

STUDY GUIDES

SPH 313: COMPUTATIONAL PHYSICS

COURSE INSTRUCTOR - DR. NYONGESA F. W.,
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CORSE OBJECTIVES

At the end of this course, the learner should be able to:

1. Develop skills in the various computational platforms used in physics.
 2. Implement numerical algorithms to solve problems in physics particularly differential equations and integrals.
 3. Apply computational techniques to seek numerical solutions for nonlinear problems in classical mechanics, Electricity and Magnetism, Quantum mechanics and Statistical Physics.
- NB. Course is practical oriented where students are expected to *learn by doing*. Significant fraction of the course will be on programming physical problems

PRELIQUISITES

- Knowledge of computing shall be assume (VBasic, C++/Java)

COURSE EVALUATION

- CATS (Tests, Tutorial and Project) = 30%
- Exam 70%

PROJECTS

- Project report should be submitted at the end of the course consisting of
 - The problem
 - Algorithm
 - Results & discussions
 - The computer programs should be attached.
- A 10 min oral presentation will be held for the assessment

COURSE ETHICS

1. Attend at least 2/3 of the lectures as required by the regulations
2. Use of CELL PHONES, IPODs during lectures is not allowed