Syllabus – Spring 2017  
MATH/PHYS 3342: Mechanics II: Dynamics  
University of St. Thomas

Instructor  
Dr. Brett M. Werner  
Office  
Math House 218  
Office Hours  
Monday: 3 – 4:30 PM, Wednesday: 1 – 2: 30 PM & Tuesday, Thursday: 11 AM – 1 PM  
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Email  
wernerb@stthom.edu

Course Time & Location  
Monday, Wednesday 5:30 – 6:45 PM in Malloy 013

Overview  
Dynamics is the mechanics of bodies with a nonzero net force and/or moment acting on them, so that the body is not in equilibrium. We begin our study in the one-dimensional setting from the point of view of 1) kinematics; 2) force and acceleration; 3) work and energy; and 4) momentum and impulse. We then consider these same concepts with two-dimensional bodies.

Course Learning Objectives  
- Understand the kinematic equations that govern motion of particles (1-dimensional) and bodies (2-dimensional)  
- Use free-body diagrams to illustrate forces acting on a particle or body  
- Understand the relationship between the motion of a particle or body and the forces acting on it  
- Understand how work and energy relate to the motion of a particle or body  
- Understand how impulse and momentum relate to the motion of a particle or body

Textbook & Supplementary Materials  

Everyone should have a copy of the 14th edition of the textbook (physical or electronic), as almost all homework problems will be chosen from there. Additionally, it is in your best interest to read the textbook. I try to be as thorough as possible with my lectures, but there are always additional points you will pick up by reading the text. We plan to most of chapters 12-17 of the textbook.

You should also have a calculator. Any scientific calculator will suffice.

Grading Breakdown

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<thead>
<tr>
<th>Assignment</th>
<th>Percent of Final Grade</th>
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<tbody>
<tr>
<td>Homework</td>
<td>25%</td>
</tr>
<tr>
<td>Midterm Exam 1</td>
<td>25%</td>
</tr>
<tr>
<td>Midterm Exam 2</td>
<td>25%</td>
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<tr>
<td>Final Exam</td>
<td>25%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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Your final letter grade for the class will be based on the following scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>93 – 100</td>
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<tr>
<td>A-</td>
<td>90 – 93</td>
</tr>
<tr>
<td>B</td>
<td>83 – 87</td>
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<tr>
<td>B-</td>
<td>80 – 83</td>
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<td>C</td>
<td>73 – 77</td>
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<td>C-</td>
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<td>D</td>
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<td>D+</td>
<td>67 – 70</td>
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<td>F</td>
<td>&lt; 60</td>
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<tr>
<td>B+</td>
<td>87 – 90</td>
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<tr>
<td>C+</td>
<td>77 – 80</td>
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Homework
At the end of each week, I will post homework problems on Blackboard that you will need to submit. The homework assignments will typically be due the following Wednesday at the beginning of class. It is in your best interest to start looking at the problems immediately after they are posted. You WILL NOT be successful in this course if you wait until the night before a homework assignment is due to begin working on it. Thinking about the homework problems early will allow you more time to think, understand, and contemplate the more difficult problems and give you time to ask questions. Homework assignments will be accepted up to one class period past the due date with a 20% penalty.

Exams
There will be two midterm exams and a final exam. All exams will be done individually. No make-up exams will be given unless pre-arranged or in an emergency situation. The midterm exam dates will be announced at least one week in advance. The Final Exam will be comprehensive and is scheduled for Monday, May 8th from 6 – 8:30 PM.

Blackboard
Blackboard (BB) is the online learning environment used by UST. This is where you will go to find announcements, access course documents including the syllabus, lecture notes, etc. To access BB, go to https://blackboard.stthom.edu/. The login credentials for BB are your Celt login ID username and password.

Important Dates
January 25th: Last day to add courses
February 3rd: Last day to drop without academic penalty
March 13th – 17th: Spring Break: NO CLASSES
March 31: Last day to drop with a “W”
April 13th & 14th: Easter Break: NO CLASSES
May 5th: Last day of classes
May 8th: Final Exam (3 – 5:30 PM)

Academic Dishonesty
Any act of academic dishonesty, including but not limited to submitting work that is not your own or copying another student’s exam, will be taken very seriously. The minimum penalty for such an act is failure of that assignment. Repeat offenders are subject to expulsion from the university. For more information, please see the UST student handbook for university procedures in place for acts of academic dishonesty.

Students with Disabilities
Any student who feels he or she may need accommodations based on the impact of a disability should contact Counseling & Disability Services located on the 2nd floor of Crooker Hall to coordinate reasonable accommodations for the documented disability. The phone number for Counseling & Disability services is 713.525.2169. Once the accommodation documentation is obtained from Counseling & Disability Services, please speak with me to arrange the accommodations.