

**Kennesaw State University**  
 ME4201/004 – Senior Design – I  
 Syllabus - Spring 2019

**Instructor:** Muhammad Salman (Ph.D.), Assistant Professor,  
 Mechanical Engineering Department

**Office:** G-122

**Email:** msalman1 @kennesaw.edu

**Class times:** Tuesday 3:30 pm to 4:20 pm Q-109

**Office Hours:** Monday 11:30 am -2:00 pm Tuesday 11:30 am -2:00 pm  
 by appointment or Walk in- Either in Q-217 or G-122

**Required Text  
 and Supplies:**



*Engineering by Design*  
 2<sup>nd</sup> edition  
 Gerard Voland  
 ISBN # 0-13-140919-0

- FE Supplied Reference Handbook, 8<sup>th</sup> ed., 2<sup>nd</sup> rev., NCEES (ISBN 978-1-932613-59-9)
- FE Review text or online text of your choice

*Recommended:* Calculator – FE Exam requirement -- Casio FX-115 ES Plus

**Lab notebook:** to keep notes/Meeting log on your senior design project.

**Prerequisite:**

1. ME3201 – Product Realization,
2. ENGR 3650 Computer-Aided Engineering,
3. ME 3440 – Heat Transfer \*\*

*\*\*some may be taken concurrently or later. This course should be taken right before you take Senior Design II, which should be taken during your last semester.*

**Grading:**

25%	Assignments, Draft Proposal, Project selection + Class Participations
40%	Senior Project Proposals- Written Report (hard + soft copy on D2L)
25%	Senior Project Proposals (Oral Presentation)
10%	Peer Evaluation & Team Project participation-severe team performance deficiency can cause even lower grade or failing

**Grading Scale:**

90 - 100%	A	Excellent
80 - 90%	B	Good
70 - 80%	C	Average
60 - 70%	D	Minimal
0 - 60%	F	Failure

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**Grading Criteria:** It's a team work. Four team members/team .Individual grades. Group performance weighs in your grade. Regular attendance to class and design group meetings, class readings, quizzes, assignments, peer evaluations, mid-term and final presentations, report(s), professionalism etc.

- Each assignment will be submitted as a group assignment.
- Electronic submission (D2L) of Homework is encouraged
- Show all your work for full credit! Write your name on every page. Present

The instructor meets with your group regularly and will have deep understanding of your efforts, contribution, professionalism, and punctuality which will be factors in calculation of your semester grade.

**Peer Evaluation form required at the end of the semester**

ME 3201-02 – PRODUCT REALIZATION Peer Evaluation Form (Major Design Project)						
This form is intended to serve as a guide in assessing and evaluating individual student performance during team-based activities. It is expected that each evaluator provide an <b>honest opinion</b> of the performance of <b>both themselves and their team mate</b> .						
All evaluators will remain anonymous, and all information is kept strictly confidential, with the exception of the documentation with required for the evaluation and accreditation of the KSU Mechanical Engineering program.						
<b>Evaluators :</b> Please rate this team member according to the following scale: 4 = strongly agree, 3 = agree, 2 = undecided, 1 = disagree, 0 = strongly disagree, NA = not applicable.						
	Team member was <i>available</i> for meetings	Team member put forth an acceptable <i>work effort</i>	Team member exhibited <i>problem solving abilities</i>	Team member was <i>enthusiastic</i> about this project	Team member exhibited appropriate <i>social skills</i>	comments about this team member's performance and/or contribution:
Team Members						

**Catalog Description:**

*1 hour/week lecture format.* (1-credits) Part 1 of a two-course senior design capstone project for mechanical engineering. Students will form teams, define design projects, and write a proposal. Also begin preparation for FE Exam.

**General Learning Outcomes:**

Upon the completion of this course, you should be able to:

1. An ability to communicate effectively by writing and submitting a design proposal.
2. An ability to function on multidisciplinary teams by selecting teams of 2-4 students based on diversity of their backgrounds and skills.
3. A recognition of the need for, and an ability to engage in life-long learning, by conducting a literature and/or patent search for their design project.

**Important Dates**

First Day of Class Spring 2019	Jan 7 <sup>th</sup> , 2019
End of Drop/Add	Jan 13, 2019
Holiday	Jan 21 <sup>st</sup> , 2019
Withdrawal Day without penalty	Feb 27 <sup>th</sup> , 2019
Spring Break Begins	Mar 30 <sup>th</sup>
Last Day of Classes	Apr 29 <sup>th</sup>
Final Exams	Apr 30 <sup>th</sup> – May 6 <sup>th</sup>
All Grades Due 5 PM	May 9 <sup>th</sup> , 2019

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**Attendance Policy:**

Students are expected to be in every class and on time. While daily class attendance may not be taken, students are responsible for material covered in class as well as all assignments even if they are absent. Excessive tardiness and unexcused absences (more than 5 classes) may result in a **lower grade** or even course failure if the instructor feels such lack of participation is detrimental to the student's progress in the course.

**Makeup Policy:**

Assignments are due at the BEGINNING of class on the due date. Late assignments may only be accepted with a penalty of 50% until the next class, after which no assignments will be accepted for grade. Once solutions are provided/posted, no assignments will be accepted. Of course in **unusual** situations, as determined by the instructor, late assignments may be accepted. **Exams/quizzes** may only be made up if arranged before the scheduled period, and ONLY in the case of an excused absence as defined by the university policy.

**Academic honesty**

The high quality of education at Kennesaw State University is reflected in the credits and degrees its students earn. ***All assignments that take place in and out of the classroom must be your own work and original for this course.*** The protection of these high standards is crucial since the validity and equity of the University's grades and degrees depend upon it. Any student found to have violated any KSU academic honesty regulation after a hearing before a university hearing panel or before the Vice President for Student Success and Enrollment Services (or his/her designee) shall be suspended for at least one semester, unless the student persuades the deciding body that the circumstances of his or her behavior substantially mitigate the gravity of the violation. These regulations are designed to assist students in (1) developing appropriate attitudes about, and (2) understanding and following the university's standards relating to academic honesty. The regulations protect students by helping them avoid committing infractions that may compromise the completion of their KSU degrees or damage their reputations.

***Student Conduct Pledge/Statement:*** *As a member of the Kennesaw State University community of scholars, I understand that my actions are not only a reflection on myself, but also a reflection on the University and the larger body of scholars of which it is a part. Acting unethically, no matter how minor the offense, will be detrimental to my academic progress and self-image. It will also adversely affect all students, faculty, staff, the reputation of this University, and the value of the degrees it awards. Whether on campus or online, I understand that it is not only my personal responsibility, but also a duty to the entire KSU community that I act in a manner consistent with the highest level of academic integrity. Therefore, I promise that as a member of the Kennesaw State University community, I will not participate in any form of academic misconduct.*

**Types of Academic Misconduct:**

1) **Cheating:** Receiving, attempting to receive, knowingly giving or attempting to give unauthorized assistance in the preparation of any work required to be submitted for credit (including examinations, laboratory reports, essays, themes, term papers, etc.) is considered cheating, as is engaging in any behavior that a professor prohibits as academic

misconduct in the syllabus or class discussion. Unless specifically authorized, using and/or having access to electronic devices during an examination, quiz, test or other assessment is automatically considered cheating, regardless of the student's reason for using/accessing the device;

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- 2) **Plagiarism:** Including direct quotations from other sources into work required to be submitted for credit without indicating them as such by quotation marks, block quotes or other appropriate formatting. Incorporating the work of someone (e.g. ideas, theories, data, figures, graphs, programs, electronic based information, illustrations, etc.) into a paper or project without due acknowledgement;
- 3) **Self-Plagiarism:** Submitting any work for credit which was not authored specifically and originally for the assignment in question without the prior permission of the professor receiving that assignment. Most commonly, this means submitting the same, or substantially the same, paper or other assignment for credit in more than one class;
- 4) **Misrepresentation and/or Falsification:** Knowingly providing false information in completing University forms or applications (including admissions forms, scholarship applications, time sheets, false or counterfeit transcripts, etc.) or in any work submitted for credit. This includes providing fabricated/altered documents to substantiate an excused absence (such as to meet attendance requirements or have the chance to make-up a missed exam). Signing in for another student or having another individual sign in on a student's behalf on an attendance sheet also constitutes a violation of this code section.
- 5) **Unauthorized Access to University Materials:** Taking, attempting to take, stealing or in any unauthorized manner otherwise procuring, gaining access to, altering or destroying any material pertaining to the conduct of a class (including tests, examinations, grade change forms, grade rolls, roll books, laboratory equipment, University grade records in written or computerized form, etc.).
- 6) **Malicious/Intentional Misuse of Computer Facilities/Services:** Maliciously or intentionally misusing university-controlled computer facilities and services. This includes violations of state and federal laws (e.g. copyright violations, unauthorized access to systems, alteration/damage/destruction, or attempted alteration/damage/destruction, use for profit, etc.) or a department's rules for computer usage (e.g. account violations, damage, or destruction of the system and/or its performance, unauthorized copying of electronic information, use of threatening or obscene language, etc.).
- 7) **Malicious Removal, Retention or Destruction of University Resource Materials:** Misplacing, taking, destroying any item or part of an item belonging to or in the protection of the University (or the attempt thereof) with the intention of bringing about an undue disadvantage in the academic pursuits of other Kennesaw State University students.

These examples of academic dishonesty shall not be construed to be comprehensive, and infractions will be dealt with on an individual basis according to university policies and procedures. It is the obligation of each student to assist in the enforcement of academic standards.

*See: The KSU Student Code of Conduct at KSU Codes of Conduct-2015.pdf*

**Enforcement:** This policy is strictly enforced. Please note, *I reserve the right to select any paper and/or assignment that are turned in for a grade for plagiarism review. Plagiarism review consists of running your paper/assignment through various search engines and databases at my disposal in order to check for "borrowed" or "bought" information. Students will be required to use TurnItIn.Com to have their papers reviewed for plagiarism.* If you are found in violation of academic dishonesty, then

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you will be subject to the enforcement policies and procedures, as outlined by the University and the Department.

**WEB ACCESSIBILITY**

Kennesaw State University follows the guidelines of the Universal Design for Learning standard of web accessibility. Faculty use Word, PDF, and HTML formats when communicating electronic information to students whenever possible and appropriate in light of the goals of the course. Faculty are trained to use Web Accessibility Evaluation tools, e.g., WAVE ([www.wave.webaim.org](http://www.wave.webaim.org)), and make adjustments as possible and appropriate in light of the goals of the course. For free resources available to students on web accessibility, please visit the Web Accessibility Resources page at the Distance Learning Center: <http://www.kennesaw.edu/dlc/facultyresources/index.php#>

**KSU SEXUAL MISCONDUCT POLICY**

Kennesaw State University adheres to KSU's policy prohibiting sexual misconduct both in and out of the classroom. Questions about this policy should be directed to the KSU Equal Employment Opportunity (EEO) and Title IX officer by telephone at (470) 578-2614. You may also visit the University's EEO website <http://www.kennesaw.edu/eo/index.html> for more information.

**COPYRIGHT LAW**

Kennesaw State University adheres to USG's policy to respect the right of copyright. Holders and comply with copyright laws as set forth in the United States Copyright act. For more information, see the following link to USG's policy: <http://www.usg.edu/copyright/>

**STUDENT RECORDS/FERPA**

Kennesaw State University adheres to the Family Educational Rights & Privacy Act of 1974 – FERPA. See the following link for more information:

[http://www.usg.edu/information\\_technology\\_handbook/section9/tech/9.5\\_privacy\\_and\\_security](http://www.usg.edu/information_technology_handbook/section9/tech/9.5_privacy_and_security)

**ELECTRONIC RECORDING AND SOCIAL MEDIA**

Electronic recording performed without the consent of the people being recorded chills the free exchange of ideas. Academic freedom, free inquiry, and freedom of expression should not be limited by the fear that one's brainstorming, polemic discourse, speculative inquiry, or any other kind of expressed curiosity made within the space of a university classroom will be made public without one's consent. This fear is unacceptable regardless of whether one is in an online, hybrid, or face-to-face classroom setting. Accordingly, no person shall make public any electronically recorded class discussion without the written permission of the instructor. This policy is not intended to discourage electronic recording in the classroom or the use of social media when such actions are performed with the written consent of the instructor, and others as appropriate. Note: Faculty accommodate all reasonable requests to electronically

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record a class discussion; these requests must be documented by the DisAbled Student Support Services available at: [http://www.kennesaw.edu/stu\\_dev/dsss/prospect.shtml](http://www.kennesaw.edu/stu_dev/dsss/prospect.shtml)

### **DISRUPTION OF CAMPUS LIFE STATEMENT**

It is the purpose of the institution to provide a campus environment, which encourages academic accomplishment, personal growth, and a spirit of understanding and cooperation. An important part of maintaining such an environment is the commitment to protect the health and safety of every member of the campus community. Belligerent, abusive, profane, threatening and/or inappropriate behavior on the part of students is a violation of the Kennesaw State University Student Conduct Regulations. Students who are found guilty of such misconduct may be subject to immediate dismissal from the institution. In addition, these violations of state law may also be subject to criminal action beyond the university disciplinary process.

### **COURSE ENROLLMENT POLICY**

*Students are solely responsible for managing their enrollment status in a class; nonattendance does not constitute a withdrawal.*

### **STUDENT SUPPORT RESOURCES**

The following resources and policies are found under this link:

<http://learnonline.kennesaw.edu/resources/index.php>

### **DISABLED STUDENT SUPPORT SERVICES**

**In compliance with applicable disability law, qualified students with a disability may be entitled to reasonable accommodation.** Any student with a documented disability (hidden or visible) needing academic adjustments, including classroom or test accommodations is requested to notify the instructor within the first two weeks of the course. **Verification from KSU disAbled Student Support Services is required. All discussions and documentation will remain confidential.**

Disabled Student Support Services  
James V. Carmichael Student Center Addition – 2<sup>nd</sup> Floor, Suite 267  
470.578.6443

[http://www.kennesaw.edu/stu\\_dev/dsss/prospect.shtml](http://www.kennesaw.edu/stu_dev/dsss/prospect.shtml)

Please visit the Student Disabilities Services website at [www.kennesaw.edu/stu\\_dev/sds](http://www.kennesaw.edu/stu_dev/sds) for more information

### **Student Rights and Responsibilities**

Students of Kennesaw State University are entitled to an environment that is conducive to learning and individual growth. To this end, students enrolling at Kennesaw State University assume a responsibility to abide by the policies and regulations expressed in this section. By doing so, students may fulfill their responsibilities and enjoy the exercise of their own rights while also respecting the rights of others.

All rights and responsibilities may be found in the University Catalog at [catalog.kennesaw.edu](http://catalog.kennesaw.edu).

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**Schedule**

<b>Week</b>	<b>Topic</b>
1	Course outline (Design phases overview)
2	Resume sharing, Team formation, Corporate sponsored projects
3	<b>Literature survey, Patent search</b>
4	<b>Initial presentation for the project selection</b>
5	Concept Generation
6	Quality Function Deployment (Constraints, Decision matrix, ..)
7	<b>Mid Term progress presentation</b>
8	Project Planning
9	Concept Evaluation; FE review and preparation guidelines
10	<b>Conceptual Design presentation &amp; Report</b>
11	<b>Conceptual Design presentation &amp; Report</b>
12	<i>Spring Break</i>
13	<b>Final Presentation, proposal and design notebook submission</b>
14	<b>Final Presentation, proposal and design notebook submission</b>
15	Last Day of Class