

PH 502 Instructional Physical Science¹ Course Syllabus

Pre-requisites: Approval of instructor², enrollment in a teacher certification program.

Instructor: Thomas Nordlund

Location and materials: same as PHS 101 course

The general goals of the PH 502 Physical Science course are that the student (i) learn the course content of PHS 101, and (ii) gain experience in designing/improving and/or teaching such a course. These two goals reinforce each other. The student will be working with the instructor of Physical Science 101 and should gain that instructor's approval before signing up for PH 502. As the course is designed for students enrolled in a UAB School of Education (SoE) teacher certification program, the student should also have gained the approval of the appropriate faculty mentor from the SoE. At present, students should contact Lee Meadows (EB 111, 934-8371, lmeadows@uab.edu). This SoE faculty should also agree to read and approve the student's written course plan and assign a Pass/No-Pass grade recommendation. See below.

Expectations for PH 502.

1. Attend all PHS 101 lecture/labs.
2. Must take final exam (or equivalent) of PHS 101 course.
3. The student must participate in the teaching of the PHS 101 course, e.g., by assisting the PHS 101 instructor in grading of PHS 101 assignments/quizzes, by preparing and delivering lectures (if appropriate), etc. If the student does not assist in PHS 101 grading, a sufficient number of PHS 101 assignments should be done to guarantee mastery of the subject area. (See Grading below.) The average time commitment expected from the student in this section should be about 2-3 hrs/wk. The purpose of the teaching participation is not to train the student to teach, but rather to enhance and provide reliable evidence of the student's understanding of course content. (This is a Physics, not an education, course.)
4. Using content from the PHS 101 course, prepare a detailed subject-module plan for an appropriate Physical Science course at the high school level. The plan should be of a format appropriate for submission to an area high-school principal (or other official) as a teaching plan.³ This written plan will take the place of the PHS 101 midterm, term paper or other comparably-valued portion of the PHS course grade. See below for more details.
5. Meetings: Student must meet regularly with PHS 101 instructor to discuss upcoming work; seven ~biweekly meetings with PH 502 instructor to report on progress, problems, etc.; meetings with SoE mentor, scheduled as needed, minimum two meetings; meeting with local school principal or science department chair, for discussion of course plans, one meeting expected.

Schedule.

End of 1st week: Completed PH 502 Instructional Physical Science Planning Sign-Off Form.

End of 2nd week: Submit PHS 101 Teaching Participation Plan to PH 502 and PHS 101 instructors.

End of 3rd week: Meet with SoE mentor and with area high school principal/science department chair concerning requirements for a written course plan.

End of 6th week: Submit course plan summary and outline (~ 2 pp) to PH 502 instructor and to SoE mentor.

End of 10th week: Submit first draft of Physical Science course plan to PH 502 and PHS 101 instructors, and to SoE mentor.

End of 16th week (Dec. 3): Submit completed Physical Science course plan to PH 502 instructor.

¹ Listed Spring, 2005, as "Modern Physics for Teachers II" (PH 502).

² Including both PH 502 and the appropriate PHS 101 course instructors.

³ Students should contact and visit an area high school to learn what the expectations of that school are. These contacts should be referenced in the student's teaching plan.

Basis for Grading.

The PH 502 instructor will assign the grade for PH 502. The PHS 101 instructor will provide a description and evaluation of the student's participation in PHS 101 and 11X, with a "Pass"¹ evaluation of the course plan. The School of Education mentor must also "Pass" the student's Physical Science course plan.

Area	Points	Comments
Lecture attendance	5	Prepare calendar of attendance, to be initialed.
PHS 101 assignments or quizzes	30	Relative weighting to be recommended by PHS 101 instructor.
PHS 101 grading, delivery of lectures, or other		
PHS 101 exam score	25	Normally a final exam, or equivalent
Prepared course plan	30	Evaluation done by PH 502 instructor, using written advice from PHS 101 instructor, SoE mentor, and local school official. ²
Meetings with mentors, faculty, etc.	10	Prepare a calendar of meetings held with PH 502 and PHS 101 instructors, with local school official, and with SoE mentor. Meetings entries should be signed by that person. Credit for meetings: PH502 instructor: 4 pts for "adequate" PHS 101: 6 pts for "adequate" SoE mentor: required to pass. Local school: required to pass.
Total	100 pts	

More Details of Assignment: Prepare Course Plan for Physical Science

- Paralleling the content of the PHS 101 course, prepare a detailed plan for an appropriate Physical Science module at the high school level. The plan should be of a format appropriate for submission to a local-area high-school principal as a teaching plan.³ Appropriate labs should be included.
- As there may be published Physical Science course modules, developed and approved for use in the local school, the student should *adapt* one or more of these modules.⁴ "Adapt" means that plan should not have content identical to the published plan, but should contain different material extracted from the PHS 101 course. Plans should include things such as the following: 1. Course title, 2. Department, 3. Grade level, 4. Duration:, 5. Prerequisites, 6. Course goals, 7. Course summary, 8. Student outcomes, 9. Syllabus, 10. Time schedule, 11. Lab activities, 12. Textbook(s), 13. Reference sources. Sections 8-11 should be quite detailed.
- Appropriate lab descriptions should be included.
- The final plan should be in MS Word, pdf or HTML format and should be submitted in both print and electronic form. Copies should be provided to PH 502 and PHS 101 instructors and to SoE mentor.
- Evidence that this plan is appropriate for a local school should be supplied in the form of a memo from an official of that school or a copy of a course plan currently in use at that school. (The course content itself need not be approved by the school, but the format of the plan and the content level should be approvable.) It is expected that the student personally meet both with a School of Education faculty member and with a local principal or science department chair in designing this course plan.

¹ If the evaluation were to be "No Pass", the plan would be given back to the student for modification.

² Certification by local school official that the written course plan satisfies his/her expectations is not required if the student provides other specific, objective evidence that the course plan is similar to course plans in use by that school. (You may obtain a current course plan from that school.)

³ Students should contact and visit an area high school to learn what the expectations of that school are. These contacts should be referenced in the students teaching plan.

⁴ As these published teaching-plan modules may already have a fixed curriculum, the student must choose to associate with the PHS 101, 102 or 103 course appropriate for that plan.

PH 502 Instructional Physical Science Planning Sign-Off Form¹

Turn in to PH 502 instructor by end of first week of classes.

Student Name: _____ ID Number: _____
Semester/Yr: _____

	Tel., Email, Notes
Associated PHS lecture course: PHS Instructor: PHS course schedule (days, time)	
Associated PHS lab course: PHS lab instructor: PHS lab schedule:	
School District ² : School: Contact (Name, tel., email):	
UAB School of Education contact:	
PH 502 Instructor:	
Briefly describe your teacher certification status.	

Planning Approvals:

1. Physical Science instructor. I agree to host this student in my PHS 101 class, to arrange for appropriate contributions of the above-named student to teaching of PHS 101 or the associated lab, and to provide a short written description of the contributions of this student to the course (form to be provided). See PH 502 course syllabus.

PHS 101 instructor: _____ Date: _____
Signature

Title: _____

2. UAB School of Education mentor. I agree to evaluate the above-named student's written course plan³ for Physical Science on a Pass/No-Pass basis. A grade of "Pass" means the course plan satisfies the expectations of the school/district the student has listed above. I will provide this evaluation to the PH 502 instructor by the first day of final exams.

_____ Date: _____
Signature

3. PH 502 instructor. _____ Date: _____
Signature

¹ Student should provide copies of signed form to all signing faculty; keep one copy for self.

² School and school district you plan to work with.

³ Final plan must be provided to SoE mentor by the first day of final exams (or arranged with mentor).

PH 502 Instructional Physical Science
PHS 101 Participation Plan.

Description of PHS 101 Assignments (e.g., homework, set of daily lecture notes) expected from PH 502 student ¹ :	
Description of Expected PHS 101 exam(s) to be taken. (Normally just a final exam.)	
Description of teaching assignment in PHS 101 ² :	
Schedule for planning meetings with student (e.g., weekly (15 min), biweekly (30 min)):	
PHS instructor signature	Date:

Turn in signed form to PH 502 instructor by end of 2nd week of class; copy to PHS 101 instructor and to self.

¹ Part of the evidence that the student will master the PHS 101 course material; to be graded by PHS instructor.; normally does not include all PHS 101 assignments expected of PHS 101 students.

² E.g., 25% of the grading of PHS 101 quizzes or assignments; preparation and delivery of 2 lectures, running 2 lab sessions...

PH 502 Instructional Physical Science
PHS 101 Instructor's Evaluation of PH 502 Student

Work evaluated	Score (% , letter grade, P/NP, etc.) ¹	Comments
Attendance ²	Number of classes missed: _____	
Planning/review meetings ¹⁴	Number of meetings held: _____	
Homework Assignments		
Exams taken (list)		
Other evaluated work (class notes, etc.). List.		
Course Plan: list student's course title.	Circle appropriate grade ³ P NP You may also provide detailed comments directly on the Course Plan itself (Not required).	
Aside from teaching ability <i>per se</i> , rate the student's understanding of PHS 101 content and ability to verbally demonstrate this understanding.	<input type="checkbox"/> Below minimal expectations <input type="checkbox"/> Meets minimal expectations <input type="checkbox"/> Well above minimal expectations	

¹ Write "NA" if not relevant.

² Student should have printed out a calendar and gotten your initials at end of each lecture or meeting.

³ "Pass" means that you consider the course plan sound, feasible and appropriate for presentation as a course module of length stated by the student, in the school and grade level specified. The student should provide you clear evidence that the format of the plan meets the school's expectations.