Rules for a Successful Graduate Program

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General Philosophy

All parties should keep their eye on the prize.

This is a joint effort.

Advisers *and* students must be committed to success.

This takes a lot of time and effort.
Student Responsibilities

• Get experiences and documented accomplishments necessary to graduate and be employable.
• Research planning (background, justification, objectives, hypothesis, and writing research work plans)
• Research experience
• Teaching, grant writing, presentations at meetings, mentoring other students, and writing manuscripts.
Advisor Responsibilities

• Get research done
• Graduate students in a timely manner
• Publish student research
• Present abstracts at meetings
• Provide teaching experiences
• Networking
First Semester

• Read current project proposals, recent publications, and other student work plans
• Start functioning in a scientific manner: discover what is known, generate questions and identify what is unclear or unknown; develop ideas for controlled experiments to discover and answer the unknowns.
Strategies

• Write brief summaries of papers
• Generate 3 questions from each
• Identify flaws, the next experiment, alternative treatments/approaches
• Creativity is hard to learn and teach
• Participate in journal clubs
• Mentorship from other students
• Assist other students with their research
Second Semester

• Continue coursework and assist others with research
• Identify committee members and get to know them!
• Identify project area: read, synthesize, summarize on paper, and discuss
• Accumulate notes and references that will become your Lit Rev.
Second/Third Semester

- Write project proposal (25+ pages)
- Project summary
- Introduction
- Literature Review (what is known and not known, and why discovery is important)
- Experimental Procedures (title, objectives, hypothesis, rationale, all experimental approaches, timeline)
- Literature cited
- Get examples from files
Project Proposal (cont)

• Lit rev should be broken down into sections that you and the Advisor agree on. This helps organize the Lit. Rev and will reduce floundering.
• Proposal Lit review will become the bulk of the thesis/dissertation lit rev.
• For Thesis Lit Rev: update recent discoveries or cover areas not foreseen and you are done with Chapter 1!!
Present Proposal to Committee

• Outline and Experimental Plan with complete procedures and references
• “Further experiments will be result driven”
• 30-40 min. presentation followed by hrs of discussion (practice with lab group first)
• Take input and resolve differences
• Approval by the committee

Rules for a Successful Graduate Program
Third/Fourth Semester

• Preliminary Exam (for PhD)
  o Meet with Committee
  o Practice, coach, study, and train
  o 1 to 2 months prep time
  o Learn strategies for success
Lab habits

• Write complete work plans for each experiment
• Write Intro and Exp Proc in publication form
• Complete stats promptly and make data tables/figures
• Share with Advisor
• Submit for publication ASAP
• Set deadlines!
• Present at meetings
• Be a good citizen
• Network
• Co-authorship
• Participate in outside projects
• Go through the journal review process
Summary

• Work hard
• Play hard
• Make it fun
• Share experiences
• Make friends
• Be dedicated to success
• What will limit your ability to distinguish yourself?