COURSE TITLE: Supervised Research in Physics  COURSE NUMBER: PHY 4905

COURSE DESCRIPTION (with prerequisites):
This course is designed to allow students to participate in a supervised study or research participation in a specific science-related area in physics. Students must have instructor approval of the topic before enrolling in the course. This course is only open to students who are enrolled in the science education program or who are trying to meet teacher certificate requirements. Prerequisites: PHY 1053/54 with the corresponding laboratories. 1-3 semester hours credit.

NAME(S) OF INSTRUCTORS:
Dr. Jeff Bodart

EFFECTIVE ACADEMIC YEAR:
Not currently offered

REQUIRED TEXTBOOKS AND INSTRUCTIONAL SUPPLIES:
No required text book.

GRADING POLICY:
The standing of a student in each course is expressed by one of the following letters and corresponding grading system:
A – 90 – 100
B – 80 – 89
C – 70 – 79
D – 60 – 69
F – 59 or less
The Chipola Catalog provides policies and procedures regarding the grading system. A student's Grade Point Average is derived from the grading system/quality point scale.

ATTENDANCE AND WITHDRAWAL POLICIES:
Chipola College expects regular attendance of all students. Students who are absent from classes for any reason other than official college activities must satisfy the instructor concerned that the absence was due to illness or other clearly unavoidable reasons. Otherwise, the student may suffer grade loss at the discretion of the instructor. Chipola policy allows each instructor to specify in the Instructor First Day Handout whether or not an absence is excusable and what affect the absence or tardy may have on the grade.
A student is allowed to repeat a course a maximum of three (3) times. **On the third attempt a student** (1) must bear the full cost of instruction (unless waived by Student Services), (2) cannot withdraw, and (3) must receive a grade.

**MAKE-UP POLICY:**
Chipola allows each instructor to specify in the Instructor First Day Handout the makeup policy.

**ACADEMIC HONOR CODE POLICY:**
Students are expected to uphold the Academic Honor Code. Chipola College’s Honor Code is based on the premise that each student has the responsibility to (1) uphold the highest standards of academic honesty in his/her own work; (2) refuse to tolerate academic dishonesty in the college community; and (3) foster a high sense of honor and social responsibility on the part of students. Further information regarding the Academic Honor Code may be found in the Chipola Catalog, Student Governance section.

**STUDENTS WITH DISABILITIES POLICY:**
Chipola College is committed to making all programs and facilities accessible to anyone with a disability. Chipola’s goal is for students to obtain maximum benefit from their educational experience and to effectively transition into the college environment. Students with disabilities are requested to voluntarily contact the Office of Students with Disabilities to complete the intake process and determine their eligibility for reasonable accommodations.

**LIBRARY AND ON-LINE REFERENCE MATERIALS:**
The library is a comprehensive learning resource center providing information in print, electronic, and multimedia format to support the educational objectives of the College. On-line catalogs, e-books and electronic databases can be accessed by using the **LINCCWeb** icon on the Chipola Library website at [www.chipola.edu/library](http://www.chipola.edu/library). If you have questions about database usage consult the “How to Use the Chipola Databases” on the Library website or call the Library at 850/718-2274 during regular hours. Library hours are posted each semester at the building entrance and on the Library website. See your Instructor First Day Handout for individual instructor recommendations and resources.

**TECHNOLOGY RESOURCES:**
The **Information Technology Center**, located in the library, is equipped with computer workstations. Lab hours are posted each semester at the building entrance and on the Library website. The **ACE Lab**, located in Building L, is available for tutoring and is equipped with computer workstations. Lab hours are posted each semester at the room entrance. The college’s learning management system is **Desire 2 Learn** (d2l). Classes become available on d2l on the first day of the semester. It is the student’s responsibility to log onto the d2l system the first day of class to establish the first day of attendance and to check announcements. For further information, contact your instructor or the Director of Online Learning.
ELECTRONIC DEVICE USAGE:
All electronic devices such as cell phones, beepers, pagers, and related devices are to be silenced prior to entering classrooms and/or laboratories to avoid disruption. Should it become necessary for a student to leave his/her “device” on to send or receive an emergency call and/or text message, the student must inform the instructor prior to class. If the student finds it necessary to send and/or receive an emergency call and/or text message during class/lab time, he/she is instructed to take all books and belongings and step outside the classroom to deal with the situation. To minimize classroom disruption and the distraction to classmates, the student will not be permitted to reenter the classroom during that class period. Any time a test is being administered, all such devices must be turned off and put away. If a device is seen or heard during an exam, a score of zero will be given for that exam. Initial and repeated infractions may result in disciplinary action.

DISCIPLINE SPECIFIC COMPETENCIES / LEARNING OUTCOMES:

PHY 4905 is not a General Education core course.

<table>
<thead>
<tr>
<th>STUDENT LEARNING OUTCOMES FOR PHY 4905</th>
<th>NGSSS/ NSES Standards</th>
<th>FEAPs (Discipline Outcomes)</th>
<th>FL Competencies and Skills:</th>
<th>Assessment Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Science 6-12</td>
<td>Professional Ed.</td>
</tr>
<tr>
<td>Research special physics topics, make conjectures, and arrive to conclusions under the instructor’s supervision.</td>
<td>Varies with topic selected</td>
<td>N/A</td>
<td>Varies with topic selected</td>
<td>N/A</td>
</tr>
<tr>
<td>Conduct a presentation on the results obtained from the research topic.</td>
<td>Varies with topic selected</td>
<td>N/A</td>
<td>Varies with topic selected</td>
<td>N/A</td>
</tr>
<tr>
<td>Understand the relevance of reviewing current papers germane to the topics selected for discussion.</td>
<td>Varies with topic selected</td>
<td>N/A</td>
<td>Varies with topic selected</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Assessment Codes**

T = Tests  
Pre/Post = Pre- and Post-Tests  
OT = Objective Tests  
UT = Unit Tests  
Q = Quizzes  
F = Final Examination  
CF = Cumulative Final  
EX = Departmental Exam  
SE = Nat’l or State Standardized Exam  
RPT = Report/Presentation  
SP = Skills Performance  
SD = Skills Demonstration  
W = Writing Assignments  
E = Essays  
DE = Documented Essays  
RP = Research papers  
J = Jury  
R = Recital  
Proj. = Projects  
Exp. = Experiments  
Cap. Proj. = Capstone Project  
Cap. Course = Capstone Course  
Prac. = Practicum  
Intern. = Internship  
H = Homework  
PS = Problem Solving  
DB = Discussion Board  
BO = Behavioral Observation  
Clin. = Clinicals  
CS = Case Study  
CP = Case Plan  
Port. = Portfolio  
Obs. = Teacher Observation  
Sk. Check = Skills Check-off  
Curriculum Frameworks  
JP = Judged  
Performance/Exhibition

PHY 4905

3
MEANS OF ACCOMPLISHING STUDENT LEARNING OUTCOMES:
Directed individual study. The instructor will be available during office hours for individual assistance.

ASSIGNMENT AND/OR COURSE OUTLINE
See your Instructor First Day Handout for individual instructor assignment schedule.