

#### COURSE DESCRIPTION

This course explores the basic principles of physics as they apply to the normal functioning of the human body. It will examine each of the major body systems and demonstrate how specific laws of physics can be used to explain aspects of anatomy, physiology, biochemistry, pathology and pharmacology. It will also examine the areas where theories of physics overlap with the philosophies of Oriental Medicine.

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#### LEARNING OBJECTIVES

- Learn the major principle of physics and their applications to the human body.
  - Know the principles of thermal regulation in the human body.
  - Understand the basic laws of liquids, gasses, pressure and volume, and their role in the respiratory and cardiovascular systems.
  - Learn the fundamentals of electricity and magnetism, and their role in cell potentials, nerve conduction and heart rhythms. Understand the basic principles of electro acupuncture.
  - Understand the basics of waves, light and sound. Know their role in vision and hearing.
  - Understand how basic principles of Modern/Quantum Physics play a role in mind-body medicine, Energy Medicine, and Oriental Medicine theory.
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#### COURSE PREREQUISITIES

None

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#### REQUIRED TEXTS

Dr Thornton's Lecture Notes on class website, free download, join the group to access notes: <https://groups.yahoo.com/neo/groups/AcuPhysics/info> (case sensitive)

Or, send me an email request and I will send you an invitation to the class website

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#### RECOMMENDED TEXTS

The Tao of Physics, by Fritjof Capra  
The Dancing Wu Li Master, by Gary Zukav  
The Elegant Universe, by Brian Greene  
The Spark in the Machine, by Daniel Keown

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#### COURSE REQUIREMENTS

Midterm Exam: 50%

Final Exam: 50%

A minimum score of 70% in the Midterm Exam and 70% in the Final Exam is required to pass the exam and the course.

GRADING SCALE: 100-90% A, 89-80% B, 79-70% C, 69% and below F

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#### SPECIAL NOTES

**Professionalism and Full and Prompt Attendance:** To pass any course (separate from academic performance) all students must meet requirements for professionalism in coursework. Professionalism includes full and prompt attendance: Students who miss more than 2 class meetings in a 10-week course will earn an F in that course.

Additionally, students who arrive more than 15 minutes to class or leave class before it ends will be marked tardy. Two tardies equal one absence. NOTE: Students who leave and return to class late from a break or leave during the class (especially if this is repeated) or who disrupt the class in other ways may be referred to the Academic Dean for professionalism.

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CLASS ONE (The syllabus is subject to change at the discretion of the instructor.)

Introduction: history and development of physics

OM & Physics

Laws of Motion

Newton's Universal Law of Gravitation

Thermodynamics

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CLASS TWO

Biological Thermodynamics

Transducers

Heat Therapy in Medicine

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CLASS THREE

Electricity

Ohm's Law

DC & AC Current

Electro Acupuncture

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CLASS FOUR

Magnetism

Biomagnetism

Electromagnetic Fields & Health

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CLASS FIVE

Midterm Exam

Heat

Moxibustion

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CLASS SIX

Fluids

Waves

Schumann Resonances

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CLASS SEVEN

Diffusion & Osmosis

Cupping

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CLASS EIGHT

Theory of Relativity

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CLASS NINE

Quantum Mechanics  
The Physics of OM

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CLASS TEN  
Final Exam

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CLASS ELEVEN  
Final Exam

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REFERENCE MATERIAL

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FACULTY INFO

Thornton, William  
Please check with instructor during class to get updated contact info.

drwthornton@hotmail.com