CE 001 STATICS
Fall Semester - 2017

Time:  CE 001-A: MWF 9:40 - 10:30 AM  Class Room: ROWELL 110
       CE 001-B: MWF 1:10 - 2:00 PM  Class Room: PERKIN 101
       CE 001-C: MWF 3:30 – 4:20 PM  Class Room: LAFAYETTE L207

Course Website: Blackboard

Instructor: Dr. Priyantha Wijesinghe
Office: VOTEY 113
Phone: (802) 656-3305
E-mail: pwijesin@uvm.edu
Office Hours: M & F 11 AM - noon, T & R 8:30 – 9:30 AM, W 4:30 - 6 PM or by appointment

Recitations / Help Sessions (for all sections)
Time: W 5:05 - 8:05 PM  Class Room: VOTEY 105

Teaching Assistants:
• Arash Kamali-Asl  Office: Perkins 203A  E-mail: akamalia@uvm.edu
  Office Hours: Thursdays 3:00-4:30 PM  Phone: 802-825-4949
• Yujie Li (Stefanie)  Office: Perkins 203A  E-mail: Yujie.Li@uvm.edu
  Office Hours: Tuesdays 2:30 – 4 PM  Phone: 802-777-8402

COURSE CATALOG DESCRIPTION:

CE 001 - Statics. Fundamentals of statics; composition and resolution of forces; the analysis of force systems in two and three dimensions; and centroids and moments of inertia.

COURSE OBJECTIVES:
The basic principles and application of rigid-body mechanics to the statics of particles are studied in this course. Two-dimensional (2D) and three-dimensional (3D) forces acting on rigid bodies, moments, vector operations, equilibrium of a particle and equilibrium of a rigid body in 2D and 3D and free body diagrams are studied. Structural analysis including simple trusses, frames, cables and introduction to shear and bending-moment diagrams are included. Frictional forces, wedges, screws, and the concept of center of gravity and centroid, moment of inertia and radius of gyration are also studied. It is expected that the students will develop critical thinking skills to successfully formulate solutions for the statics problems.

COURSE PREREQUISITES:
MATH 022, PHYS 031

TEXTBOOK:
REFERENCE BOOKS:


GRADING:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>In-class questions, Participation and Attendance</td>
<td>5%</td>
</tr>
<tr>
<td>Quizzes</td>
<td>15%</td>
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<tr>
<td>(both in-class written and web-based Connect Assignments will be assigned periodically)</td>
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<tr>
<td>Homework</td>
<td>15%</td>
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<tr>
<td>(both written and web-based Connect Assignments will be assigned periodically)</td>
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<tr>
<td>Midterm Exams</td>
<td>40%</td>
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<td>(two in-class exams, each counts 20%)</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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<tr>
<td>(in-class, comprehensive)</td>
<td></td>
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<tr>
<td>Total</td>
<td>100%</td>
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The minimum passing grade is 62%. Other grades will be assigned as shown below.

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<thead>
<tr>
<th>Letter Grade</th>
<th>Numerical Grade</th>
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<tr>
<td>A+</td>
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<tr>
<td>A</td>
<td>92-95</td>
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<tr>
<td>A-</td>
<td>89-92</td>
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<tr>
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<td>D-</td>
<td>62-65</td>
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<td>F</td>
<td>&lt;62</td>
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EXAM AND HOMEWORK POLICIES:

Exams are scheduled as follows:

- **Midterm Exam 1:** Wednesday, October 04, 2017 (during recitation)
- **Midterm Exam 2:** Wednesday, November 15, 2017 (during recitation)
- **Final Exam for Section A:** Monday, December 11, 2017 7:30 - 10:15 AM (PERKIN 101)
- **Final Exam for Section B:** Friday, December 15, 2017 1:30 - 4:15 PM (PERKIN 101)
- **Final Exam for Section C:** Thursday, December 14, 2017 1:30 - 4:15 PM (LAFAYETTE L207)
Make-up exams will be given at the discretion of the instructor. An appropriate, valid documentation of absence will be required for consideration of a make-up exam. It is strongly encouraged to obtain prior permission from the instructor. Examples of valid reasons are; injury or illness that is too severe or contagious for the student to attend, participation in a university authorized activity, death or major illness in a student’s immediate family, time conflicts with other courses, or important travel plans (made before the first day of class – August 28, 2017).

Homework assignments will be assigned weekly in class and will be posted in Blackboard. Part of the homework assignments will be assigned and evaluated using Connect (Connect HW) and the rest should be submitted in class (written HW).

Connect is an online assessment tool from Mc-Graw-Hill to accompany Plesha’s Engineering Mechanics: Statics. You will need the access code which is shrink-wrapped with the book in the bookstore. Please make sure you purchase Connect as this will be a required and graded component of the course. More details of Connect and purchasing options are posted in Bb under “Syllabus” tab.

Written HW should strictly follow the homework format which is posted in Blackboard (under “HW”) and will be collected at the beginning of class. Those who come late to the class must submit their assignments before taking a seat, or else will be considered as late. Only one late homework assignment per student will be accepted but, no make-up quizzes will be given without a valid reason (listed above).

CLASSROOM BEHAVIOR

The lectures should be treated in a professional manner. All cellular phones, pagers and laptop computers must be turned off during regular quizzes and exams. Students should refrain from all actions that disrupt the learning environment (e.g., making noise, talking incessantly while delivering a lecture, ostentatiously not paying attention, and leaving and reentering the classroom inappropriately etc.). Students who fail to follow the above instructions will receive a warning the first time and a reduction of one letter of their final grade the second time. Further such behavior will result in disciplinary action at the department and/or college level.

COURSE OUTLINE

1. Introduction
2. Vectors: Force Vectors and Position Vectors
3. Equilibrium of Particles
4. Moment of a Force and Equivalent Force Systems
5. Equilibrium of Bodies
6. Structural Analysis and Machines
7. Centroid and Distributed Force Systems
8. Internal Forces
9. Friction
10. Moment of Inertia
**Disabilities**
In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact SAS, the office of Student Accessibility Services on campus. SAS works with students and faculty in an interactive process to explore reasonable and appropriate accommodations, which are communicated in an accommodation letter to faculty. All students are strongly encouraged to meet with their faculty to discuss the accommodations they plan to use in each course. Contact SAS: A170 Living/Learning Center; 802-656-7753; access@uvm.edu; or www.uvm.edu/access.

**Academic Integrity**
Offences against the Code of Academic Integrity are deemed serious and insult the integrity of the entire academic community. Any suspected violations of the code are taken very seriously and will be forwarded to the Center for Student Ethics & Standards for further intervention. To read the Code of Academic Integrity and learn more about the Center for Student Ethics & Standards, visit their website at: https://www.uvm.edu/policies/student/acadintegrity.pdf

**Health and Wellbeing**
The Center for Health & Wellbeing (CHWB) offers a wide range of services to support your mind, body, and soul while you're at UVM. The Student Health Services staff of board certified physicians, physician assistants, nurse practitioners, nurses, and dietitians work with patients and collaborate with other CHWB providers to ensure personalized and timely care to UVM students. Counseling & Psychiatry Services (CAPS) offers short-term individual counseling, urgent needs counseling, group counseling, outreach and education, psychiatry, referrals, and consultation services. Please visit their website at: http://www.uvm.edu/~chwb/ to find out more.

At Living Well they believe that mental and physical health go hand in hand. They have a variety of programs that offer you the space to create a wellness practice that will support your goals and positive intentions. I highly recommend you to visit their LivingWell website at http://www.uvm.edu/~chwb/livingwell/ and checkout the meditation and yoga videos.

Extensive research has shown the benefits of meditation towards the learning process. http://www.huffingtonpost.com/2013/04/08/mindfulness-meditation-benefits-health_n_3016045.html