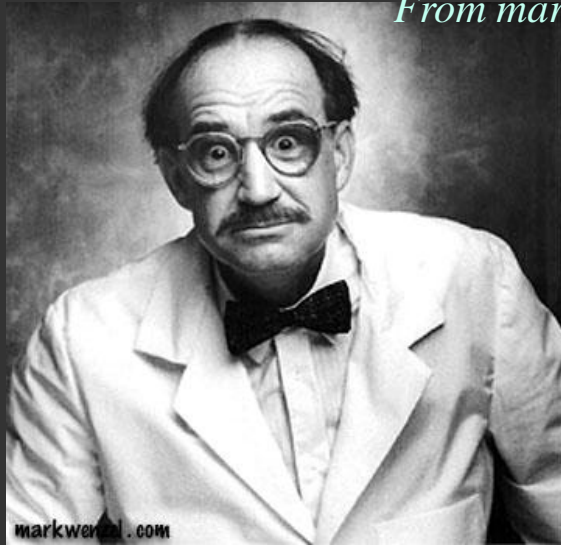


# Welcome to Physics 102

This class is a survey of our universe as seen by modern science and an exploration of concepts of a multiple universe reality. Physics 102 is designed for non-science majors. The course is conceptual and the use of mathematics will be limited.

- motion
  - Work
  - Energy
  - Gravitation
  - Conservation of momentum and energy
  - Constant acceleration motion
  - Rotational motion
  - Waves
  - light
  - electricity and magnetism
  - nuclear forces
  - Standard Model of particle physics
  - The Big Bang
  - Dark matter
  - stellar evolution
  - Special Theory of Relativity
  - General Theory of Relativity
  - Quarks, leptons, gluons, baryons, mesons, etc.
  - cosmic microwave background
  - quantum mechanics
  - Heisenberg's Uncertainty Principle
  - radiation
  - nuclear bombs
  - **at least 12 different multiple universe concepts**
- No previous physics instruction is assumed.**

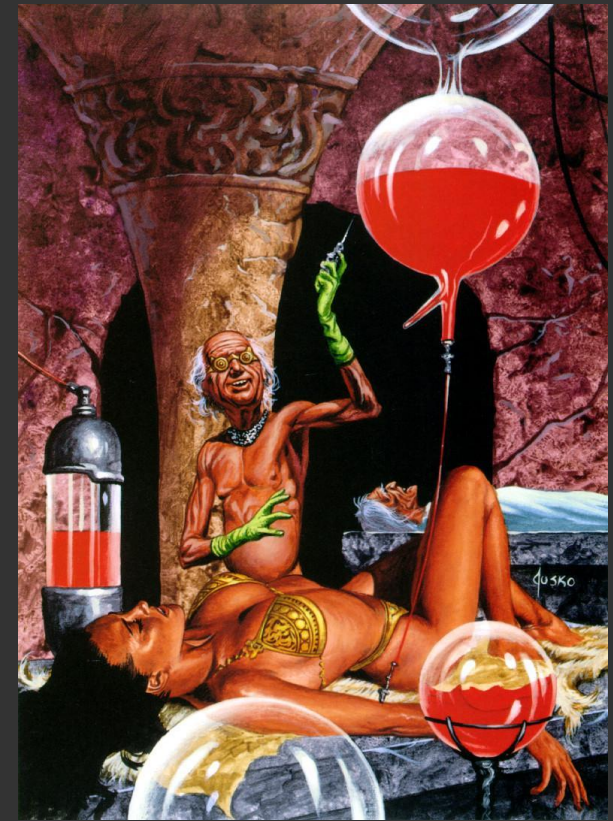
*From markwenzel.com*



## The nature of science



*From scientifica.eu*

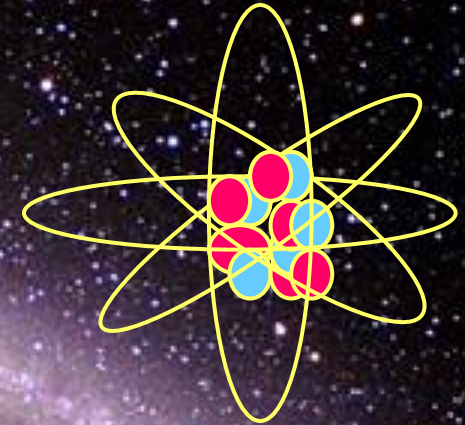


*From theduogroup.com*

*From www.robortocampus.com*



**Confronting Human bias**



**The intimate relationship  
between the very big and the  
very small**



*J. Baum/SPL, from nature .com*

**Concepts of the a multiple  
universe reality**

## Evaluation:

Scheme	Exam 1	Exam 2	Final exam	Reports	Prob. sets	Recitation
1	---	22%	30%	20%	14%	14%
2	22%	---	30%	20%	14%	14%
3	16%	16%	20%	20%	14%	14%

Each scheme calculated, best average sets  
your place on the numerical curve

I place grade boundaries on numerical curve

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**[http://web.pas.rochester.edu/~manly/class/P102\\_2009F/](http://web.pas.rochester.edu/~manly/class/P102_2009F/)**

**Name**

**email address you use for university business**

**Year: Fr/So/Jr/Sr?**

**Did you receive the email I sent yesterday from BlackBoard? Yes/No/did not check email since last night**

**Major/main career interest**

**Why you are in this course**