

2-Year MS Program: Sample Curriculum - Thesis Option (Revision 3-19-19)

Thesis Option - 32 credits

First Year		★Second Year	
Fall	Spring	Fall	Spring
Methods of Mathematical Physics PHY 645 (4)	Electricity and Magnetism PHY 600 (4)	Advanced Quantum Mechanics PHY 642 (4)	PHY 500 Level Elective (3)
Classical Mechanics PHY 630 (4)	Statistical Mechanics PHY 608 (4)	PHY 544 Advanced Lab (2)	PHY 682 Thesis Research (3)
PHY 685 Independent Study (1)	PHY 682 Thesis Research (1)	PHY 682 Thesis Research (3)	PHY 682 Thesis Research (3)
9 credits	9 credits	9 credits	9 credits

Minimum total credit hours is 36 for Graduate Assistants. They must maintain 9 hours per semester to receive a tuition waiver.

GTAs need to maintain 9 credit hours per semester.

Thesis Option - 32 credits

First Year		★Second Year	
Fall	Spring	Fall	Spring
Methods of Mathematical Physics PHY 645 (4)	Electricity and Magnetism PHY 600 (4)	Advanced Quantum Mechanics PHY 642 (4)	PHY 500 Level Elective (3)
Classical Mechanics PHY 630 (4)	Statistical Mechanics PHY 608 (4)	PHY 544 Advanced Lab (2)	PHY 682 Thesis Research (3)
PHY 685 Independent Study (1)		PHY 682 Thesis Research (3)	PHY 682 Thesis Research (3)
9 credits	8 credits	9 credits	6 credits

For Students Without Tuition Waivers – 32 Credits Total (no minimum credits per semester)

- ★ Let the Department Chair know if you have an interest in a particular elective course as soon as possible so an effort can be made to make it available.
- ★ This is a sample curriculum only, the order of courses you take could be different depending on your year of entrance
- ★ For the Thesis Option: Additional courses could replace Thesis Research credits if needed as long as the minimum of 6 Research credits is achieved.
- ★ PHY 685 is not required and could be replaced with a elective courses if desired. Chair approval is needed for PHY 685.

Required Courses (20 credit hours)

- PHY 600 Electricity and Magnetism (4)
- PHY 608 Statistical Mechanics (4)
- PHY 630 Classical Mechanics (4)
- PHY 642 Advanced Quantum Mechanics (4)
- PHY 645 Methods of Mathematical Physics (4)

Elective Courses (6 credit hours)-

Among which one Advanced Lab (PHY 544) is required.

Thesis (6 CH) or Elective Courses (10 CH)

If you have questions or find inconsistencies, please contact Dr. Sean P. McBride mcbrides@marshall.edu

2-Year MS Program: Sample Curriculum – Non-Thesis Option (Revision 3-19-19)

Non-Thesis Option 36 credits

First Year		★Second Year	
Fall	Spring	Fall	Spring
Methods of Mathematical Physics PHY 645 (4)	Electricity and Magnetism PHY 600 (4)	Advanced Quantum Mechanics PHY 642 (4)	PHY 500-600 Level Elective (3-4)
Classical Mechanics PHY 630 (4)	Statistical Mechanics PHY 608 (4)	PHY 544 Advanced Lab (2)	PHY 500 Level Elective (3)
PHY 685 – Independent Study (1)	PHY 685 – Independent Study (1)	PHY 500-600 Level Elective (3-4)	PHY 500 Level Elective (3)
9 credits	9 credits	9-10 credits	9-10 credits

Minimum total credit hours is 36 for Graduate Assistants. They must maintain 9 hours per semester to receive a tuition waiver.

GAs need to maintain 9 credit hours per semester.

Non-Thesis Option 36 credits †

First Year		★Second Year	
Fall	Spring	Fall	Spring
Methods of Mathematical Physics PHY 645 (4)	Electricity and Magnetism PHY 600 (4)	Advanced Quantum Mechanics PHY 642 (4)	600 Level Elective (4)
Classical Mechanics PHY 630 (4)	Statistical Mechanics PHY 608 (4)	PHY 544 Advanced Lab (2)	PHY 500 Level Elective (3)
		PHY 600 Level Elective (4)	PHY 500 Level Elective (3)
8 credits	8 credits	10 credits	10 credits

For Students Without Tuition Waivers – 36 Credits Total (no minimum credits per semester)

† 600 level electives may not be available every semester – See other side for other possible paths.

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- ★ For the Thesis Option: Additional courses could replace Thesis Research credits if needed as long as the minimum of 6 Research credits is achieved.
- ★ PHY 685 is not required and could be replaced with a elective courses if desired. Chair approval is needed for PHY 685.

Required Courses (20 credit hours)

- PHY 600 Electricity and Magnetism (4)
- PHY 608 Statistical Mechanics (4)
- PHY 630 Classical Mechanics (4)
- PHY 642 Advanced Quantum Mechanics (4)
- PHY 645 Methods of Mathematical Physics (4)

Elective Courses (6 credit hours)-

Among which one Advanced Lab (PHY 544) is required.

Thesis (6 CH) or Elective Courses (10 CH)

If you have questions or find inconsistencies, please contact Dr. Sean P. McBride mcbrides@marshall.edu

2-Year MS Program: Sample Curriculum – Non-Thesis Option (Revision 3-19-19)

Non-Thesis Option 36 credits

First Year		★Second Year	
Fall	Spring	Fall	Spring
Methods of Mathematical Physics PHY 645 (4)	Electricity and Magnetism PHY 600 (4)	Advanced Quantum Mechanics PHY 642 (4)	PHY 500 Level Elective (3)
Classical Mechanics PHY 630 (4)	Statistical Mechanics PHY 608 (4)	PHY 544 Advanced Lab (2)	PHY 500 Level Elective (3)
PHY 685 – Independent Study (1)	PHY 500 Level Elective (3)	PHY 500 Level Elective (3)	PHY 685 – Independent Study (1)
9 credits	11 credits	9 credits	7 credits

**For Students Without Tuition Waivers – 36 Credits Total
(no minimum credits per semester)**

- ★ Let the Department Chair know if you have an interest in a particular elective course as soon as possible so an effort can be made to make it available.
- ★ **This is a sample curriculum only, the order of courses you take could be different depending on your year of entrance**
- ★ **For the Thesis Option:** Additional courses could replace Thesis Research credits if needed as long as the minimum of 6 Research credits is achieved.
- ★ **PHY 685 is not required** and could be replaced with a elective courses if desired. Chair approval is needed for PHY 685.

Required Courses (20 credit hours)

PHY 600 Electricity and Magnetism (4)
 PHY 608 Statistical Mechanics (4)
 PHY 630 Classical Mechanics (4)
 PHY 642 Advanced Quantum Mechanics (4)
 PHY 645 Methods of Mathematical Physics (4)

Elective Courses (6 credit hours)-

Among which one Advanced Lab (PHY 544) is required.

Thesis (6 CH) or Elective Courses (10 CH)

If you have questions or find inconsistencies, please contact Dr. Sean P. McBride mcbrides@marshall.edu