



University of Oregon
Department of Human Physiology

Course Syllabus

HPHY 410/510
Gait Analysis
Fall 2004

Meets: Room 303 Gerlinger Hall; UH 8:30 – 9:50 AM

Instructor: Dr. Li-Shan Chou

Office: 340 Gerlinger Hall

Office Hours: UH 10:00 – 12:00AM or by appointment

Laboratory: Motion Analysis Lab, Room B52 Gerlinger Annex

Phone: 6-3391

E-Mail: chou@uoregon.edu

Text: 1. Perry, J., Gait Analysis: Normal and Pathological Function.
SLACK Incorporated, 1992.

2. Materials distributed in class

Prerequisites: EMS 381 or equivalent, Fundamental Physics & Linear
Algebra

Website URL: <http://blackboard.uoregon.edu>

Course Description: Gait analysis is the systematic study of human walking. It provides the potential to determine those impairments and functional limitations that probably contribute to the waking disability. This course attempts to provide students a systematic introduction on this subject, including fundamental terminology, technique, and data interpretation used in gait analysis.

Course Objectives: By the completion of this course, students should:

1. Possess a working knowledge of equipment and techniques used in gait analysis.
2. Understand fundamental aspects of three-dimensional joint kinematics & kinetics of the lower extremities during normal walking.
3. Be aware of literature sources related to the field of gait analysis.

Course Readings: In addition to the assigned textbook, you are responsible for the assigned readings from the course.

Attendance at Lectures: You are not absolutely required to attend the lectures, however, you will be responsible for all information, lecture content, and schedule changes presented during lectures.

Group Laboratory Project: Purposes of this laboratory project are to familiarize you with procedures needed for performing a gait analysis and data interpretation. More details will be discussed in the class.

Grading Criteria: There will be one midterm exam and a comprehensive final exam. The exams, assignments, and project report/presentation will contribute to your final grade in the following manner. The following grading system will be used based on the combined scores in each of the assessments above.

Assignments/Project	30%	A	≥90%
Midterm	30%	B	80 - 89%
Final (comprehensive)	40%	C	70 - 79%
		D	<70%

Course Outline

Week 1: Sep. 27 - Oct. 1

- Course Overview
- Fundamentals of Gait Analysis (Chapter 1)

Week 2: Oct. 4 - 8

- Fundamentals of Gait Analysis (Chapters 2-3)
- Gait Analysis: Considerations and Terminology

Week 3: Oct. 11 - 15

- Motion Analysis Systems (Chapter 17)
- Ground Reaction Forces (Chapter 19)

Week 4: Oct. 18 -22

- Introduction to EMG (Chapter 18)

Week 5: Oct. 25 - 29

- Motion Analysis Laboratory Demo/Practice

Week 6: Nov. 1 - 5

- **Nov. 2nd - Midterm Exam**
- Normal Gait: Ankle & Foot Complex (Chapter 4)

Week 7: Nov. 8 -12

- Normal Gait: Knee Joint (Chapter 5)
- Normal Gait: Hip Joint (Chapter 6)

Week 8: Nov. 15 - 19

- Normal Gait: Control of the whole body center of mass (Chapter 9)
- Discussion on examples of pathological gait I

Week 9: Nov. 22-26

- Thanksgiving holiday: Nov. 25th
- Discussion on examples of pathological gait II

Week 10: Nov. 29 - Dec. 3

- Laboratory project oral presentations
- Final Review

FINAL EXAM
Tuesday, December 7th at 8:00 AM
303 Gerlinger Hall

Note: This schedule may be modified.