

Demystifying Academic Careers for Graduate Students

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ABSTRACT

A graduate seminar series has been developed by the Purdue University student chapter of ASEE. Seminar topics include suggestions for getting the right job, keeping a job, and developing a personal education philosophy. Attendance has averaged over 100 students per session, demonstrating the success of the program.

INTRODUCTION

Throughout their education process graduate students are inundated with information regarding their major field of study, but rarely are they offered any instruction regarding their many career opportunities. Students trying to decide the career path best for them, how to enter that job market, and how to become successful upon entry, while developing a style of their own, need a venue to find information to assist them in these difficult tasks. Faculty members are a good source of information; however, they may not have the experience or the time necessary to do a thorough job mentoring graduate students regarding their careers. There is literature available from a variety of sources^{1,2,3,4,5}. However, many students don't realize this type of literature is available, and if they do know there is information out there, they don't know where to easily find it. The Purdue University Student Chapter of the American Society for Engineering Education (ASEE) offers seminars to help fill this void in the educational process of graduate students. The purpose of this paper is to present an overview of the graduate seminar series.

THE GRADUATE SEMINAR SERIES

The graduate seminar series is designed to inform graduate students about three areas of their career development process: (1) getting the right job, (2) keeping a job, and (3) developing a personal educational philosophy. These seminars are designed to provide graduate students with a source of information based on the experience, expertise and wisdom of the presenters. Since 1993, more than ten graduate seminars have been held. Each seminar is coordinated and facilitated by graduate student members of ASEE. The success of the seminar series can be seen by the popularity of the seminars. Attendance has averaged over 100 graduate students per seminar. The following sections highlight the various types of information presented to the graduate students.



Getting the Right Job

The first class of seminars offers career guidance for graduate students. A wide variety of topics are covered. Three previously held seminars are highlighted here as examples of the types of information provided. During a seminar depicting the differences between academia, industry and government careers, three presenters highlighted their experiences and offered advice based on lessons learned from their various career paths. In another seminar, a faculty member offered suggestions for successfully preparing an academic vita. Yet another seminar was designed to help prepare students for the academic interview process. A mock interview was conducted by an engineering faculty member to demonstrate what a job candidate might expect during an on campus interview. Each seminar is designed to present a variety of views to give a broad perspective of the issues

In addition to these seminars, "The ASEE Student Chapter Academic Job Search Handbook - a Collection of Resources and Useful Information" has been prepared. This handbook can be accessed on the world wide web at <http://widget.ecn.purdue.edu/-asee/>.

Keeping a Job

The second class of seminars offers information to help graduate students keep the academic job they will work so hard to get. Different academic institutions require different performance from their employees. A preview of these types of activities is given to graduate students to help them decide if an academic career is right for them, find out what they can begin doing now to ensure future success, and prepare questions to ask prior to accepting a faculty position.

Two panel discussions have been held offering different perspectives on issues such as innovative teaching methods and expected course loads, promotion and tenure, starting a research program, getting research funding, and academic interviews. The first panel was comprised of the department heads of different engineering disciplines at Purdue University. A second panel consisted of new faculty members from neighboring institutions that cover the spectrum from institutions with a high research emphasis to a high teaching emphasis.

The importance of research funding is very high on the graduate student's list of concerns. Two lectures have offered advice regarding the issues surrounding research funding. One seminar was given by a faculty member about getting started in the research process. The topics included finding funding sources, writing proposals, enhancing one's chance of winning grants, and understanding the proposal review process. The second seminar was given by the Deputy Assistant Director of the Engineering Directorate of the National Science Foundation (NSF). It highlighted the current programs and future trends of NSF.

The publication process is another concern of graduate students interested in academic careers. A seminar was organized which presented a journal editor's perspective on the obligations of authors, reviewers, and editors. Faculty members from different engineering disciplines provided insight during an ensuing panel discussion.



Developing a Personal Educational Philosophy

As graduate students enter academia, they need to develop their own personal educational philosophy. This philosophy will dictate how they present themselves in the classroom environment. Each seminar in this category is designed to improve the caliber of tomorrow's engineering educators.

Academics are producing graduates for the corporate customers who hire them. A seminar was held where representatives from local industry discussed the characteristics they look for in engineering graduates entering the work force. They offered commentary on the responsibilities of universities to fulfill the needs of industry. Suggestions on how to develop practical abilities in students were given.

During the Illinois/Indiana ASEE Sectional Conference held on the Purdue University campus, Dr. James Stice, of the University of Texas at Austin, conducted a teaching workshop. The presented material included teaching problem-solving, the purpose of testing as well as how to design and administer tests, grading, and suggestions for how different learning styles can be accommodated in the same classroom.

Several other seminars discussing educational philosophies have been held. The topics covered include what makes a good teacher, trends in engineering education, the future of the research institution, and balancing research and teaching priorities.

FUTURE DIRECTIONS

There are many potential topics that can serve to assist the graduate student population in their professional development. In the future, the graduate seminars will include:

- Proposal writing
- Getting funding from industry
- Diversity in the classroom
- Faculty internships
- Young investigator awards
- Engineering technology education
- Suggestions for preparing a five year research and teaching plan
- Innovative classroom techniques
- Integrated curricula

CONCLUSIONS

In conclusion, a graduate seminar series has been conducted as part of the activities of the first student chapter of ASEE formed at Purdue University. The series deals with getting the right job, keeping a job, and developing a personal educational philosophy. The attendance, averaging over 100 graduate students per seminar, is evidence of the success of the series. The sustained interest in these programs is the incentive the student chapter needs to continue developing quality seminars in the future.



ACKNOWLEDGMENTS

The authors would like to acknowledge the financial support of the General Electric Foundation and Allied Signal Corporation.

REFERENCES

- [1] Bowman, Christopher N. "Teaching in the First Few Years." Chemical Engineering Education Fall 1994: 280-283.
- [2] Davidson, Cliff I., and Susan A. Ambrose. The New Professor's Handbook. Bolton, MA: Anker Publishing Company, Inc., 1994.
- [3] Greene, Timothy J., et al. "Is This an Offer You Can't Refuse?" ASEE PRISM September 1994: 30-33.
- [4] McKeachie, Wilbert J. Teaching Tips. Lexington, MA: D.C. Heath and Company, 1994.
- [5] Wankat, P. C., and F.S. Oreovicz. Teaching Engineering. New York: McGraw-Hill, 1993.

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