

Course Number: MECH 4240 Semester: Fall 2017
Course Title: Comprehensive Design I
Credit Hours: 2 (LEC 1, LAB 3)
Prerequisites: MECH3230, MECH3AA0, and passing grade in at least one of the following: MECH3040, MECH3050, MECH3140
Prerequisites with Concurrency (Co-requisite): The remaining two of the set of three: MECH3040, MECH3050, MECH3140
Class Schedule: Lec/Lab: M:1:00-1:50pm Davis 155, Tu&Th: 12:30-1:45pm Shelby 1103
Instructor: Dr. David Beale, Ph.D., P.E., Mechanical Engineering Dept., 3418C Wiggins, 844-3336, bealedg@auburn.edu. Office Hours: MWF 9:00 – 10:00, and by appointment.

Teaching Assistants

TA1: Amanda Skalitzky, ams0110@tigermail.auburn.edu, by appointment (Project Room TA (0432 Wiggins), ordering, technical assistance, peer reviews)

TA2: Michael Halverson, mch0025@tigermail.auburn.edu, by appointment (ordering, technical assistance, attendance)

TA3: Kyle Kubik, kak0032@tigermail.auburn.edu, by appointment (Assists wherever needed)

Prerequisite Examination: Per B.M.E. program policy, an examination will be given within the first two weeks of class to test students' proficiency and retention of prerequisite material from MECH3230.

Website: General information and some course material will be posted at:

<http://www.eng.auburn.edu/users/bealedg/MECH4240-50/>

Textbooks: None

Grading and Evaluation Procedures: 90-100 A, 80-90 B, 70-80 C, 60-70 D, <60 F

Graded Event	%	Comment
Prerequisite Exam	5%	Based on MECH3230 material, open book/open notes, calculator needed.
Systems Engineering Quiz	5%	Based on lecture material
Design Notebook	5%	Graded by technical advisor, kept up by scribe
Midterm Review:*		
<ul style="list-style-type: none"> • Sponsor Grade • Report (6%)/Oral Comm. Rubric(4%) 	10% 10%	<ul style="list-style-type: none"> • Grade Form for Industrial Sponsor, Overlord in special situations • Report is graded by report grader.
Final Review:*		
<ul style="list-style-type: none"> • Sponsor Grade • Report (10%)/Oral Comm. Rubric (5%) 	15% 15%	<ul style="list-style-type: none"> • Grade Form for Industrial Sponsor, Overlord in special situations • Graded by report grader.
Peer Review	25%	A student with a score that is the same as the team peer average receives the same grade as weighted average of Midterm Review and Final Review.
Attendance	10%	-3% for each unexcused absence

***A student's grade may be reduced by 3% per COD (Contract of Deliverable) for every deliverable that is not turned in to the manager on time or does not satisfy the COD. There will be five CODs + deliverables throughout the semester for each team member and are written on the schedule when these are due. The manager works with the student and/or student team to define the CODs. The manager should keep a binder with a copy of each COD.**

Accessibility:

The policy of Auburn University is to provide accessibility to its programs and activities, and reasonable accommodation for persons defined as having a disability under Section 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act of 1990. Students needing special

accommodations should see the instructor as soon as possible, or contact the Students with Disabilities Program office at (334) 844-5943 (Voice/TT).

Academic Honesty:

All portions of the **Auburn University Student Academic Honesty Code**, as found in the *Tiger Cub* and defined in the SGA Code of Laws, Title XII, will apply in this class.

<http://web6.duc.auburn.edu/tigercub/rules/section1.pdf>

Calendar

<u>WEEK 1</u>	<u>21 August:</u>	<u>22 August:</u> System Requirements, V-Chart, Syllabus and Projects' Overview	<u>24 August:</u> Chosen Team Announcement, V-Chart Overview
<u>WEEK 2</u>	<u>28 August:</u> Systems Engineering & Shop Overview, Overview of Peer Reviews	<u>29 August:</u> Visit/contact Sponsor. No class meeting.	<u>31 August:</u> Pre-req Quiz, V-Chart Quiz, Chosen Manager Due
<u>WEEK 3</u>	<u>4 September:</u> NO CLASS (Labor Day)	<u>5 September:</u> Manager Only Meeting	<u>7 September:</u> Dr. Payton Recertification
<u>WEEK 4</u>	<u>11 September:</u> Vehicle Dynamics (Kyle Class) – <i>Required Training for Human Exploration Rover team only</i>	<u>12 September:</u> Vehicle Dynamics (Kyle Class) – <i>Required Training for Human Exploration Rover team only</i>	<u>14 September:</u> Design for Manufacturing (Kyle Class) Peer Review and COD 1 Due. <i>Req'd for student doing machining in project room</i>
<u>WEEK 5</u>	<u>18 September:</u> Project Mngt and Purchasing Procedures, ALL STUDENT ATTEND	<u>19 September:</u>	<u>21 September:</u> Electronics Training – Req'd for corps 11, 12, 13, 16, 17, 20
<u>WEEK 6</u>	<u>25 September:</u> Electronics Training – Req'd for corps 11, 12, 13, 16, 17, 20	<u>26 September:</u> Dry Run for PDR or CR	<u>28 September:</u> Dry Run for PDR or CR
<u>WEEK 7</u>	<u>2 October:</u> PDR or CR (Peer Review and COD 2 Due)	<u>3 October:</u> PDR or CR (Peer Review and COD 2 Due)	<u>5 October:</u> PDR or CR (Peer Review and COD 2 Due)
<u>WEEK 8</u>	<u>9 October:</u> PDR's (Peer Review and COD 2 Due)	<u>10 October:</u> PDR's (Peer Review and COD 2 Due)	<u>12 October:</u> NO CLASS
<u>WEEK 9</u>	<u>16 October:</u>	<u>17 October:</u>	<u>19 October:</u>
<u>WEEK 10</u>	<u>23 October:</u>	<u>24 October:</u>	<u>26 October:</u> COD 3 Due
<u>WEEK 11</u>	<u>30 October:</u>	<u>31 October:</u>	<u>2 November:</u>
<u>WEEK 12</u>	<u>6 November:</u>	<u>7 November:</u>	<u>9 November:</u> Peer Review 3 Due
<u>WEEK 13</u>	<u>13 November:</u>	<u>14 November:</u>	<u>16 November:</u> COD 4 Due
<u>WEEK 14</u>	<u>20 November:</u> NO CLASS	<u>21 November:</u> NO CLASS	<u>23 November:</u> NO CLASS
<u>WEEK 15</u>	<u>27 November:</u> CDR Dry Run	<u>28 November:</u> CDR Dry Run	<u>30 November:</u> CDR Dry Run
<u>WEEK 16</u>	<u>4 December:</u> CDR's (Peer Review 4 Due and COD 5)	<u>5 December:</u> CDR's (Peer Review 4 Due and COD 5)	<u>7 December:</u> CDR's (Peer Review 4 Due and COD 5)
<u>WEEK 17:</u>	<u>11 December:</u> FINALEXAMS (CDR if needed)	<u>12 December:</u> FINALEXAMS (CDR if needed)	<u>14 December:</u> FINAL EXAMS (CDR if needed)