

# Master of Science in the Natural Sciences

Name: \_\_\_\_\_

Program of Study: Physics

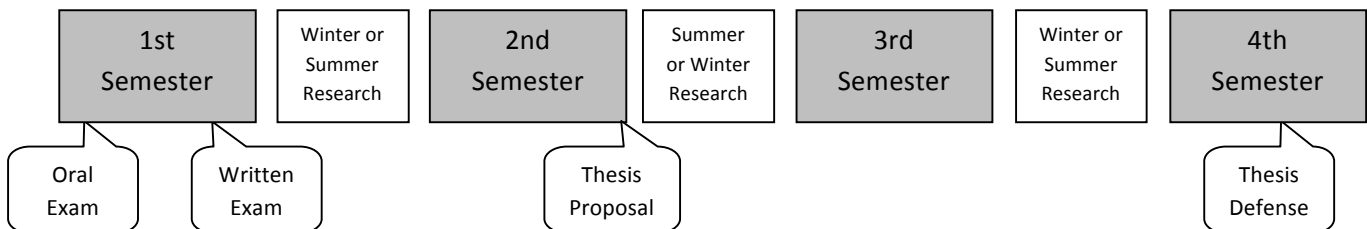
## Timeline for Degree

Requirement	When to Complete	Date Scheduled	Completed
Select tentative graduate committee members and record their names below	Select members during the first week of the first semester of classes		
Qualifying Exam - Oral	Typically given during the third week of class of the first semester of classes which corresponds to mid-September or early-February		
Qualifying Exam - Written	Typically given 6 weeks prior to the end of the first semester which corresponds to early-November or early-April		
Begin Research (PHY575 or 589)	Immediately after the first semester (which corresponds to the winter break or summer depending on if a student starts the program in Fall or Spring)		
Thesis Proposal	Submitted by the end of the second semester		
Present Research Results at a Regional Meeting (APS/AAPT/SPS)	During the 2nd, 3rd, or 4th semester		
Thesis Defense with Oral Comprehensive Exam	Scheduled for mid-semester of the fourth semester		

### Tentative Graduate Committee Members

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

*(Outside of Department)*



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**Curriculum**

Required Courses	Hours	When Offered	Semester Scheduled
PHY 512 3 Atomic Structure	3	Fall Odd Years	
PHY 531 4 Classical Mechanics	4	Fall Even Years	
PHY 532 4 Electromagnetic Waves	4	Spring Odd Years	
PHY 551 4 Adv. Quantum Mechanics	4	Spring Even Years	
PHY 511 3 Nuclear Physics or PHY 534 3 Solid State Physics	3	Spring Odd Years Fall Odd Years	
	18		

Required Courses	Hours	When Offered	Semester Scheduled
PHY 589 3 Thesis Research	3	2nd or 3rd Semester	
PHY 590 3 Thesis Writing	3	3rd or 4th Semester	
	6		

Required Courses	Hours	When Offered	Semester Scheduled
3 hours outside of Physics _____	3	TBA	
3 hours outside of Physics _____	3	TBA	
	6		

Elective Courses	Hours	When Offered	Semester Scheduled
PHY 530 Thermodynamics	3	Spring Even Years	
PHY 533 Theoretical Physics	3	TBA	
PHY 541 Optics	4	Spring Odd Years	
PHY 550 Intro Quantum Mechanics	3	Fall	
PHY 575 Advanced Graduate Studies	3	TBA	
PHY 576 Advanced Graduate Studies	3	TBA	
PHY 581 Teaching College Physics	3	TBA	
PHY 570 Seminar	1	Fall and Spring	

## Master of Science in the Natural Sciences – Emphasis in Physics

The college requirements are given below with the additional departmental requirements shown in italics.  
[August 22, 2012]

The Master of Science in the Natural Sciences (MSNS) is an interdisciplinary science degree in the sciences and mathematics. Since it is interdisciplinary and cross-disciplinary, it is a degree offered by the College of Sciences and Mathematics and is administered through the Dean's office instead of in individual departments. Upon entering the program, graduate students will be assigned to a graduate faculty committee to design a degree plan and to oversee their specific program of study, including development and administration of pertinent culminating projects and examinations.

*For the Physics Emphasis, the chair of the department in consultation with the student will select the graduate faculty committee members. These members can tentatively comprise the graduate thesis committee. Students choosing the Physics Emphasis will be required to take an oral and a written exam in the following areas of undergraduate physics: mechanics, electricity and magnetism, thermodynamics, waves (light, sound, waves, etc.), and modern physics. The oral exam will typically be given during the third week of class during a student's first semester in the program. Students not performing satisfactorily may be required to undergo a program of study in undergraduate physics to make up deficiencies. Once a student passes the oral exam, the student will take the written exam during the same semester. The written exam will typically be given six weeks prior to the week of final exams.*

**Thesis:** A minimum of 30 graduate credit hours is required including 24 hours of graduate course work within the college, with exactly 18 hours in a single area or discipline. Three hours each of thesis research (589) and thesis writing (590) will be taken above the 18 hour requirement. Students will be required to successfully complete a comprehensive examination based on their area(s) of study and to defend the thesis. The exam may be written, oral, or a combination of the two methods.

*The thesis proposal should be submitted prior to a student's third semester. For an emphasis in physics, the comprehensive exam will be an oral exam covering the student's graduate work. This oral exam is given during the thesis defense. It is the responsibility of the student to contact the faculty to arrange the time of the exam.*

Students pursuing the M.S. in Natural Sciences will be assessed through traditional measures (tests, labs, projects, etc.) as they progress through their required course work. Since the M.S. in Natural Sciences is inherently interdisciplinary, each student's program of study will be planned in consultation with his or her committee and located in the Dean's administrative office. Progress toward completion will be monitored by the committee.

Full details of admission requirements, administration of the degree, and procedures and policies are available on-line at [www.cosm.sfasu.edu](http://www.cosm.sfasu.edu). The M.S. in Natural Sciences is characterized by flexibility. As such, courses and labs may be offered at alternative times and in a variety of formats including face-to-face, hybrid and online offerings.