



# IS GRADUATE SCHOOL FOR YOU?

Have you seen that the most interesting job postings ask for an advanced degree or specialization? Do you dream of being a lifelong learner? Do you enjoy conducting research? If so, then pursuing a graduate degree might be the path for you.

Read on for advice on:

- Deciding if graduate school is for you
- Understanding types of degrees
- Learning about the application process, exams, and documents
- Finding funding for your graduate degree
- Evaluating offers from graduate schools

## WHY GO TO GRADUATE SCHOOL?

### TO BECOME AN EXPERT IN YOUR FIELD

A graduate degree is evidence of an in-depth understanding of a particular field and demonstrates (typically) years of research. In some fields, specialization is necessary to advance in your career.

### TO GET ON THE TENURE TRACK

Having an advanced degree can put you on track to pursue an academic career at a higher education institution. Typically, tenure-track research and teaching faculty members at universities hold doctorate degrees.

### TO CHANGE CAREER DIRECTIONS

Career goals evolve over time. Maybe you decide that you want to use your engineering background to start a business, to become a high school science teacher, or to practice patent law.

### TO EARN MORE MONEY IN THE FUTURE

Before you commit to a graduate program, consider the ROI (return on investment). Research the average annual salary of graduate degree holders versus professionals with an associate's or bachelor's degree and 2+ years of full time experience before you start filling out applications.

### IS NOW THE RIGHT TIME?

Graduate school is a big investment in time, money, and effort. If you are not sure what you want to do after graduation, you may choose to choose to work for a few years in an industry related to your major.

Once you are more certain of your professional interests, you can apply to the graduate program that best aligns with your goals.

## WHICH DEGREE? MASTERS OR PH.D.?

	<b>M.S.</b>	<b>M.Eng./M.B.A.</b>	<b>Ph.D.</b>	<b>J.D./M.D.</b>
<i>What?</i>	Research-based specialization. Usually includes coursework & a thesis. Can go on to Ph.D.	Practical specialization, may have final project but no thesis. Terminal degree.	Research-based specialization. In the U.S., includes coursework & dissertation.	Practical, professional degree required to practice as an attorney (J.D.) or physician (M.D.)
<i>How Long?</i>	2 years full time	1-2 years full time	4-5 years full time	3+ (J.D.) /7+ years (M.D.)
<i>Why?</i>	Specialize to advance in industry career	Advance in industry career or start own business	Pursue high level research in government or industry, or an academic career	To practice law or medicine in the U.S.
<i>Financing</i>	Fellowships, scholarships, graduate assistantships (teaching, research, or administrative), personal savings, government or private loans, employer tuition reimbursement benefit			

## DECIDING WHERE TO APPLY

- Speak with Clark School faculty members who have performed research or are currently performing research in your desired field. The world of research is very tight knit and connected. Some of the professors on campus may have graduated from the programs you are considering and may even have some contacts to share.
  - Reach out to professionals in industries that you want to explore. What has been their educational path? Would they do things differently now? Terrapins Connect is a portal that allows you to get advice from UMD alumni. You can also use the Alumni Search in LinkedIn to identify possible contacts.
  - Visit prospective institutions. Many schools offer low cost or free campus visits for prospective graduate students. Also, this would be a great experience to include in your personal statement.
- As you review each program, consider
    - reputation of faculty & institution
    - opportunities for research, projects, conferences, publications
    - placement of job market candidates and support for academic or industry job search
    - facilities, location, housing, community
    - total expected cost of attendance
    - other factors of personal importance
  - Contact professors who run interesting labs at your target institution. Email or call the professor explaining that you are planning to apply to graduate school and their research is of interest to you.
 

If you make a good impression, the professor could put in a good word for you with colleagues making decisions on admissions and fellowships.

Application deadlines vary by program and institution typically fall in November, December or January but can be later. Submit applications to graduate programs a minimum of 15 days before the deadline but preferably earlier to allow for slow or lost transcripts, and to be considered for competitive funding.

Gather information about several programs by researching online:

[www.petersons.com/gradchannel](http://www.petersons.com/gradchannel)  
[www.gradschool.com](http://www.gradschool.com)  
<http://www.mastersinengineering.com/>

[www.graduateguide.com](http://www.graduateguide.com)  
<http://gradschool.about.com/>  
<http://grad-schools.usnews.rankingsandreviews.com/best-graduate-schools>

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# THE APPLICATION PROCESS

While each institution and program is different, the following criteria are important to most admissions committees:

## Grades and Coursework

You will need to submit transcripts from all previous institutions of higher education. Most committees pay the closest attention to the last two years of college.

Admissions committees begin the evaluation process by considering GPA and GRE scores (or those of other standardized tests). However, these quantitative measures only tell a small part of an applicant's story.

## Standardized Tests

Try to begin studying for these entrance exams as soon as possible. To find out if specific subject tests are required, carefully review all of the admission applications for each program. The recommended time is during the summer before senior year so that you can take the GRE during the fall.

## GRADUATE RECORD EXAMINATIONS (GRE)

GRE requirements and minimum scores vary among graduate schools. You should aim to score in at least the 80th percentile on both the Quantitative and Analytic sections of the GRE in order to be a competitive applicant for a graduate engineering program. Students accepted to the most competitive doctoral programs in engineering may have an average score of over 160 on the verbal and quantitative sections, and over a score of 4 on the writing section.

## MCAT, GMAT, LSAT, ETC.

Medical schools require the MCAT, law schools look for the LSAT, and MBA programs usually require applicants to provide GMAT scores. Take note that some institutions have their own entrance exams for engineering programs. Research the prospective program thoroughly so you do not miss these critical exams.

## Recommendation Letters

Letters of recommendation provide context for an applicant's numerical scores. Generally speaking, letters written by professors known to committee members tend to carry more weight than those written by "unknowns." Enthusiastic letters written by well-known people in the field, especially if they signify that they think highly of you, can be very helpful in moving your application towards the top of the list.

To ensure that your letters cover all the bases is to provide your references with all the necessary information well in advance of the application deadline. Do not assume that a faculty member will remember anything about you. Make an appointment to speak with your references in person. Create a "cheat sheet" that includes talking points for the recommender to include in the letter such as classes you have taken with them or special achievements on your resume.

Provide each recommender with relevant background information:

- Recommendation forms
- application due dates
- your unofficial transcript
- your updated resume
- your admission essay or professional goals
- stamped envelope if mailing completed letter

Give your references plenty of time (three to four weeks at minimum) and send a polite reminder email at least a week ahead of the due date if the letter has not been submitted. Also, remember to send a thank you note to each of the individuals who write recommendation letters for you.

## Personal Statement or Application Essays

In addition to the documents mentioned above, you will probably have to write one or more essays, called a statement of purpose or personal statement. This essay is different from the one you wrote to apply to college as an undergraduate. Read on for advice on writing an effective personal statement.



# PERSONAL STATEMENTS

Whether you are applying for graduate school or a summer research experience, you will probably have to write one or more essays, called a statement of purpose or personal statement. This essay is different from the one you wrote to apply to college as an undergraduate.

An effective personal statement:

- demonstrates your knowledge of your field of study, and of the specific program and institution to which you are applying,
- allows the readers to get a feel for you as a person, as a student and researcher, illustrating your potential to conduct research and contribute to the field, and
- highlights your writing skills in a cohesive essay, not a chronological list of your accomplishments or an autobiography

## PERSONAL STATEMENT DO'S AND DON'TS

### DO

- ✓ Demonstrate knowledge of the university/faculty, & your reasons for applying to this particular program
- ✓ Address the questions in the prompt with specific examples from your past experience
- ✓ Use clear, concise, professional language and vocabulary relevant to the field
- ✓ Reference industry and academic sources
- ✓ Use a positive tone when describing how you've overcome adversity
- ✓ Let your personality show in your writing
- ✓ Proofread your essay and have it critiqued by at least one other person

### DON'T

- ✗ Copy and paste from someone else's essay, or from a previous statement you have written
- ✗ Exaggerate your accomplishments (This is considered lying)
- ✗ Throw in jargon to sound smarter (you won't) or include clichés like, "I am a lifelong learner."
- ✗ Base your essay just on your individual opinion
- ✗ Dwell on negative aspects of your experience, or your lack of experience
- ✗ Incorporate humor or address controversial topics
- ✗ Submit an essay with errors in grammar, spelling, or punctuation

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# THE WRITING PROCESS

## 1. READ THE PROMPT

Prompts for personal statements can be general, essentially asking you to make the case for why you should be admitted to the program. Some applications will require you to answer a series of short essay questions.

## 2. RESEARCH THE INSTITUTION AND PROGRAM

Look at the coursework, the graduation requirements, the facilities, support and opportunities to interact with faculty and other influencers. How will you use the tools provided by this institution to achieve your goals? What specific topics or methodologies do you hope to learn about or use?

## 3. REFLECT ON YOUR SKILLS & MOTIVATION

Grab pen and paper, or open a blank document. Brainstorm your answers to some of these questions:

- How did you first become interested in this field and what have you done since that has further stimulated your interest and/or reinforced your conviction that you would like to pursue a career in this area?
- What skills (analytical, technical, interpersonal) will help you be successful in graduate school and beyond? Give concrete examples of how you have polished these skills (from classes, work or other experiences)?
- How have life (non-academic) experiences influenced your professional and academic choice? Where are you coming from? Where are you going?
- Are there any gaps/discrepancies in your academic record that you should explain (great grades but mediocre GRE scores)? Note particular challenges (ex. needed to work full time to support family while in school).

## 4. NEXT, CREATE AN OUTLINE

No writing yet! Here is a suggested format to get you started in structuring your essay:

### I. Introduction

- A. Introduce a central theme. Can take the form of an anecdote but no clichés!
- B. Include a strong thesis statement about your interest in and qualifications for this program.

### II. Relevant Academic Accomplishments

- A. Select just one or two experiences from your resume that best highlight skills and background knowledge.
- B. Refer to professional literature, seminars or conferences you have attended that are related to the field.

### III. Research Experience and Potential

- A. How have you engaged with a research process and team, contributed to experiments and write-ups?
- B. Highlight challenges that you overcame in your research, or the impact of your work on the project.

### IV. Additional Information

- A. Has a particular work, volunteer, or leadership experience shaped you? What skills did you gain?
- B. Address gaps in your experience or academic performance.

### V. Goals and Future Plans

- A. Discuss your specific and realistic learning goals for this graduate school program.
- B. Are there certain faculty or labs that interest you? What will you contribute to this institution/program?

### VI. Conclusion

- A. Relate back to your opening theme. Complete the story for your reader.
- B. Give the reader a lasting impression of your motivation and suitability for this graduate program.

## 5. WRITE A DRAFT - AND THEN REVISE IT

Using the outline, write a draft essay. Put it away for a day, then read it again, editing for clarity and content. Fix any errors in spelling, grammar, and punctuation before you give it to someone else to critique.

## 6. PROOFREADING & CRITIQUES

Have your essay critiqued by at least one other person before you make final edits and submit it with your application.

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# PAYING FOR GRADUATE SCHOOL

The costs associated with attending and completing graduate school can add up. You will want to plan for these items:

- Tuition (in-state or out-of-state, non-standard rates)
- Fees (institutional, lab, class)
- Books and supplies (including computers, software, study guides)
- Housing & Utilities (rent, bills, phone, internet)
- Transportation (daily and holiday)
- Healthcare (insurance, doctor visits, prescriptions and treatments)
- Meals (groceries, eating out)
- Professional development (conference fees and travel, publishing costs)
- Shopping and Debt (loans, credit card payments, clothing, entertainment)
- Loss of income (if leaving a job to go back to school full time)

## Financial Aid 101

Graduate students may be eligible to receive financial assistance with all or part of the costs associated with their studies. Some aid may be applied towards the cost of tuition, books and supplies. Others may cover travel to conferences or research travel for dissertation completion.

Some fellowships and grants may be destined for special populations—i.e., the economically and educationally disadvantaged, disabled students, veterans, women, and minorities.

If you are applying for financial aid, you will probably need to complete one or more standardized forms, which may include the Free Application for Federal Student Aid (FAFSA). The FAFSA is a financial questionnaire that is revised annually and can be obtained online at [www.fafsa.ed.gov](http://www.fafsa.ed.gov). Some schools and other funders will also want you to complete the College Scholarship Service Financial Aid Profile or their own supplemental forms.

## COMMON TYPES OF FINANCIAL AID

- grants
- scholarships
- fellowships
- research assistantships
- teaching assistantships
- administrative graduate assistantships
- employer tuition remission
- work-study (uncommon for graduate students)
- private, federal, and state loans

## MERIT-BASED AID IS AWARDED ON

- academic accomplishment
- talent or promise

## NEED-BASED AID IS AWARDED ON

- income & assets
- other financial obligations

## FUNDING SOURCES

- universities, academic departments
- local, state, federal governments
- private foundations and donors
- professional organizations
- non-profit organizations
- student's employer
- banks, financial institutions
- community and family

Research scholarships and fellowships by checking (prospective) department website or contact the Director of Graduate Studies in the appropriate department. You can also look at national organizations (ASME, ASCE, AIAA, etc) or the resources below for further guidance.

University of Maryland National Scholarship Office: <http://www.scholarships.umd.edu/grads.html>

University of Maryland Graduate School: <https://gradschool.umd.edu/funding>

National Science Foundation (NSF) Graduate Research: <https://www.nsf.gov/> -> Funding

American Society for Engineering Education: <https://www.asee.org/fellowship-programs/graduate>

## ACCEPTED! MAKING A DECISION

Keep a spreadsheet of the programs to which you have applied, including their admissions notification dates. Once you start to hear back, make note of the decision date, financial aid provided, etc. for each institution.

- Visit the school if you have not done so already. There is a good chance that the institution will offer free visits to the school for accepted graduate students.
- Not all funding is created equal. Grants, scholarships, or fellowships usually have few obligations required of the recipients. Research assistantships can provide you with hands on experience, mentoring opportunities and the chance to publish in peer-reviewed journals as a student (important for those considering a career in academia). Teaching assistantships also provide great experience, but tend to take up more time than you expect.
- Respond to all offers of acceptance. If other institutions have offered you more financial aid, this would be the time to inform your school of choice. They may be able to negotiate the funding they provide.
- Contact professors that you would be interested in working with.
- Continue to apply for additional funding sources.

## GRAD SCHOOL APPLICATION TIMELINE

9-12 months before applications are due:	<input type="checkbox"/> Research schools and, if possible, visit <input type="checkbox"/> Study and/or take a test preparation class for the GRE or other required standardized test
6-9 months before applications are due:	<input type="checkbox"/> Take standardized tests <input type="checkbox"/> Consider which faculty members to ask for recommendation letters <input type="checkbox"/> Research sources of financial aid and collect all necessary forms <input type="checkbox"/> Obtain application packets from selected schools
4-6 months before applications are due:	<input type="checkbox"/> Write a draft for each admissions essay (if applicable) <input type="checkbox"/> Ask a faculty advisor to review your essay and write recommendation letters for your application <input type="checkbox"/> Arrange for your official transcripts to be sent, consider asking the registrar to wait until fall grades are in before sending (if time permits)
2-4 months before applications are due:	<input type="checkbox"/> Complete your application forms. <input type="checkbox"/> Mail completed application packet. <input type="checkbox"/> Most schools notify you upon receipt of each application via an online application portal, by email or postcard. Keep track of these. If you don't receive a notification before the deadline, contact the admissions office to ensure that your application has been received.
After the application packet is mailed:	<input type="checkbox"/> Send thank you letters to all of those that provided recommendation letters or reviewed your information. <input type="checkbox"/> Fill out the Federal Student Aid (FAFSA) application as soon as you get your tax forms <a href="http://www.fafsa.ed.gov">www.fafsa.ed.gov</a> . <input type="checkbox"/> Visit schools to which you've been accepted. Discuss acceptances and rejections with a faculty member or the career/graduate admissions counselor at your school. And finally notify the program of your acceptance. <input type="checkbox"/> Relax and enjoy the rest of your senior year!

If you would like an Engineering Career Services advisor to proofread a personal statement for content and form,

- Email it to us at [careerengr@umd.edu](mailto:careerengr@umd.edu) **at least seven (7) business days before you wish to submit it.**
- In your email, include the prompt, and list 2-3 weekdays and times that you can be available to discuss edits.
- Outside of peak recruiting season (September–October, February–March), we generally respond within two (2) business days.