

Graduate School: An Overview

SHOULD I GO
TO GRAD
SCHOOL?

UF | UNIVERSITY of
FLORIDA



Master's Degree

- 3.5 years

Ph. D.

- 3.5 years

Post-Doc

- 1 year

Research Degrees

- Master's Degree
 - Takes around 2 – 3 years after undergrad.
 - Select an advisory committee.
 - Requires additional course work.
 - Often involves a written thesis and defense.

Research Degrees

- Ph.D. – (Doctor of Philosophy)
 - Highest degree one can earn in a field.
 - Generally takes 3-5 years.
 - ✓ May be shorter if you have a Master's.
 - Also requires additional course work.
 - Involves a research project and dissertation.
 - Often involves and/or requires:
 - ✓ publications in a peer-reviewed journal.
 - ✓ a teaching component
 - ✓ additional examinations

- Who hires research scientists?
 - Academia
 - ✓ Universities and Colleges
 - Industry
 - ✓ Companies (for profit or non-profit)
 - ✓ Organizations
 - Government
 - ✓ Research Institutes
 - ✓ Administration (FDA, EPA, NSF, NIH)
 - State & Local Agencies
 - ✓ DHEC, Fish & Game Commission, Dept. Health & Human Services
 - ✓ Administration (FDA, EPA, NSF, NIH)

Types of Scientific Research

- Basic research
 - Usually no profit motive or commercial application
 - Requires funding
 - There is no way to predict the value of science
 - Does basic research make you money?
 - ✓ Sometimes
 - ✓ Usually NOT

Types of Scientific Research

- Applied research
 - Private industry applications and funding
 - Seek answers to questions for immediate and profitable use
 - Mostly associated with biotechnology
 - ✓ Pharmaceuticals
 - ✓ Agriculture
 - ✓ Biochemistry
 - ✓ Biological / genetic engineering
 - ✓ Microbiology

- What it takes to get in to graduate school
 - Application (usually application fees)
 - Transfer of transcript from undergrad
 - 3.0 GPA (higher in the major)
 - Acceptable GRE scores.
 - ✓ Some schools require scores for both the general and subject tests.
 - Strong letters of recommendation

- Departments consider applications:
 - Academically capable?
 - Is money and/or space available?
 - Is there an available faculty mentor for them?
 - Potential candidates may be brought to campus for an interview.

- The interview
 - Meet faculty members.
 - Talk to other graduate students.
 - Go with ideas and background.
- After the interview, decisions are made
 - Letter of regret.
 - Letter or phone call with an offer.

- Graduate students receive a stipend to go to school and at many institutions tuition is waived or paid by the department.

- Types of stipends
 - Teaching assistantship
 - ✓ Paid by University
 - Research assistantship
 - ✓ Paid by Department or Mentor's Grant

- Choosing a graduate school
 - Think faculty, lab, and department rather than mascot.
 - Reputation in field of interest.
 - Funding availability.
 - Cost of living.
 - Geographic region.

- **General timeline:**
 - Decide on a mentor and research project.
 - Appoint an advisory committee.
 - Research and coursework.
 - Oral examination (“qualifying exam”)
 - Research
 - Write dissertation
 - Exit Seminar
 - Defense
 - Publication

Graduate Degree Programs at MUSC

- Biochemistry and Molecular Biology
- Bioinformatics
- Epidemiology
- Pharmacology
- Anatomy and Cell Biology
- Microbiology
- Immunology
- Nursing
- Pathology
- Physiology
- Neuroscience

Graduate Degree Programs at USC

- Biomedical Science
- Biological Sciences
- Genetic Counseling
 - (MS)
- Biostatistics
- Epidemiology
- Pharmaceutical Science
- Nursing (Ph.D., ND)
- Environmental health science
- Marine science

Graduate Degree Programs at Clemson

- Biochemistry
- Genetics
- Microbiology
- Biosystems engineering
- Environmental toxicology
- Biological sciences
- Zoology
- Animal physiology
- Entomology
- Fisheries and wildlife management
- Plant sciences