PS335 – Theoretical Mechanics I  
Washburn University  
Spring 2015

Instructor: Dr. Brian Thomas  
Office: Stoffer 210B
Office Hours: By appointment; please contact me in class, by phone or email.
Phone: 785-670-2144  
E-mail: brian.thomas@washburn.edu
Instructor’s website: http://www.washburn.edu/faculty/bthomas/

REQUIRED TEXT:
Classical Dynamics 5th edition, by Thornton and Marion
Recommended: Quantify! A Crash Course in Smart Thinking by Göran Grimvall (available at Mabee Library)

Access to a copy of Maple software is recommended. Free, open-source alternatives include Maxima (http://maxima.sourceforge.net/) and Octave (http://www.gnu.org/software/octave/)
Plotting may also be done using other software, including “gnuplot” (http://www.gnuplot.info/)

DESCRIPTION:
The purpose of this course is to give you an introduction to a more sophisticated and mathematical treatment of problems in classical dynamics.

REQUIREMENTS:
Attendance
Class attendance is strongly recommended; if you're not here you're bound to miss out on something.
If you need to miss class, try to let me know ahead of time so we can make sure you stay caught up.

Reading
You should read ahead in the text. I will let you know where we are going next and what topics we will cover.

Homework
Homework will be assigned regularly. You may collaborate on homework. The use of computers is encouraged for visualization, etc., but you should be conscious of learning the solution methods.

Please note:
Homework is due before 5:00 pm on the due date. I will allow a grace period up to 9:00 am the day following the due date. Except in the instance of major issues such as illness, homework will not receive full credit if turned in past the due date. However, homework may be turned in for half credit up to and no later than the due date of the exam covering the associated material. Homework will not be accepted any later than the due date of the exam covering the associated material. This policy is for your benefit, as homework is essential to understanding the material.

Exams
I will make every attempt to provide graded homework assignments from chapters covered in time for you to use in studying. Unless I announce otherwise, exams will be take-home.
Collaboration on take-home exams is NOT permitted; one instance of cheating will result in a
zero grade on that exam; a further violation will result in a failing grade for the course. There will be a comprehensive final exam.

GRADING:
Grades will be based on the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Final exam</td>
<td>20%</td>
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<tr>
<td>Midterm exams</td>
<td>50%</td>
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<tr>
<td>Homework</td>
<td>30%</td>
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GRADING SCALE:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>100%-90%</td>
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<tr>
<td>B</td>
<td>89%-80%</td>
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<tr>
<td>C</td>
<td>79%-70%</td>
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<tr>
<td>D</td>
<td>69%-60%</td>
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<tr>
<td>F</td>
<td>below 60%</td>
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SCHEDULE: (tentative – subject to change)

- Chapter 2 – 3, parts of chapter 4
- Exam
- Chapter 5, with parts of chapter 8
- Exam
- Chapter 6, 7
- Final Exam

Mission of the University:
Washburn University enriches the lives of students by providing opportunities for them to develop and to realize their intellectual, academic, and professional potential, leading to becoming productive and responsible citizens. We are committed to excellence in teaching, scholarly work, quality academic and professional programs, and high levels of faculty-student interaction. We develop and engage in relationships to enhance educational experiences and our community. Washburn University Board of Regents, 2010

Definition of a Credit Hour:
For every credit hour awarded for an undergraduate course, the student is typically expected to complete approximately one hour of classroom instruction, online interaction with course material, or direct faculty instruction and a minimum of two additional hours of student work each week for approximately 15 weeks for one semester or the equivalent amount of work over a different amount of time.

Notice of Non-Discrimination/Safe Educational Environment:
Washburn University prohibits discrimination on the basis of race, color, sex, religion, age, national origin, ancestry, disability, marital or parental status, sexual orientation/gender identity, genetic information, or other non-merit reasons, in University programs and activities, admissions, educational programs or activities, and employment, as required by applicable laws and regulations. The following person has been designated to handle inquiries regarding the non-discrimination policies: Dr. Pamela Foster, Equal Opportunity Director, Washburn University, 1700 SW College Ave, Topeka, Kansas 66621, 785.670.1509, eodirector@washburn.edu
Academic Misconduct Policy:
All students are expected to conduct themselves appropriately and ethically in their academic work. Inappropriate and unethical behavior includes (but is not limited to) giving or receiving unauthorized aid on examinations or in the preparation of papers or other assignments, or knowingly misrepresenting the source of academic work. Washburn University’s Academic Impropriety Policy describes academically unethical behavior in greater detail and explains the actions that may be taken when such behavior occurs. For guidelines regarding protection of copyright, consult http://www.washburn.edu/copyright. For a complete copy of the Academic Impropriety Policy, contact the office of the Vice President for Academic Affairs, Bradbury Thompson Alumni Center Suite 200, or go on-line to: http://www.washburn.edu/academic-impropriety.

Student Services Center:
The Student Service Center is the place where students can take care of a range of matters related to admissions, financial aid, student records/registration, and student accounts. The "one-stop" concept in Morgan Hall, room 152 incorporates the front office services of the Business Office, Financial Aid and the Registrar in one convenient location. Stop in and visit with a University Service Advisor for assistance or give us call us at (785) 670-2162. You can also email us at SSC@washburn.edu.

Student Health Services:
Student Health Services (SHS) provides support for students experiencing challenges with learning and adapting to university life. SHS offers urgent care for illness and injury; sports, school, and travel abroad physicals (including TB testing); well woman exams; STD and pregnancy testing; immunizations/vaccinations; and care of chronic illness. Services are provided by Board Certified Advanced Practice Registered Nurses (APRN) who collaborate with WU Student Counseling Services and physicians in the Topeka area. More information can be found at http://www.washburn.edu/health

WU Counseling Services
Licensed mental health professionals are available in the Counseling Services’ office for personal, academic, and mental health support. This is accomplished by providing a variety of counseling services as well as resources and referrals to students. More information can be found at http://www.washburn.edu/counseling

Disability Services:
The Student Services Office is responsible for assisting in arranging accommodations and for identifying resources on campus for persons with disabilities. Qualified students with disabilities must register with the office to be eligible for services. The office MUST have appropriate documentation on file in order to provide services. Accommodations may include in-class note takers, test readers and/or scribes, adaptive computer technology, brailled materials. Requests for accommodations should be submitted at least two months before services should begin; however, if you need an accommodation this semester, please contact the Student Services Office immediately.

Location: Student Services, Memorial Student Union/Mosiman Room (MOVED effective 1/6/2014)
Web: http://www.washburn.edu/student-services
Phone: 785-670-1629
Students may voluntarily identify themselves to the instructor for a referral to the Student Services Office.

**Center for Student Success:**
As a Washburn student, you may experience difficulty with issues such as studying, personal problems, time management, or choice of major, classes, or employment. The Center for Student Success (Office of Academic Advising, University Tutoring and Writing Center, First-Year Experience, and Testing and Assessment) is available to help students either directly through academic advising, mentoring, testing and developing learning strategies or by identifying the appropriate University resource. If you feel you need someone with whom to discuss an issue confidentially and free of charge, contact the center at 785-670-1942, advising@washburn.edu, or visit Mabee Library, Room 201.

**Withdrawal Policy:**
During fall and spring semesters, students may go online and withdraw from full semester courses through the second week of class with no recorded grade. From the third through the eleventh week a “W” is recorded for any dropped course. After the eleventh week, there are NO withdrawals, and a grade will be assigned for the course. These deadlines will be different for short-term, out-of-sequence, or summer courses. To view the deadline dates for your courses visit the “Last Day” Deadlines web page at: https://www2-prod.washburn.edu/self-service/coursedates.php. Depending on the timing of the request to withdraw from a course, students may be eligible for a full or partial refund. Information regarding tuition refunds is available at http://www.washburn.edu/current-students/business-office/tuition-refunds.html

Please note: tuition refund amounts and deadlines are changing effective Fall 2014. In addition, depending on the timing of the request to withdraw from a course, students may be responsible for repaying all or a portion of their financial aid. **Students who do not attend their courses and fail to officially withdraw themselves will receive a grade of “F” and may also be required to repay all or a portion of their financial aid based on their non-attendance.** For further information, contact the Financial Aid Office at 785.670.1151 or e-mail financialaid@washburn.edu.

**Attendance/Administrative Withdrawal:**
Although it is the student's responsibility to initiate course withdrawals, an instructor, after due notice to the student, may request withdrawal of the student from a course because of nonattendance through the same date as the last day a student may withdraw from a course. This would NOT absolve the student of financial responsibility for tuition/fees for the course in question. The inclusion of this information in the course syllabus is considered due notice.

**Official E-Mail Address:**
Your Washburn University e-mail address will be the official address used by the University for relaying important messages regarding academic and financial information and the University will consider this your official notification for important information. It may also be used by your instructors to provide specific course information. If you prefer to use an alternate e-mail address to receive official University notices you can set a forwarding address in the Outlook Web App by following the steps below.

**Outlook Web App: Set Forwarding Address**
1. Go to http://outlook.washburn.edu
2. Sign in
3. Click the Gear in the upper right
4. Choose Options
5. Select Forward your email from the list on the right
6. In the lower portion of the screen, enter the email address to which you want to forward all your email.
7. Click the start forwarding button

It is your responsibility to ensure that your official e-mail box does not exceed your message quota resulting in the inability of e-mail messages to be accepted into your mailbox.

Success Week:
Success Week for undergraduate students is designated as the five week days preceding the first day of scheduled final examinations each Fall and Spring semester. Success Week is intended to provide students ample opportunity to prepare for final examinations. For academic programs, the following guidelines apply:

A. Faculty are encouraged to utilize Success Week as a time for review of course material in preparation for the final examination. If an examination is to be given during Success Week, it must not be given in the last three days of Success Week unless approved by the Dean or Department Chair. Assignments worth no more than 10% of the final grade and covering no more than one-fourth of assigned reading material in the course may be given.

B. Major course assignments (extensive research papers, projects, etc.) should be due on or before the Friday prior to Success Week and should be assigned early in the semester. Any modifications to assignments should be made in a timely fashion to give students adequate time to complete the assignments.

C. If major course assignments must be given during Success Week, they should be due in the first three days of Success Week. Exceptions include class presentations by students and semester-long projects such as a project assignment in lieu of a final. Participation and attendance grades are acceptable.

The Success Week policy excludes make-up assignments, make-up tests, take-home final exams, and laboratory examinations. It also does not apply to classes meeting one day a week for more than one hour. All University laboratory classes are exempt from this policy.