PHY309
IntermediateClassicalMechanics
DillardUniversity-Spring2003

MeetingTimes:
STERN321   **M W F   4:00p – 4:50p**

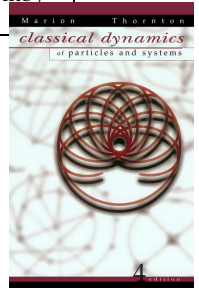|		
Instructor: **RobSalgado** Office: **Stern307A** Voice: **(504)-816-4510**	E-mail: **rsalgado@dillard.edu** instant-messengers:AOL,MSN,Yahoo: **dillardphysics**(do *not*emailhere)	Officehours: STERN307A **M W 11:00a-12:00p** **5:00p- 6:00p** **F 11:00a- 2:00p** LEARNINGCENTER **t.b.a.** ordropbymyofficeormakeanappointmentby email.

CatalogDescription: **PHY309IntermediateClassicalMechanics**
Application of fundamental laws of mechanics to particles and system of particles: newtonian, Hamiltonian, Lagrangian equations of motion;
central force motion, small oscillations, rigid body dynamics. Class meets three hours per week for lecture.
[Prerequisites: Physics 220, Mathematics203.] (Offered in alternate years.)

RequiredTextbook: **ClassicalDynamicsofParticlesandSystemsbyJer   ryB.MarionandStephenT.Thornton**
(Brooks/Cole: ISBN/ISSN:0-03-097302-3 (4thedition))
ElectronicMaterials:
Iwillmaintainawebpagethatliststheassignedp   roblemsandsolutions:(temporarilyat) **http://physics.syr.edu/~salgado/309/**

Homework:
Homeworkwillbeassignedbutwillnotbecollected   .Wewilldiscussthehomeworkinclass.Examandq   uizproblemsaregenerally
basedonhomeworkproblems,textbookproblems,and   textbookexamples.Mostofthelearningyoudoint   hisclassisdonebydoing
homeworkproblemsoutsideofclass!Youareencoura   gedtoworkonthehomeworkwithotherstudents.Ho   wever,besurethatyoucan
dotheproblems *byyourself* sinceyou'llbeworkingonquizzesandexams   *byyourself* .Ifyouneedhelpwithyourhomework,pleasevisit
me(withyourtextbookandyournotebookandwithp   roofthatyouhavetriedtheproblems)duringOffic   eHours…thesoonerthebetter.

ClassroomRules:
CometoclassONTIME.   (Tardiness will earn a penalty.)
AttendanceisREQUIRED,inaccordancewithUniversi   tyregulations(page17):
"Unexcused absences in any course shall be limited to the number of semester hours of credit given to the course."
… "A student incurring an excessive number of absences may be dropped from the roster." …"The course instructor will record as
two unexcused absences those absences that occur on the day immediately preceding or following an official holiday recess."
Notethatyourattendanceisrecordedontheoffici   almidtermandfinalgradesheets   .
Academicdishonestywillnotbetolerated,inaccor   dancewithUniversityregulations(page18).
CometoclassPREPARED,havingreadorwrittenany   assignments.
LimitalldiscussionstothePHYSICStopicunderdi   scussion.
TurnOFFallphones,pagers,radios,andotherdisr   uptivedevices.   (Disruptiveness will be earn a penalty.)
TreateachotherwithRESPECT.

Grades:
20%PROBLEMDAYPARTICIPATION   (FORMAT: student presentation of homework problems)
30%REGULAREXAMS (FORMAT: computational problems)
20%MIDTERMEXAM (FORMAT: like a regular exam but cumulative)
30%FINALEXAM (FORMAT: like two regular exams but cumulative)
A≥88,B ≥76,C ≥64,D ≥50,F<50.Thisclassisnotgradedonacurve.
Borderlinecases(betweentwolettergrades):Ifyo   urexamsshowanupwardtrend,yourgrademaybenu   dgedupwards.

Missedexams: There are **no** makeup exams. There are **no** exceptions.
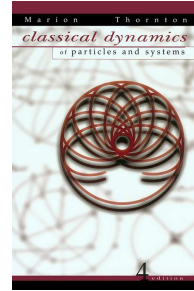Ifyouareabsentforanexam,youmustpresentan   officialwrittenexcusetome. **Onlyif** thatexcuseisvalid,your   **next**scheduledexam
willcarrytheweightofyourmissedexam.Otherwis   e,youwillgetnocreditforthemissedexam.

Datesyoushouldbeawareof:
MartinLutherKingJr.day:Monday,Jan20
MardiGrasbreak:Monday,Mar3-Wednesday,Mar5
SpringBreak:Monday,Mar24–Friday,Mar28
GoodFriday:Friday,Apr18
LastDayofClasses:Wednesday,Apr30
ExamPeriod:Friday,May1-ThursdayMay8   [the final is only given on the date and time assigned by the University --- do not make early travel plans]

Sequence of PHY 309 topics:

1. **Matrices, Vectors, and Vector Calculus**

2. **Newtonian Mechanics - Single Particle**

3. **Oscillations**

5. **Gravitation**

6. **Some Methods in the Calculus of Variations**

7. **Hamilton's Principle - Lagrangian and Hamilton Dynamics**

8. **Central-Force Motion**

9. **Dynamics of a System of Particles**

*11. **Dynamics of Rigid Bodies**

*12. **Coupled Oscillations**

(***time permitting**)

Here's a suggestion for some supplementary books:

Schaum's Outline of Lagrangian Dynamics
by Dare A. Wells
Publisher: McGraw-Hill Trade; (June 1, 1967)
ISBN: 0070692580
(List $15.95)

This may also be good…but it is out of print.

Schaum's Outline of Theoretical Mechanics
by Murray R. Spiegel
Publisher: McGraw-Hill Professional   (January 1968)
ISBN: 0070602328