

IMSE Ph.D. student handbook

A success/survival guide

Commonly asked questions by potential applicants in the pre-application phase:

Can I join in Fall/spring or summer?

The department only accepts Ph.D. students in either Fall or Spring semester. Summer semester is not an entry point for Ph.D. students.

Pros of starting the Ph.D. program in the Fall semester:

- 1) Generally, there are more TA and RA positions available in the fall semester.
- 2) The comprehensive exam is held only once a year, in the month of May. Ph.D. students need to complete all four core courses to become eligible to take the exam. If you join in Fall, you can take the comprehensive exam at the end of the first year. However, if you join in spring then you will need to wait one more semester after completion of the first year (till the following May) to appear for the exam.

What will the doctoral degree in industrial engineering at USF prepare me for?

Ph.D. (Doctor of Philosophy) is an academic degree that helps in acquiring a specialized set of skills: independent research and problem-solving, critical and innovative thinking, leadership and teamwork, knowledge dissemination through teaching, technical writing, journal publications, and presentation in a variety of forums including national and international conferences.

A Ph.D. in industrial engineering will enable you to acquire and apply decision-making expertise using knowledge of operations research (optimization), data-driven statistical modeling, dynamical systems modeling and simulation, and artificial intelligence (machine learning, reinforcement learning), among others. Industrial engineering Ph.D. graduates either join the university as assistant professors/post-doctoral fellows or join the industry in the fields of logistics, healthcare, manufacturing, energy, cybersecurity, transportation, finance, e-commerce, national and international laboratories, and government agencies.

If I am already in the master's program at USF, can I apply for the Ph.D. program?

Yes, you can apply to the Ph.D. program even prior to completing your master's program. However, you should first consult with the graduate program director.

Will I receive funding if admitted to the Ph.D. program?

The Industrial Engineering department generally admits Ph.D. students with funding. The funding comes in the form of Fellowships, Teaching Assistantships (TA), Research Assistantships (RA) or Graduate Assistantships (GA). All these fundings include a biweekly stipend, tuition waiver, and health insurance. However, students are required to pay fees which are approximately \$900 per semester. Ph.D. students in good academic standing and making significant research progress are funded throughout their program duration, which is usually 4-5 years.

If accepted to the PhD program, will I be a TA or RA?

The department generally recruits new PhD students as a TA for the first year. Funding in the subsequent years varies between TA and RA depending on the funding sources. However, a new student can also be directly recruited as an RA by a professor.

Is it necessary to communicate with the professors or just apply to the department? Is admission dependent on communication with the professor?

It is highly recommended that you identify one or more professors in the department that you may want to work with and start communicating with them by expressing your research and other interests and prior experiences. However, it is not a requirement for you to apply. Having communicated with professors may make your application stronger. You are also advised to contact the graduate program director if you have any questions regarding your application submission process.

Can my application fee be waived?

The application fee is waived only for students with prior USF degrees.

Can I apply past the application deadline?

If the deadline has passed, contact the graduate program director in the department for advice.

What are the minimum admission criteria?

Please refer to the department's website below:

<https://www.usf.edu/engineering/imse/documents/phd-admission-requirements.pdf>

The department critically reviews applicant's bachelor's and master's transcripts for performance in mathematics and engineering related subjects. High GRE scores (verbal, quantitative as well as writing) play a critical role. Prior journal publications and other leadership activities are considered favorably.

Is any particular type of English proficiency test preferred?

Please follow the guidelines on the university website. Note that the English proficiency requirement for being a TA is higher than what is required for admission. If you are appointed as a TA, the department will inform you about the minimum proficiency (Speaking) requirements. If you do not meet the minimum, your appointment will be conditional, and you will be required to satisfy that during the first semester at USF.

How do I know if my application is competitive?

The competitiveness of an application is determined not by any individual criterion but by the overall portfolio of accomplishments, which includes the reputation of the university you have attended, BS/MS GPA, GRE score, recommendation letters, journal publications, programming skills, and leadership and community engagement activities.

What are the research/coursework expectations from a new student?

The following are the minimum requirements.

- 90+ total credit hours beyond baccalaureate degree (60+ total credit hours beyond master's degree)
- 60+ hours (30+ hours beyond master's degree) of formal coursework
- 20+ of the above must be at 6000 level
- 8+ hours of mathematics/statistics graduate coursework
- 20+ dissertation hours
- Successful completion of the comprehensive exam, candidacy exam, proposal defense, and final dissertation defense
- A minimum of two (at least one accepted, one submitted) refereed journal publications before graduation
- 3.0+ GPA

Core courses

- ESI 6491 Linear Programming & Network Optimization
- ESI 6213 Stochastic Decision Models I
- ESI 6635 Advanced Analytics I
- EIN 6520 Systems Modeling & Performance Analysis

For further reference please visit the website below:

<https://www.usf.edu/engineering/imse/documents/phd-degree-requirements.pdf>

A new Ph.D. student is expected to secure a Major Professor to guide her/his doctoral research by the end of the first semester.

How many recommendation letters do I require for submitting my application?

IMSE department requires 3 letters of recommendation.

How do you convert the grading system used in my country to GPA used in the U.S.?

It is not necessary for you to convert your grades into a 4.0 GPA scale. IMSE department looks at your percentage scores in your degree transcripts.

Commonly asked questions by applicants in the post-application phase:

When can I expect to get the decision on my application?

IMSE department reviews applications on a rolling horizon basis. Strong applicants are interviewed generally during the months of March/April. Accepted candidates are notified soon after the interviews. Spring applicants are interviewed during September/October.

If accepted, what is the deadline for me to accept the offer?

As per accepted guidelines among all U.S. universities, the Ph.D. acceptance deadline is specified in the offer letter to be April 15. However, we encourage the applicants to accept as soon as possible so that appropriate VISA documents, when applicable, can be sent by the university.

What's a good time for follow-up e-mails while awaiting a decision?

It is always good to follow up, however, wait at least a month after your application is fully submitted.

If my application is rejected, can I apply again?

Yes, you can, but only if you believe that your overall portfolio has significantly improved since your last application.

Does Industrial Engineering at USF offer conditional acceptance?

IMSE department does not generally offer conditional acceptance for the Ph.D. program.

Commonly asked questions by selected applicants:

If I am accepted does that mean I am funded?

The IMSE department at USF offers funding to all accepted candidates for the Ph.D. program. The funding is offered in the form of a Teaching Assistantship (TA), Research Assistantship (RA) or Graduate Assistantship (GA), which also comes with in-state and out-of-state (when applicable) tuition waiver and health insurance. Students are required to pay some fees each semester of enrollment.

Can I defer my admission to a future semester?

Yes, you generally can for up to a year. You need to request the graduate program director for approval.

If accepted, when will I get my I20 for my visa application?

Once you accept our offer to the Ph.D. program, you get a notification from the international office to start the visa application process.

Can I bring my spouse and children as an international Ph.D. student?

Yes, the international office will guide you through the process. You are responsible for their financial support.

After the visa is approved, when should I come to USF?

We recommend our students arrive prior to the start of their TA/RA/GA appointment, but not prior to the date specified in the I20. Note that it takes several days to complete all the paperwork needed to begin your employment.

Will there be someone to pick me up from Tampa Airport?

Some student organizations offer pickup services for incoming USF students. You may contact them in advance. Common transportation services such as Uber/Lyft/Taxi/Buses are also easily available from Tampa Airport.

Where will I stay?

Contact student groups prior to arrival if you need help. For on-campus and limited off-campus housing, refer to the USF websites:

On-campus

<https://www.usf.edu/housing/housing-options/index.aspx>

Off-campus

<https://offcampushousing.usf.edu/>

Commonly asked questions after arrival to USF campus:

What should I do after arrival at USF?

Here are a few things that you should attend to soon after your arrival.

- Report your arrival to the Graduate Program Director and Chair of the department, and visit the departmental office at ENC 2400 to see the Academic Services Administrator.
- Get a USF ID card from Student Services.
- If you are an international student, complete iStart post-arrival procedure, including an appointment with International Student Services.
- Open a bank account and get a personal phone plan.
- To begin working as a TA/RA, you will need to obtain a social security number (SSN). Set an appointment with the Social Security Administration (SSA) as recommended by the HR/International Student Services.
- Reach out to HR and complete Right Start after the receipt of SSN.
- Make sure to contact existing Ph.D. students for support and mentoring.

What courses do I register for? Who should I talk to regarding course selection?

Register for the Ph.D. level courses offered by the department. However, prior to registration, you should seek advice from the Graduate Program Director. As a full-time student, you are required to register for a minimum of 9 credit hours every semester.

How many courses are funded by the waiver?

If you are a TA, your tuition fees are waived for up to 12 credits. For RA appointments, tuition is waived for up to 9 credits. For additional credits, consult your research advisor.

What will be my TA/RA assignment?

You will be contacted by the department/advisor with your TA/RA assignment. Talk to your supervisor to obtain a list of your duties.

Can I take the courses outside the department?

Yes, but you need to obtain permission from your advisor and also from the professor teaching the course.

If I am a Ph.D. student, can I get a master's degree along the way?

Yes, it is possible if you meet the requirements for the master's degree program.

What is the requirement for graduation?

Consult the departmental website and graduate catalog.

<https://www.usf.edu/engineering/imse/documents/phd-degree-requirements.pdf>

Who will be my major professor to guide my dissertation research?

The department does not assign a major professor. You need to approach professors whose research areas overlap with your research interests. You can communicate with the professor(s) to introduce yourself, share your CV (Curriculum Vitae), and ask if there would be a position for you to join his/her group. This process should occur by the end of the first semester.

How do I decide my committee members and when should I form my committee?

Committee members are selected in consultation with your major professor and should be done prior to scheduling the candidacy exam.

What is a comprehensive exam and when do I appear for one?

You must pass the comprehensive exam to continue your doctoral studies. This exam is offered in the month of May every year after the end of the spring semester.

When should I schedule my candidacy examination? What is the purpose of the candidacy exam?

Candidacy examination should be scheduled when most of the coursework is completed. Consult with your major professor. Upon completion of the candidacy exam, you transition from being a Ph.D. student to a Ph.D. candidate, which enables you to register for doctoral dissertation hours.

What is the difference between directed research and dissertation hours? Will my directed research hours be counted toward my dissertation?

Directed research hours are taken prior to becoming eligible to take dissertation hours (after becoming a Ph.D. candidate). Some of your directed research hours will count towards your dissertation hours requirement. Consult graduate catalog.

Will my independent study hours count toward my degree requirements?

Yes, it may be counted towards Ph.D. degree requirements subject to approval from your major professor and the committee.

Is there an upper bound on the number of hours that one can enroll for directed research?

No. However, once eligible, you should register for dissertation hours and not directed research.

As a Ph.D. student, is it a good idea to look for an internship?

Yes, it is a good idea if the internship supports your dissertation research. Discuss with your major professor before considering an opportunity.

Are Ph.D. candidates allowed/expected to teach classes as an instructor of record?

Though not required by the university, the IMSE department strongly encourages Ph.D. students to teach at least one course as instructors of record before graduating.

What is the expected gap between the candidacy exam, proposal defense, and final defense?

It is recommended that the above events are separated by at least one semester.

What is Proposal defense? When should it be scheduled?

The proposal defense is not formally required by the USF graduate school but is a requirement of the IMSE department. Ph.D. candidates are required to make a presentation of their research accomplished and remaining work to the committee members in a meeting that is scheduled roughly for 2 hours. This meeting should be scheduled at least a semester or two before the final defense.

Will I get funded for attending conferences to present my research work?

Conference expenses are partially reimbursed either by the graduate school or by your major professor.

Does candidacy exam, proposal presentation, and final dissertation defense need forms or any other forms of approvals?

The Candidacy exam and the final dissertation defense require committee approval forms.

What should I present on final defense since I presented part of my research on candidacy and proposal presentations?

You should always plan to present the full extent of your dissertation work with more emphasis on the work accomplished after your proposal presentation.

What are the publication and other requirements for scheduling my final dissertation defense?

A minimum of two (at least one accepted, one submitted) refereed journal publications before scheduling the final defense.

What is a better semester to graduate? Fall/Spring/Summer?

You can plan to graduate in any semester. Historically more students tend to graduate during the summer semester. However, if you intend to join academia, summer graduation is preferred, as academic jobs usually begin in Fall.

What to do after graduation?

Stay in touch with your major professor and department. If you work in the industry, then encourage your HR department to hire from USF.