DEPARTMENT OF PHYSICS AND ASTRONOMY

PHYC 681 Resources and Methodologies of Physics Research

Course Description

Resources and Methodology of Physics Research. Periodical resource material in physics; methodology of literature research. This course may be used to satisfy requirements of the graduate research methodology plan for a master's degree. (3 credit hours)

Course Objectives

Identify appropriate key words to characterize the research project to focus searches for related material and provide others with information about your work.

Conduct a significant search of the literature for information related to the research topic to avoid duplication and to improve the quality of the final product.

Select appropriate journals for publication and become familiar with their guidelines for manuscripts and review published papers with these guidelines in mind.

Develop effective strategies for data collection, data analysis or computations.

Construct a detailed outline of the research project and select equations, tables and figures to efficiently communicate your data, procedures and findings.

Course Rationale

The transition from advanced lab reports and term papers to a research paper or thesis is accompanied by increased expectations of originality and awareness of the works of others. One wants not to repeat previous work and to produce the most effective work possible. This course emphasizes either basic or applied research skills, or both. This course will have research as its primary focus and will be taught by persons with special research competencies and interests.

Course Content, Format, and Bibliography

Content

Course content will include preparation of a search study, report, and/or paper.

Format

The format of this course is independent study involving one mentor and one student or a very small group of students.

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Bibliography

Reviews:

Annual Reviews of (Astronomy and Astrophysics, Biophysics, Earth and Planetary Science, Nuclear and Particle Science), http://www.annualreviews.org/

On-line Resources:

NASA ADS, http://adswww.harvard.edu

On-line Journals, https://liblink.bsu.edu/cgi-bin/login.pl