APPENDIX A

OBTAINING AN ACADEMIC POSITION

This appendix closely follows the article by Wankat and Oreovicz (1983)—"The graduate student's guide to academic job hunting"—with the addition of three more-recent references. To obtain an academic position, candidates go through a series of steps, with the foremost requirement being that they have something to sell: a solid graduate education and good research. They should also know at least three professors well. This first step serves as the basis for the second step: building a resume.

The resume should be carefully and professionally done. It should include all significant professional activities, and for academic positions should highlight research and teaching. Included should be papers which have been published, are in press (that is, have been accepted by an editor), have been submitted, and perhaps are in preparation. The latter category will be discounted by many examiners of the resume, but it doesn't hurt to include them. If you have had a substantial share in writing a proposal, include it also. List any TA duties, and if you did more than just grade papers, list the activities. The names, addresses, and phone numbers of references should be included on the resume. Since you will need good references from good people, you should have been getting to know these professors professionally over the last three or four years. We suggest including the references on your resume instead of stating that they are available on request since it reduces the barriers for prospective employers. When the resume is finished, ask two people to proofread it carefully. Many professors use the resume and your cover letter as an indication of how well you can communicate in writing.

In some areas of engineering such as industrial engineering, the Department Chairs Organization collects resumes of Ph.D. candidates interested in academic positions. This can supplement your search, but do not assume that this resume book will get you a job offer.

1 While you are preparing your resume, develop a research plan for the next five or so years. This is a separate document which some schools may want submitted at the same time as the resume. As for research, where do you want to be five years from now? Following up on Ph.D. research is fine but be sure also to branch out from the research of your major professor.

2 What equipment needs do you anticipate for getting started in your research? In many engineering fields it is now common to give new professors a start-up package. You need to determine three acceptable start-up packages. The first is a "blue-sky" package which includes everything that you could profitably use in your research. The second is a "middle-of-the road" package which is sufficient to get you well started on research but leaves one or two major items of equipment for later acquisition. The third is an "absolute minimum" package which is the minimum you can accept and still be able to do research in your area. These packages need to be developed thoughtfully.

3 Are there any major new experimental, numerical, or theoretical skills which will aid you in your research? If so, plan on how you will obtain these skills. Now is a good time to consider the appropriateness of a postdoctoral position. It can give you the opportunity to learn new research skills, work with a well-known professor, publish your Ph.D. papers, write some more papers, and think deeply about research. A word of caution, though: If not planned well, the postdoctoral position can also leave you in a holding pattern.

4 While preparing your resume, prescreen openings. Every March the ASEE publishes the *Engineering College Research and Graduate Study Directory*, and in November the *Undergraduate Programs in Engineering and Engineering Technology Directory*. These two compendiums of data can be very useful for comparing schools and for getting an idea of where to apply. Talk to several professors in your department to obtain a qualitative feel for different departments. Be sure to get several opinions because individual biases can be strong. Now is also the appropriate time to become a reader of the academic openings sections of the appropriate journals in your area of engineering. In addition to the specialized journals, read *ASEE Prism.* If you are also interested in a nontraditional position such as general engineering, freshmen engineering, or an interdisciplinary engineering position, then check out the *Chronicle of Higher Education* in your university library.

5 Next, decide on the schools to which you will apply. The prime source of these schools consists of those who have advertised. However, if you are interested in a particular university, send a resume even if you haven't seen an advertisement. Perhaps you missed it.

6 Prepare three generic cover letters on your word processor. One should be for schools which have advertised a position close to your qualifications. Another letter is for schools which have advertised a position which really doesn't fit your qualifications. Since many schools will bend qualifications for strong candidates, it pays to write to these schools. The third letter is for schools which have not advertised. The cover letters should be personalized by naming the school and the position you are applying for. The writing in the cover letter must be impeccable, or your resume may not receive the attention it deserves. Proofread all cover letters to be sure that you name the school the letter is going to and the correct position. Nothing is more damaging to a candidate than a letter which applies for the wrong position. Since academic searches are usually conducted from October to May (Stevens, 1990), you need to plan accordingly in developing your job search.

If you can get your letters sent out a few months before a major professional society meeting, you can use the meeting to further your job search. Mention in your cover letter that you will be presenting a paper at the meeting (this obviously requires advance planning) and that you would be happy to meet with them at this meeting. Many departments use professional society meetings as a chance to screen candidates before inviting them for a campus visit. The department may well send someone to listen to your presentation and may arrange an informal meeting with you. Come to this meeting prepared with extra copies of your research plan and resume. The professional society meeting can also provide an opportunity to meet with professors from schools you haven't yet applied to.

7 Once the letters and resumes have been sent, you sit and wait. Most schools will quickly send you a letter of acknowledgment, but this is likely to be the only thing which is done quickly. It is not unusual for departments to receive several hundred applications for a single position, and processing all of these applications takes time. Unless your obvious superstar status shines through, expect to receive many more negative responses than positive ones. For this reason, you need to apply to a relatively large number of schools.

8 Once you have at least one positive response, you can plan the interview trip. Arrange it at a time which is convenient for both you and the school. If you get several invitations to interview, put the schools you are most interested in third or fourth. The first and second interview trips will be learning experiences, and you will probably wish that you could do them over again. The third or fourth visit is also the best because by this time your seminar and your ability to answer questions have been polished. But don't take too many interview trips. They are tiring and time-consuming, and your interest and effectiveness will wane after some point. The key to the interview trip is preparation. Be prepared to discuss yours and others' research. Get a copy of the school's research report and study it. Find out what research professors at the school are doing. You might even consider reading some of their recent articles. Be prepared to elaborate on your research plans for the upcoming years.

9 Above all, be prepared for your seminar. Many schools use the seminar as a measure of how good your research is and how good a teacher you will be (ASEE, no date). Practice the seminar ahead of time and be sure it fits within the time guidelines. Remember to start fairly slowly with a general introduction that everyone in the audience can follow. Then lead up to the research results which will excite the experts. Rehearse by having your major professor and graduate student colleagues ask you questions so that you can practice answering both friendly and hostile questions. Tips on giving the seminar are given by Wankat and Oreovicz (1983) and ASEE (no date).

10 Observe social amenities. During the visit do your best to shine both professionally and socially. If you are traveling across the country beware of jet lag. Relax and take a nap on the plane so that you will be fresh for dinner. During social occasions follow normal rules of etiquette—in particular, don't drink too much. If the evening starts to get too late, be assertive about your need to sleep. On the interview day be interested in the research of others and be enthusiastic about your own research, making sure that your enthusiasm carries over to your seminar presentation. Avoid becoming defensive during the question period. Some of the questions may be purposefully hostile to see how you perform under pressure. If you don't know the answer to a question, say "I don't know. That is an interesting question and I'll find out the answer when I get back home."

11 Ask questions and determine the school's climate. Ask the department chair about teaching loads, start-up funds, office and laboratory space, travel money, and so forth. Ask other faculty questions which will help you to determine the school's environment for teaching and research: How qualified are the undergraduate and the graduate students? Are secretarial and other services satisfactory? Is the research space you will be assigned adequate, or would extensive remodeling be required? Are the assistant professors generally happy, and do they feel they have been fairly treated? Do the professors in the department work well together, or is there significant bickering and fighting? Since many people will not be bluntly honest, you will have to pay attention to numerous and subtle cues to get a good picture of the department's health.

12 Use the return flight to begin your follow-up. Record your impressions of the department and note any questions that you forgot to ask but will ask if the department makes you a job offer. Make a to-do list of things to follow up on. Send a thank you letter to your host or hostess. If you have promised anyone reprints, send them. Send in your receipts and expenses for the trip. Then, sit back and wait some more.

13 Assuming that you get a job offer, now is the time for you to negotiate. Your ability to negotiate is greatest when you have received, but not yet accepted, a job offer. Although practically anything can be negotiated, a new assistant professor is most likely to want to negotiate the start-up package, teaching load and assignment, and salary. If the offered start-up package is less than your minimum package, then you might be better off refusing the offer. An alternative is to arrange a compromise, such as asking for the necessary amount of money but offering to spread it over two fiscal years. Of course, if you are being unreasonable, you may not find any schools which will provide sufficient funds. To avoid having this occur, discuss your start-up needs with at least two professors at your university before starting the negotiation. Items involving salary, summer salary, and start-up funds should all be obtained in writing to avoid future misunderstanding.

14 To accept or not to accept? Most engineering departments have only one position open at a time. Thus, the department will want to know fairly quickly if you will accept the position. Murphy's law holds here: The timing of offers never works out well. If you can, schedule all interview trips close to each other so that you can at least visit each school before you need to accept an offer. After one school gives you an offer, it is certainly ethical to visit other schools as long as you haven't decided to accept the first offer. An interview trip after you have an offer may well be your best interview trip since some of the pressure of finding a job has been removed. Tell the other schools about your deadline for making a decision. The school making the first offer probably will extend the time for decision if pressed but won't like to do so. Usually, when a candidate keeps pushing the decision back, he or she eventually accepts another offer. Once you have made a decision, accept the offer in writing, inform other schools of your decision, and then get back to work so that you can finish your thesis and report to work on time.

The procedure for professors who want to change jobs can be quite similar (Baldwin, 1990). A professor with a job may want to state on the resume that references will be supplied on request. In this way, the candidate can prescreen possible offers before letting the department

chair know that other schools are interested. The professor already has a track record, and often interested universities will call him or her instead of the other way around. It is obviously flattering to be offered an interview trip which you haven't requested, but there may be good reasons to stay where you are. Every department has problems—at least you know what they are at your university. If the potential job offer is too good to turn down, then of course you will go and interview. Although there are arguments both for telling and not telling your current chair about the interview, in most cases it is probably preferable to tell the chair instead of having that person hear about the interview trip through the grapevine.

HOMEWORK

1 Prepare your resume with a focus on academic positions. Prepare a research plan for the next five years as a supplement to the resume.
2 Screen advertisements in appropriate journals for two or three months and develop a list of potential academic employers.
3 Write a cover letter to apply for an academic position.

REFERENCES

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