

# FAQ – BS/MS PROGRAM

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## **Q: What are the requirements to apply to the BS/MS program after Fall '20?**

- Students must apply after earning 30 credit hours and are encouraged to apply before 75 earned credit hours, including transfer and AP credit hours.
- Students must have received a grade in COE 2001, Statics, before they apply.
- Students must complete a minimum of 12-24 credit hours at Georgia Tech, including degree applicable STEM classes.
- Students have shown appropriate progress towards their degree program.
- Obtained a grade point average (GPA) of 3.5 or higher based on classes taken at Georgia Tech. Transfer classes are not included.
- For students applying after earning 75 credit hours: All parts of the application must be received before drop day of the first semester you take ME 3057 (ME students) or NRE 4350 (NRE students). If any parts of the application are received after this time, students must apply to the MS program through the regular process.

## **Q: What are the requirements to remain eligible for the BS/MS Program?**

- Graduate with the BSME or BSNRE degree with a 3.5 GPA or higher.
- Students must complete their BS degree and then matriculate into the MS program. Students cannot graduate with a BS and MS at the same time.
- Complete their MS degree within two years of graduating with the BS degree.
- Start into the MS program immediately after graduating with their BS degree. The only exception to this is summer semester. Students who graduate in the spring can take summer semester off and start in the fall semester.

## **Q: What happens if I don't graduate with a 3.5 GPA or higher?**

A: Students who graduate with a GPA between 3.3 and 3.5 can matriculate into the MS program, but they are no longer eligible to double count the two classes from the BS program to the MS program. Students with a GPA below a 3.3 are required to apply to the MS program again, through the regular process.

## **Q: Am I allowed to attend other graduate schools after being accepted in the BS/MS program?**

A: You are allowed, and encouraged, to apply to programs at other schools and even other programs at Georgia Tech. If you select a major outside of the Woodruff school, you cannot double count the 6 hours of course work at the undergraduate and graduate level, and most likely you will have to take the GRE exam. Your commitment to join our BSMS program is not binding and there is no formal commitment (financial, required to stay here, etc.).

## **Q: Is there a MS program curriculum? How do I create my MS program of study?**

A: There is no such thing as a set curriculum for the MS degree. That's the whole point of the degree, in that you deepen your knowledge in areas of your choosing (your major and minor) instead of taking pre-determined classes like for your BS. You get to choose whatever classes you want (mostly), they are all electives, as long as the classes are all from the College of Computing, College of Science or College of Engineering. There are some guidelines you need to follow (for example, you need a math class, etc), which are given in the [Graduate Handbook](#), but mostly it is your call. The graduate handbook has some [sample MSME program templates \(sample programs of study\)](#), which can be used as a guide. In terms of what is offered, your best bet is to look at the [research portion of the ME website](#) which provides details on every research area in ME and the various professors conducting that research. Or just think of the BS classes you most enjoy and see if you want to deepen your knowledge in those areas. Once you have

selected your minor and major, you can get more info on the [classes offered in those research areas](#) on the website. Your academic advisor can provide you more information.

**Q: Can I take one graduate course online and have it count towards my MS, even if the rest of the MS courses are taken on campus?**

A: Yes, you can switch to being a temporary distance learning student for a semester or two, but you will need to be changed in the registration system. You will need to see a [graduate level academic advisor in the ME office](#) to do this. Also, note that you will have to pay full [distance learning tuition and fees](#) for any course you take through distance learning. There is no such thing as “in-state” tuition and fees for distance learning students. In addition, you will be required to pay a technology fee for each semester that you are enrolled. More information on the cost of Distance Learning can be found on the [Center for Distance Learning website](#).

**Q: How do I select my ME electives so they can count towards my MS?**

A: [The Graduate Handbook](#) has a list of all graduate-level courses offered in ME listed by semester. You can also see a list of graduate courses per research area at the link above. Based on what you plan your MS major and minor to be, you should pick a class from those areas. Also check OSCAR to make sure whatever class you pick is indeed offered when you plan to take it – the website is not always 100% accurate since there can be changes to the class offerings, especially if not enough people register for a class, or the usual instructor leaves GT, etc. If you decide to register for a graduate level class, then be sure to email the instructor to let him/her know you will be taking the class.

**Q: Can I take graduate level classes as an undergraduate? How do I register for a graduate class?**

Undergraduate students with a 3.3 GPA are allowed to take graduate level classes. However, undergraduate students are not allowed to take ME 6753, ME 6754, ME 6789, ME 6792, ME 6799, plus a few other select classes. In addition, undergraduates are not allowed to take seminar classes or teaching practicum classes. If you want to take these classes towards your ME degree, you can take them after you matriculate into the MS program. [Instructions to register for graduate level classes are on the ME website](#). Undergraduate students are only allowed to register for MS classes during phase 2 registration and must request permits and level overrides to do so. In addition, always discuss this with your financial aid advisor, as graduate level courses are often not covered by financial aid.

**Q: Can the courses double-count towards my MS degree be part of the required BS degree curriculum?**

A: No. Only ME electives or eligible free electives can double count. You cannot double count required BSME courses. Students who are pursuing an [ME concentration](#) can double count most of those classes with the exception of the design elective. Students accepted spring '21 and later cannot use undergraduate research, special problems or VIP towards the MS program. All classes must be approved by the graduate program.

**Q: Can I double count more than 6 hours of classes towards my MS and BS?**

A: No. Even if you decide to take coursework that would be eligible to count towards your MS degree, you are only allowed to double count 6 hours (2 classes) towards both your BS and MS degrees. As an undergraduate, you are eligible to take extra classes that are not counted towards your BS that can be used towards your MS. This is common for students who only need 1-2 classes during their final semester. Those students can then take up to 6 additional hours (2 classes) and have it count only towards their MS degree if the courses are not counted to their BS degree in any way. Undergraduate students can move a maximum of 12 hours from the BS level towards the MS degree. This includes the 6 hours of double counted classes, plus up to 6 additional hours of classes.

**Q: How many 4XXX level courses can I count towards my MS?**

A: You can take at most two 4XXX level courses for your MS, and that's regardless of whether you do thesis or non-thesis. Students can double count 2 classes (6 hours maximum) towards the BS and MS degrees. In ME, this can be either eligible free electives or the ME elective (at the 4000 or 6000-level). Depending on your catalog year, In NRE, this can be technical electives, free electives, math/science elective or the engineering elective. The most common options are below:

- ME Students: Double count one ME elective and a 4000 level Math course taken as a free elective
- ME Students: Double count one ME elective and a 4000 or 6000 level engineering, science or computing course
- NRE Students: Double count two technical electives, free electives, math/science elective or engineering elective (depending on your catalog year)

**Q: Can I have ME 6753, ME 6789 and/or ME 6799 count towards my MS minor?**

A: Yes, they are allowed for your minor, but not for your major.

**Q: Can I double count ME 4699 (Undergraduate Research)?**

A: It depends on when you were accepted into the program.

- Students Accepted into the BSMS Program Fall '20 and Earlier: Yes, you can double count 3 hours of ME 4699 towards your BS and MS degrees. This is allowed for both the thesis and non-thesis MS options. VIP classes are not able to be counted towards the MS degree.
- Students Accept into the BSMS Program after Fall '20: Students cannot use undergraduate research, special problems or VIP towards the MS program. All classes must be approved by the graduate program.

**Q: Can I defer my MS program?**

A: Students are required to start into the MS program immediately after completing their BS degree. The only exception to this is summer semester. Students who graduate in the spring are allowed to take summer semester off and start in the fall semester. If you need to defer your admission outside of these rules, you will need to apply to the MS program through the regular admission process. However, students who are accepted to the BSMS program, graduate with a 3.5 GPA or above, and return to the MS program within 1 year of when they graduate with the BS degree do not need to take the GRE and are not required to have the 3 letters of recommendation for the full application.

**Q: I've come up with my MS plan of study. How do I get this approved?**

A: You are welcome to meet with your [BS/MS advisor](#) to review your plan. You cannot officially submit your program of study to the [graduate database](#) until your first semester of the graduate program. Once submitted, this is sent to ME Student Services Director who will review and approve or deny it. If something comes up after this is submitted (i.e. some ME grad course you had planned to take in the 2nd semester of your MS isn't offered) you can always go back to that previous website and revise your plan of study so it meets approval again. Students can revise their program of study as often as they want based on actual course offerings.

**Q: I have come up with my MS plan of study. When does this need to be approved?**

A: You can submit your program of study immediately when you start the graduate program. This can be modified as many times as necessary if there are conflicts or scheduling issues. You must submit your program of study by the end of your first semester in the MS program at the very latest.

**Q: I cannot get into the link to submit my MSME Program of Study. What do I do?**

A: You will not have access to submit your program of study until your first semester in the graduate program.

**Q: Should I take the Thesis or the Non-Thesis route for my MS? What are the advantages and disadvantages of them?**

A: The Non-Thesis (NT) route is very similar to a BS degree: classes, homework, exams, and after 2-3 semesters of this, you can graduate, get a job and move on. Graduate courses typically require more work than undergraduate courses (a full load in grad school is 3-4 courses per semester) but are run very much like undergraduate courses. Graduate courses contain more projects and information that is more difficult. This is best suited for students who are in a hurry and do not mind taking more classes. The main disadvantage is you will have to pay the tuition yourself, unless you have some sort of fellowship that will cover that for you (which is extremely rare). If you are an out-of-state student, you will pay out-of-state tuition (unless you do your MS at Georgia Tech Lorraine, which only has lower tuition plus some fees). Another disadvantage is that you miss the opportunity of doing a thesis – in case you were at all curious about it. If you are curious about it, you should know that people disagree as to whether it is preferable to go to graduate school right after your BS or if you are better off postponing until after you have graduated and worked in industry a while. Some say it is harder to postpone because the financial sacrifices one makes pursuing a thesis are that much more difficult to bear once you are used to a “real world” salary – especially if you are also responsible for a family. Others say industry experience is best, because you understand more what to do your thesis about, and you are extra motivated to succeed at it since you already experienced the “real world” first-hand. Ultimately, this is very much a personal decision that depends on your individual circumstances and goals. The Thesis (T) route involves taking fewer classes than you would in the NT option (3 less). What replaces these courses is the thesis, although the thesis will generally take longer (at least 1 extra semester) than the courses would have taken. A thesis means you work on an engineering project under the close supervision of a faculty member, who, typically, will pay you as a Graduate Research Assistant (GRA). This GRA will pay the majority of your tuition and a stipend (~ \$2100/month). This money comes out of the faculty member’s research funds in exchange for your work. You get to experience research, which is a fundamentally different experience from just taking classes. The problems you work on for your thesis are cutting edge and you get to participate in tomorrow’s technological advances, which can be extremely rewarding. There is more intellectual depth in a thesis than can ever be in a course, no matter how challenging, due to its limited duration. You get to write a thesis, which is substantially more ambitious than a capstone design report. You have the chance to work closely with a faculty member, who then becomes your mentor and can change your life (in a good way!). Also, the majority of your tuition may be paid from your GRA tuition waiver. You are still required to [pay reduced tuition \(see the Graduate Assistantship Rates\) and fees](#). You may also be eligible to apply for and receive additional fellowships. The main disadvantage is that you’ll graduate later than if you had gone the NT route. How much later varies based on your research project and advisor, but generally you should count on an extra semester or two to graduate.

**Q: What kind of financial aid can I get for my MS?**

A: The basic rule of thumb is that (almost) nobody will pay you to just take courses (NT), so you will be responsible for all of the tuition and fees on your own. There are a few exceptions where you get money for course work (for example, the Gates Millennium award) but they are extremely rare.

- **Fellowships** - Most fellowships (a fellowship is a scholarship for graduate students) require you to do a thesis and are extremely competitive. [Dr. Donnell](#) is the ME resident expert on fellowships, so talk to him if you plan to apply. Georgia Tech also has a [Fellowship Office](#) to help students look for fellowships. The main advantage of having a fellowship is that you have much more flexibility in your choice of the research project and/or advisor you want to work on and/or with. You effectively bring your own money and so you come “free” to your thesis advisor. Also, these fellowships are very prestigious and look great on your resume! However, they demand a significant amount of time and effort as the application process for most of them is arduous (transcripts, GRE, letters of recommendation, essay, etc). Most require US citizenship or permanent residency.

- **Graduate Research Assistantship (GRA)** - If you don't have a fellowship but want to do a thesis MS, you should first determine what type of [research interests you have](#). Once you know what you'd like to work on, meet with graduate students and/or faculty who work in this area, and try to develop a relationship with them. Tell them you're interested in working with them for your MS. Maybe offer to work in their lab for course credit or pay while you are still an undergraduate student, or apply for a [PURA award](#) to do some undergraduate research with them. If people know you and know that you do good work, they will be more likely to fund you for your MS (i.e., you'll get a GRA tuition waiver to cover the majority of your tuition and you will receive a monthly stipend to live on).
- **Graduate Teaching Assistantship (GTA)** - The GTA, or Graduate Teaching Assistantship, works like a GRA, except that instead of doing a thesis, you help a faculty member teach his/her courses. Usually you set up and monitor labs or deliver lectures or grade or any combination thereof. Generally, GTAs are extremely hard to get because they go by priority to ME graduate students who are doing a PhD first, and MS thesis students second. As MS Non Thesis, you are at the bottom of the priority order: top priority are Ph.D. students who have passed their proposal, next are Ph.D. students who have passed their qualifying exams but not their proposal, next are Ph.D. students who have been admitted but haven't passed their qualifying exams, next are MS Thesis students, and then... you. In any given semester, there are too many students needing money and with higher priority than you for you to expect to get any money at all. It may happen, but it's unpredictable and highly unlikely. [Dr. Whiteman](#) is the person who assembles the tentative GTA list each semester. The list then receives final approval from the Woodruff School Chair and Associate Chairs.
- **Georgia Tech Lorraine (GTL)** - All non-thesis MS students pay reduced tuition at GTL. If you are considered an out-of-state student on the Atlanta campus, and know you don't want to do a thesis for your MS, you might want to consider doing your MS at GTL so you're only charged in-state tuition (and not out-of-state as you would in Atlanta).

**Q: What percentage of students have funding for the MS program?**

50% of on-campus grad students have funding. 80% of those students are PhD students. 20% are MS thesis students. Less than 1% of MS non-thesis students end up with a GTA (and even then, maybe only for 1 term if Dr. Whiteman needs to fill a late availability in the GTA schedule).

**Q: Will my final transcript after graduation include the courses I took as an undergraduate in calculating my graduate GPA?**

No, the courses that you took as an undergraduate toward your BSME degree will only appear on your undergraduate transcript.

**Q: I want to do my MS at Georgia Tech Lorraine. Can I take the MATH course there?**

A: GTL does not have anyone from the School of Mathematics teaching there, so you can either take the class through distance learning there or take it here while you're still on campus (before you leave for GTL) if that's possible with your schedule.

**Q: Is there a difference between undergrad and grad classes in robotics, mechatronics and vibrations?**

A: Robotics: There are many differences. For example, ME 4451 is 2D, covers serial and parallel robots, and has a lab. ME 6407 is 3D, covers serial robots only but in more depth, and has no lab. We allow students to take both of those classes and count them towards the MS degree.

A: Mechatronics: ME 4405 and ME 6705 have very similar material so students can only use one of those classes towards their MS degree.

A: Vibrations: ME 4189 and ME 6442 have very similar material so students can only use one of those classes towards their MS degree.

**Q: I am interested in getting a Certificate in Manufacturing during my MS. How do I do that?**

A: Information on the [Certificate of Manufacturing](#) is available on the MARC website. You may have to add a seminar course to get it.

**Q: Where can I get more information about the Medical Physics MS program?**

The NRE/MP Chair approves the [Medical Physics Programs of Study](#), so please contact him directly for any MP questions. Please be aware that there is also a requirement for a clinical rotation in this program. Additionally, to be accepted to the MP program students are required to complete their version of a minor in physics. This is because the ABR board requires specific classes to sit for the qualifying exam in Medical Physics. The requirements for the ABR physics minor are:

1. Required courses:
  - i. Calculus Based Physics 1: PHYS 2211
  - ii. Calculus Based Physics 2: PHYS 2212
2. Three elective classes from this list:
  - i. *Thermodynamics: PHYS 3141 (ME 3322 also satisfies the ABR requirements)*
  - ii. *Modern Physics: PHYS 2213 (this is also a required pre-req for the MP program)*
  - iii. Electricity and Magnetism: PHYS 3122
  - iv. Advanced Mechanics: PHYS 3201
  - v. Quantum Mechanics: PHYS 3143
  - vi. Optics: PHYS 3232
  - vii. Nuclear Physics: PHYS 4263
  - viii. Atomic Physics: PHYS 4261

In addition, the pre-reqs to apply for the Medical Physics program include:

1. Numerical methods: ME 2016 or a similar equivalent
2. Modern Physics: PHYS 2213
3. Anatomy and Physiology: At Georgia Tech this requires 2 separate classes APPH 3753 (Anatomy) which is a fall only class, and APPH 3755 (Human Physiology) which is a spring only class. Students are allowed and encouraged to take these classes at another school where you can take one class cover both topics.

**Q: Where can I get more information about the Bioengineering MS program?**

A. There is often confusion between the [MS in Bioengineering](#) and the [MS in Biomedical Engineering](#). The Woodruff School serves as one of the home schools for an MS in the interdisciplinary bioengineering program. There is no BS/MS program to apply to the [Biomedical Engineering](#) program at Georgia Tech. If you want the MS in Biomedical Engineering, then you must apply to that program through the regular admissions process.