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## The Woman's Guide to Navigating the Ph.D. in Engineering & Science [Book Review]

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### What are qualifiers?

Before you begin actual work on your dissertation, you must pass what are commonly known as qualifiers or comprehensive exams. Qualifying exams are given by your department to test your breadth and depth of knowledge and to see if you have “what it takes” to earn a doctorate. These written and/or oral exams test your ability to reason, to solve problems, and to create original knowledge.

Typically, qualifying exams must be taken before you actually become a Ph.D. candidate. Most departments require that you complete at least one full-time semester before you take the test for the first time.

If you began your Ph.D. program with just a bachelor's degree, you will probably take the qualifiers early in your third year of study. If you already have a master's degree, plan on taking the qualifiers early in your second year.

Expect your committee members to ask a number of questions concerning their field. You will probably

**A review:** *The Woman's Guide to Navigating the Ph.D. in Engineering & Science*  
(by Barbara B. Lazarus, Lisa M. Ritter & Susan A. Ambrose)  
<[www.wiley.com/ieee](http://www.wiley.com/ieee)>

This book provides excellent guidance and personalized advice from a broad spectrum of woman engineers and scientists. The book starts with a description of doctoral programs—what is a Ph.D.? what kinds of positions do engineers and scientists with Ph.D.s hold? why might someone want to pursue a Ph.D.? The book then takes the reader through the various steps (and potential hurdles) of the Ph.D. process offering pointed and specific advice without preaching. Especially useful are the sections describing how to acquire graduate research funding (assistantships) and choosing a research committee and topic.

New graduates will find the chapter on job seeking helpful in pursuing both industry and academic positions. The book offers tips on effective interviews and how to negotiate the job offer. The topic of the post-doctoral experience is also covered in an unbiased manner with the pros and cons clearly enumerated. While the book does present some advice specific to women, the majority of the information is pertinent for all students, regardless of gender or race. I would highly recommend this book to any engineering or science student considering doctoral studies. —*Mariesa L. Crow, Professor at the University of Missouri-Rolla*

know more about some topics than others, and you may also know more about a particular topic than your committee members do. This is perfectly natural. If you do not have any difficulty answering your committee's initial questions, be prepared for them to up the ante. Remember, the purpose of this exam is to test the limit of your knowledge and find out exactly what you know and how you think.

In some departments you have the option of choosing your own qualifying exam committee. Structuring your committee really depends on how you will be tested. Be careful not to put two people on your committee who disagree with each other on all major issues. Choose committee members who will complement each other and create a balance of different strengths and weaknesses.

Remember that you will eventually need three references when starting your career. Your advisor is one, and the other two generally come from your qualifying exam committee.

Excerpted & adapted from *The Woman's Guide to Navigating the Ph.D. in Engineering & Science*