UNIVERSITY COLLEGE OF THE FRASER VALLEY

COURSE INFORMATION

DISCIPLINE/DEPARTMENT: Physics

IMPLEMENTATION DATE: 1995

Revised:

Physics 423

General Relativity

3

SUBJECT/NUMBER OF COURSE

DESCRIPTIVE TITLE

UCFV CREDITS

CALENDAR DESCRIPTION: General Relativity is Einstein’s theory of gravitation and this course emphasizes the physical aspect of the theory. Topics include curved manifolds, Einstein’s field equations, gravitational radiation, spherical stars, black holes and cosmology.

RATIONALE:

COURSE PREREQUISITES: Physics 252 (XX Century Physics), Physics 325 (Fluids)

COURSE COREQUISITES:

HOURS PER TERM

FOR EACH

STUDENT

Lecture

60 hrs

Student Directed

Laboratory

hrs

Learning

Seminar

hrs

Other - specify:

Field Experience

hrs

TOTAL

60 HRS

MAXIMUM ENROLMENT: 35

Is transfer credit requested? ☐ Yes ☒ No

AUTHORIZATION SIGNATURES:

Course Designer(s): R.W.M. Woodside, Ph.D.

Chairperson: H. Speer, Ph.D

Curriculum Committee

Department Head: R.W.M. Woodside, Ph.D.

Dean:

PAC: Approval in Principle (Date)

PAC: Final Approval: (Date)
SYNONYMOUS COURSES:

(a) replaces 

course #)

(b) cannot take ________________ for further credit

(course #)

SUPPLIES/MATERIALS:

N/A

TEXTBOOKS, REFERENCES, MATERIALS  (List reading resources elsewhere)

A first course in General Relativity; Schutz, BF, C.U.P.; 1990
Gravitation; Misner C.W, Thorne, K.S. and Wheeler J.A.; Freeman; 1973
Relativity and Cosmology; Robertson, H.P. and Noonan, T.N.; Saunders 1968

OBJECTIVES:

To introduce the student to the physics of curved space-time and Einstein’s theory of gravitation.

METHODS:

The course will be taught using lectures, demonstrations and computer simulations. Problems will be assigned and marked on a regular basis.

STUDENT EVALUATION PROCEDURE:

Assignments  25%
Midterm Examination  30%
Final Exam  45%
100%
### COURSE CONTENT

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