas
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**Course Topics:**

- Research methods
  - Epidemiology
  - Anatomy, function and biomechanics
  - Pathophysiology
  - Measurement methods and instrumentation
  - Models
  - Psychosocial factors
  - Intervention research
  - Current topics
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**Designation:**

Elective