

# PHYS 490

Danny Marfatia, Spring 2015

## Syllabus:

1. Rutherford scattering
2. Nuclear phenomenology, models and radiation
3. Elementary particles
4. Continuous and discrete symmetries
5. Neutral kaons and CP violation
6. Standard Model and beyond
7. ...

## Textbook:

Das and Ferbel, *Introduction to Nuclear and Particle Physics*

## Secondary textbook:

Henley and Garcia, *Subatomic Physics*

## Other useful books:

Perkins, *Introduction to High Energy Physics*

Griffiths, *Introduction to Elementary Particles*

Halzen and Martin, *Quarks and Leptons*

## Homework:

Problems will be assigned as material is covered. You may discuss the homework with your classmates, but must write up your solutions independently. On the due date, you will present your solutions in class. Credit will be based on your presentation and written solutions (which I will scan but not correct in detail). Late homework will not receive credit.

## Exams:

There will be 3 midterms and a final. You may use your hand-written notes during these exams.

## Project:

Towards the end of the semester, you will submit a term paper and make a presentation on a mutually agreed upon topic.

## Grading:

The final letter grade will be based on

- (a) homework: 10%
- (b) 3 midterms: 15% each
- (c) project: 15%
- (d) final: 30%

**Office hours:**

Drop by my office, 439 Watanabe Hall. An appointment by e-mail ([dmarf8@hawaii.edu](mailto:dmarf8@hawaii.edu)) or by phone (956-2969) is preferable.

Electronic devices like phones, laptops and tablets may not be used in class.