



<b>Course Name</b>	<b>Mechanical Vibration and Measurement</b>														
<b>Course Director</b>	Yang Jin, Yiming Guo, Jidong Fan														
<b>Major</b>	Mechanical Engineering, Automotive Engineering														
<b>Objective</b>	To develop the students to gain some expertise in the areas of both dynamic analysis of vibratory mechanical systems and vibration measurement.														
<b>Semester</b>	6th														
<b>Language</b>	English														
<b>Learning/Teaching methods</b>	Lectures, Homework and self-study /Experiment														
<b>Hour</b>	36h in total, including 29 h Lectures, 3h Experiments and 4h examinations														
<b>Credit</b>	3.0														
<b>Prerequisite</b>	Advanced Mathematics, College Physics, Theoretical Mechanics, Material Mechanics, Descriptive Geometry and Mechanical Drawing, Fundamentals of Computer														
<b>Content</b>	Simple Harmonic Movement (2h) Harmonic Waveform Analysis (2h) Vibration of Single Degree of Freedom Systems (10h) Vibration of Multiple Degree of Freedom Systems (8h) Vibration of Continuous System (4h) Data Acquisition, Accelerometer & Spectral Analysis (6 h) Two Examinations (4h)														
<b>Grade/Exam</b>	The final course grade will be based upon the following weighted average: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Homework/Quizzes</td> <td style="width: 20%;"></td> <td style="width: 20%; text-align: right;">20%</td> </tr> <tr> <td>Labs</td> <td></td> <td style="text-align: right;">10%</td> </tr> <tr> <td>2 Examinations</td> <td></td> <td style="text-align: right;">40%</td> </tr> <tr> <td>Final Examination</td> <td style="text-align: center;">30%</td> <td style="text-align: right;">100%</td> </tr> </table>			Homework/Quizzes		20%	Labs		10%	2 Examinations		40%	Final Examination	30%	100%
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<b>Reference</b>	[1] Singiresu S. Rao. Mechanical Vibrations, 4th Ed. Addison-Wesley, 2004 [2] William T. Thomson, Marie Dillon Dahleh. Theory of Vibration with Applications, 5th Ed. English reprint edition by Pearson Education, 2005 [3] J.P. Den Hartog. Mechanical Vibrations. Dover Publications, January 1, 1985														