

Course Title: DMEI 499 Friction Stir Processing for Aerospace and Defense Industry

Instructor: Zhenhua (David) Wu

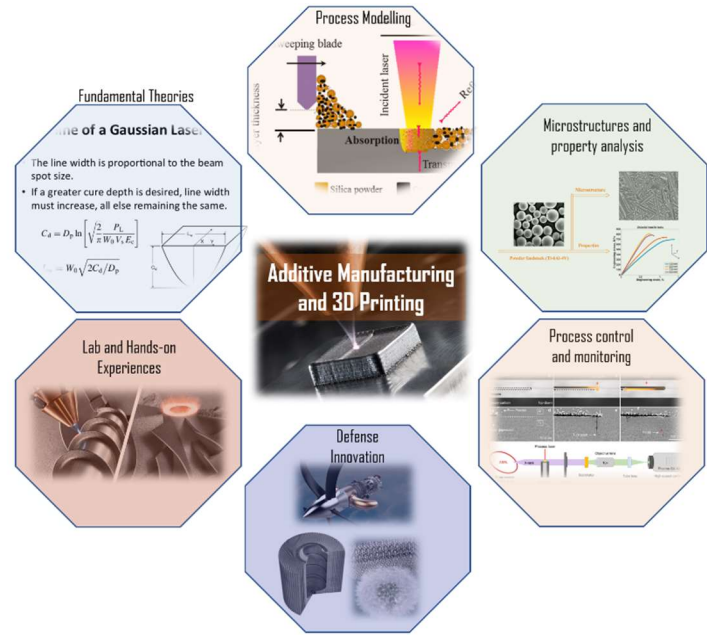
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Course Description:

Friction stir welding and Friction stir additive manufacturing processes (FSP) is to join materials or produce three-dimensional solid objects. FSP has been considered a key manufacturing innovation technology since the invention in 1991 at Cambridge University. This technology now is widely used in shipbuilding, aerospace, and defense industry. This course is designed to introduce from technical perspectives, the principle of FSP process, and their applications in defense manufacturing. We will also discuss advantages and disadvantages for each process and its best applications. We will spend effort on material properties and their effects to the final quality of fabricated products. We will then discuss innovations enabled by FSP, especially in the shipbuilding sectors. The last part of the class is centered on the current development and future of FSP. Guest lectures will be provided by XXX, where FSP is supporting key innovation in their product design and manufacturing.

Topics covered:

- Friction stir processing (FSP)
- Mechanical thermal interaction
- Monitoring and control in FSP
- Design for FSP
- Material/Product Innovation in FSP
- Guest lectures and case studies from industry and national labs
- Lab sessions



For more information about this course, Contact:

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For more information about the I-DREAM4D Education Program, Contact:

Dr. Douglas Timmer at Douglas.timmer@utrgv.edu

For Internship opportunity, visit:

<https://idream4d.org/interns/>

To be offered in
XXXX XXXX!

Upon accomplishing this course, students will be prepared for potential interns and jobs at companies such as:

