Stony Brook University

The MA Program

FAR BEYOND

Requirements

No Thesis Option

- Approved program of study (there is a lot of flexibility)
- Passing 30 credits of graduate courses (2 credits of PHY598/599 are required)
- Passing the Comprehensive Exam at the Master level

Thesis Option

- Approved program of study (there is a lot of flexibility)
- A Master Thesis (with 10-25 research credits (PHY580))
- Total credits should be at least 30 (2 credits of PHY598/599 are required)

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Typical Course

Typical Program

- Year 1: Take courses and do Master thesis research
- Year 2: Work on Master thesis and do additional courses.

Accelerated Program

Only possible if you are very well prepared

- Year 1: Take courses and do Master thesis research
- First Summer: Do research and write and defend the Master thesis

It is also possible to graduate from the Master program in three semesters or to extend beyond 2 years (though we try to avoid the latter).

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If you are preparing for a PhD Program

To be admitted to a PhD program you need strong recommendation letters. Letters written by a course instructor are not the best, because usually they do not know you well enough. Since the letter is already needed in December, it is hard get a good letter that makes a difference if you are applying to PhD program after your first semester. To get a good letter you have to work closely with a faculty member starting from the beginning of the semester. Do not neglect the special studies because that will be the basis of the recommendation letter.

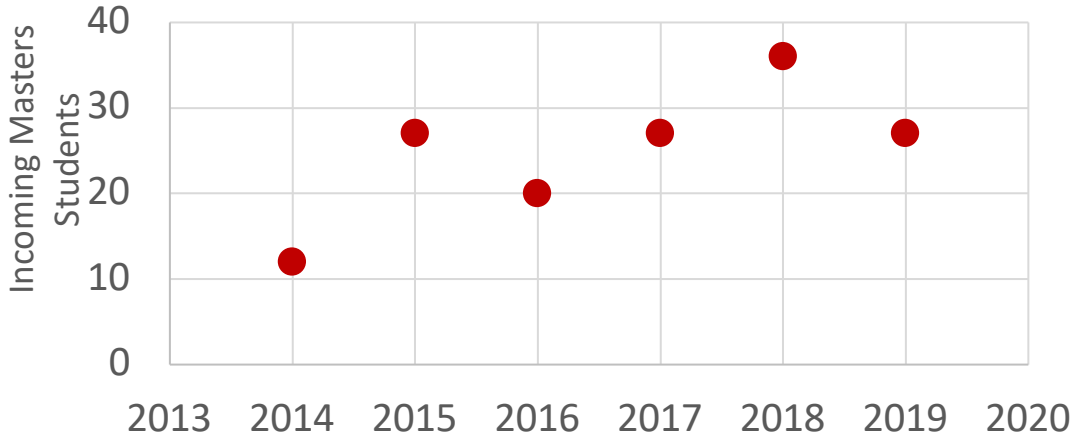
To have a good chance to be admitted to a PhD program you need to have mostly if not all A grades (A or A-) in the courses. **Do not overload yourself.**

Applications after 3 semesters in our program are typically more successful than those after just one semester.

Doing well on the Comprehensive Exam is not required but helpful.

How Many MA's move to our PhD program?

- 13 MA students given PhD offers for F2021
- 17 MA students given PhD offers for F2020



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Approved Program I

Default Program for preparation for admission to a PhD program with Master Thesis Research

F1	S1
503 (MM) 511 (QM) 585 Special Studies in QM 598 Graduate Seminar Elective	504 Computational Mehods 505 (EM) 585 Special Studies in EM 599 Graduate Seminar Elective
F2 595 Master Thesis	S2 (if needed) 595 Master Thesis

Try to work with a research group during the Summer. Note that with one or two B grades in graduate courses you will most likely not be admitted in a top 50 PhD program.

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Approved Program II

Advanced Program for preparation for admission to a PhD program with focus on theoretical physics – without Master Thesis – requires passing the comprehensive exam

F1	S1
501 (CM) 511 (QM I) 598 Graduate Seminar Elective Elective	505 EM 512 (QM II) 599 Graduate Seminar 610 (QFT I) Elective
F2	S2 (if needed)
540 (SM) 611 (QFT II)	595 Master Thesis

Prepare for the comps during the Summer. Note that with one or two B grades in graduate courses you will most likely not be admitted in a top 50 PhD.

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Approved Program III

Program focused on practical skills with Master Thesis Research, a good option if you are not sure if you want to pursue a Ph.D. or opportunities outside of academia.

F1	S1
503 (MM) 514 (Instruments) 598 (Graduate Seminar) 515 (Graduate Lab) Elective	504 (Computational Methods) 546 (Python) 599 (Graduate Seminar) 595 (Master Thesis) Elective
F2	S2 (if needed)
604 Computational Methods II 595 Master Thesis	595 Master Thesis

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Approved Program IV

This sequence includes an advanced graduate certificate in Data and Computational Science – requires full time 4th semester

F1	S1
503 (MM) AMS 561 (Data Science) JRN 501 (Communicating Science I) Electives from 501, 510/585, 514, 515	504 (Comp Methods I) 564 (Python) JRN 503 (Communicating Science II) 580 (Special Research) Elective
F2	S2
604 (Comp Methods II) CS xxx (Elective in Computer Science) 595 (Master Thesis in Computation	595 (Master Thesis with computation) Elective

Thesis research (595) should be on a computational project, for example in astrophysics, condensed matter, lattice QCD or in data analysis.

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G-Status

The university classifies graduate students according to their G-status

G1: First year graduate student with less than 24 graduate credit hours, who is enrolled in a Master's degree program.
G2: Advanced graduate student with more than 24 graduate credits, who is enrolled in Master's degree program
G3: First year graduate student with less than 24 graduate credits, who is enrolled in a Ph.D. program.
G4: Advanced graduate student with more than 24 graduate credits, who is enrolled in a Ph.D. degree program
G5: Advanced graduate student in a Ph.D. program who is advanced to candidacy by the first day of classes of a semester

The conversion from G1 to G2 is automatic after completion of more than 24 graduate credits at Stony Brook. Same for the conversion from G3 to G4. Conversion from G4 to G5 is done by the graduate school after recommendation from us.

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How many credits do I need?

Status	Credit earned	Degree sought	Credits
G1	< 24	Master	12-18
G2	≥ 24	Master	9
G3	< 24	Ph.D.	12-18
G4	≥24	Ph.D.	9
G5	all reqs	Ph.D.	9

Many courses are offered with variable credits (see graduate bulletin). By adjusting credits, you can get the right total number of credits. Seminar credits are also a fairly easy way to fill up your load in the first year.

If a course is offered for 0-3 or 1-3 credits, the workload is independent of the number of credits: Zero credit does not mean zero work. By taking courses with zero credit, the department knows that you have fulfilled the requirement.

When swapping courses: change registration between courses with an equal number of credits.

Examples

Status							Total
G1	501: 3	505: 3	511: 3	599: 1	600: 1	698: 1	12
G3	501: 3	505: 3	511: 3	599: 1	620: 3	698: 1	14
G4	501: 3	505: 3	511: 3		600: 0		9
G5	676: 1	698: 1	699: 7				9

If you take courses outside the department, you need permission from the graduate program director

PhD students who have advanced to candidacy you should register for 9 credits in PHY 699 (research). Registering for others courses requires explicit permission by the graduate program director.