## **ME 1801 - Rapid Prototyping for Product Design**

**Pre-requisites:** Sophomore, Junior or Senior Standing

## **Description**

The course presents basics of prototyping as a means to validate design solutions. Students will be introduced to additive manufacturing (AM) processes and common makerspace tools and equipment. The course will involve hands-on activities wherein students will be required to gain and demonstrate competencies utilizing various fabrication equipment. The course will briefly introduce the concept of hybrid manufacturing in the context of rapid prototyping scoped around tools available within academic makerspaces.

## **Topics**

- Overview of design & prototyping
  - Phases of design
  - o Need for prototyping/design validation
  - o Types of prototyping
- Overview of Additive Manufacturing processes and makerspace tools
  - o Tour of Invention Studio
  - o Process capability evaluation/comparison
  - o Hands-on training and demonstration of competency on equipment
- Mini-design project
  - o Prototyping strategy and process planning

## **NEW COURSE PROPOSAL**

ADUATE Level I Level II		UNDERGRADUATE X
HOOL, DEPARTMENT, COLLEGE:	Mechanical Engineering	<b>DATE:</b> Feb 25, 2019
1. Proposed Course Number: ME 1801	2. Hours: LECTURE 0.33 LAB/R	PECITATION 2 SEMESTER CREDIT 1
3. Descriptive Title: Rapid Prototypin	g	
4. Recommended Abbreviation for Tra	nnscript – (24 characters including spaces):	
		N G
	less) acturing (AM) processes and commo utilize prototyping as a process to va	
6. Basis: L/G X P/F	X Audit X	
7. Prerequisites: sophomore, junior or	senior standing	
Prerequisites with concurrency:		
Corequisites:		
8. Has the course been taught as a spec	cial topic? NO If YES, When	Enrollment
9. Is this course equivalent to another of	course (graduate or	
undergraduate) taught at Ga. Tech?  10. Are you requesting that this course s	If yes, list course number(s): NO	Social Science NO
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1. Expected Mode of Presentation:	MODE	% of COURSE
	Lecture	20
	Laboratory Supervised	
	Unsupervised Discussion	50
	Seminar	20
	Independent Study	
	Library Work	
	Demonstration	10
	Other (Specify)	
12. Planned Frequency of Offering:	TERM TO BE OFFERED	EXPECTED ENROLLMENT
	Fall	30
	Spring	
	Summer	
13. Probable Instructor(s) – Please mark Amit Jariwala*	k with an asterisk any non-tenure track indiv	riduals.
14. Purpose of Course: Relation to othe Undergraduate minimester course that se	er courses, programs and curricula: erves as a design or manufacturing elective.	
15. Required	Elective X	
16. Please attach a topical outline of the	course	