Credit Level Restriction: Graduate credit only.
Registration Restriction(s): Minimum student level – graduate.

PHYS  503  Physics Colloquium (1)
SEC.   002  CRN  24002
TEXT: None
TIME:  2nd & 4th Thursday  3:30 – 5:00  H-111
PROF:  Dr. Lloyd Davis

Lectures and discussion on current research topics. Continuous registration required for current graduate students.
Grading Restriction: Satisfactory/No Credit grading only.
Repeatability: May be repeated. Maximum 6 hours.

PHYS  541  Electromagnetic Theory (3)
SEC.   002  CRN  25561
TEXT: TBD
TIME:  Monday and Thursday  10:45 – 12:00  E-113
PROF:  Dr. Horace Crater

Review of electrostatics, magnetostatics, and quasi-static problems; Maxwell’s field equations and their solutions in dielectric and conducting media; electrodynamics and relativity, retarded potentials and gauge transformations, radiation produced by accelerating charges.
(DE) Prerequisite(s): 571.

PHYS  571  Mathematical Methods in Physics I (3)
SEC.   001  CRN  26548  (Same as Math 517 001 CRN 26536)
Mathematical Methods in the Physical Sciences; Wiley 2005; 3rd Edition; ISBN 13: 978-0471198260; Boas. These two books will serve as the primary text for this course. Other books will be used as well, e.g., Mathematical Physics with Partial Differential Equations by J.R. Kirkwood (Elsevier, 2013)
TIME:  Monday & Thursday  12:30 – 1:45  E-111
PROF:  Dr. Christian Parigger

Linear vector spaces, matrices, tensors, curvilinear coordinates, functions of a complex variable, partial differential equations and boundary value problems, Green’s functions, integral transforms, integral equations, spherical harmonics, Bessel functions, calculus of variations.
Cross-listed: (Same as Mathematics 517.)
Recommended Background: Advanced calculus and differential equations.
Comment: This course can be used for the Interdisciplinary Graduate Minor in Computational Science (see http://igmcs.utk.edu)

PHYS  599  Seminars (1)
SEC.   007  CRN  24020
TEXT: None
TIME:  2nd & 4th Thursday  3:30 – 5:00  H-111
PROF:  Dr. Lloyd Davis