MECH3520 Design and Manufacturing II (Fall 2015)

Course Code: MECH 3520	**Course Title:** Design and Manufacturing II
Required Course Or Elective Course: Elective	**Terms Offered (Credits):** Fall (3 credits)
Faculty In Charge: David Lam	**Pre/Co-Requisites:** MECH2520
Course Structure: Lecture: 3 hours per week, tutorial: 1 hour per week.	
Textbook/Required Material: (1) Class notes, (2) Machine Design (4th ed.) by R.L. Norton.	
Bulletin Course Description: This is an *elective* course for the BEng in Mechanical Engineering with Option in Design.	
Course Topics: 1. Design optimization functions 2. Material failure laws 3. Continuous loading designs 4. Discrete loading designs 5. Material selection 6. Geometry selection 7. Components designs	
Course Objectives:	1. Understand engineering design methodologies 2. Learn quantitative design tools 3. Apply engineering design methodologies in case studies 4. Quantitative comparison of designs 5. Design recommendations
Course Outcomes:	A. Lucid understanding of the interplay of engineering parameters in design B. Ability to optimize geometr C. Ability to do continuous loading designs D. Ability to do discrete loading designs E. Ability to do material selection F. Ability to design against fatigue G. Ability to do component design
Assessment Tools:	Homework problems 20% Projects; Mid-term and Final exams 80%