Class Description:

ECE 8801 A: Are You Thinking of Becoming an Academic?

This class provides an insight into job and life of a faculty, what does it take to start and maintain a successful research program, how to advise students, how to apply and get a job in academia, how promotion and tenure process works, and other ins and outs of a faculty job. The objective of this class is not to lecture how to become a professor but to provide sufficient insight into the job requirements so students can make educated decisions about their future careers. Upon successful completion of this class, students will be able to make more educated decision which career path is better for them.

Textbook:

Optional
1) Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty Second Edition, Editor:Laura Bonetta,Ph.D. Based on the BWF-HHMI Course in Scientific Management for the Beginning Academic Investigator (available online http://www.hhmi.org/sites/default/files/Educational%20Materials/Lab%20Management/Making%20the%20Right%20Moves/moves2.pdf)
2) Advice to Rocket Scientists: A Career Survival Guide for Scientists and Engineers (Library of Flight), Jim Longuski (https://www.amazon.com/Advice-Rocket-Scientists-Survival-Engineers/dp/156347655X)
1) Kathy Barker, At the Helm: Leading Your Laboratory, Second Edition 2nd Edition

Prerequisites: None

Grading:

50% Attendance and participation in discussions

50% Essay on why do you want or do not want to be a faculty

Topics for Discussion:

The job of a faculty
Ranks and career paths
A day in the life: small business ownership in a cooperative environment
Variations by type of institution
The role of tenure
Teaching vs. Research vs. Service

The job in industry vs. academia vs. government vs. startup
Ranks and career paths in industry
Ranks and career paths in government
Joining or starting a startup
What are the advantages/challenges/requirements of these options

Funding a research program
Funding types, sources and processes (OSP, etc.)
Budgets (what does it pay for) and fiscal planning
Planning and writing a research proposal
Increasing your chances of funding (networking, teaming, reviewing)

Establishing and maintaining a research group
Input does not equal output: producing scholarship
Building a team: hiring and firing, size, composition
Management and mentorship for productivity and scalability
Hiring and firing students

Local resources and collaboration
Building good habits and time management
Align time with priorities: reasons to say "yes" and how to say "no"

Building a professional network
The varieties of collaboration
Should you collaborate?
Setting up a collaboration
The ingredients of a successful collaboration
Special challenges for the beginning investigator
International collaborations
When a collaboration is not working

Mentorship
Identifying what you need
Roles of mentors: Professional feedback and development
Access to opportunities
Accountability for what really matters
Role models
Scholarly community
Finding mentors
Effectively utilizing mentors

Promoting your brand and seeking a job
How are jobs advertised (or not)
To postdoc or not?
Develop your pitch for a research program (not project): pain, proposition, and path
Writing your teaching statement and CV
Developing your research statement
Letters of recommendation
What's happening on the other side: the search committee?

Interviews and offers
Basic structure and timeline
Job talk
Meetings with faculty
Meetings with leadership
Evaluating an institution: what should you look for?
Negotiating a job offer (salary, startup, space, deferral)

Promotion and tenure process
Basic elements of evaluation
Formulating a research identity (balancing new vs. established directions)
Evaluation letters and the role of your community
Alignment of teaching and service with research goals
Managing the timeline backward from submission

Understanding University Structure and Planning for Tenure
Organization of a "typical" university
People you should get to know
Faculty governing bodies and committees
Support facilities and services
Responsibilities beyond the laboratory
The scientific investigator and the outside world
Planning for promotion and tenure

Academic Honor Code: The Honor Code applies to every aspect of this class, with only one noteworthy exception: student discussion of concepts and techniques for solving homework problems is permitted and even encouraged outside the classroom. However, *all submitted work must be original*. More details on academic honor code can be found at: http://www.policylibrary.gatech.edu/student-affairs/academic-honor-code

Access and Accommodations: At Georgia Tech we strive to make learning experiences as accessible as possible. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Office of Disability Services to explore reasonable accommodations. More details can be found at: https://disabilityservices.gatech.edu/

Absence Policy: The class will follow institute absence policy detailed at http://www.catalog.gatech.edu/rules/4/