

↓ what is this?

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A Career in Academe

ACS Career Pathways Series

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Assessing My Own Values and Interests

Individual to pairs activity

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↓ where does this fit in?

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A Career in Academe: Agenda

- The Academic Career Pathway
- Crafting a Curriculum Vita
- Making Myself More Competitive
- Getting Hired for an Academic Position
- Being Successful: Your First Year on the Job

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these headings should be on the associated slides

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Trends and Outlook for Academic Jobs

- Growing or shrinking?
- Which segments are most promising (community colleges?)
- More use of non-tenured faculty?

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Types of Academic Institutions

Type of Institution	Number
Doctoral Universities	261
Master's Colleges and Universities	611
Baccalaureate Colleges	549
Associate Colleges	1669
Specialized	766
Other	85

Source: Carnegie Foundation

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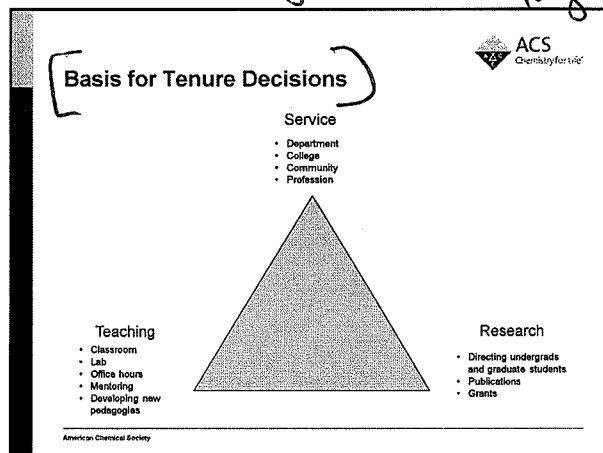
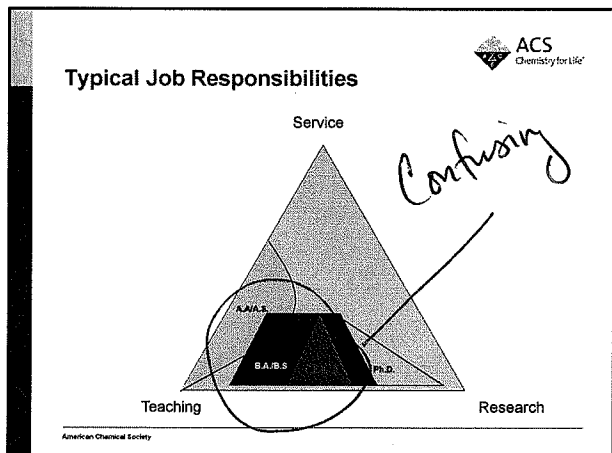
Typical Academic Career Path

Tenure Track

Post Doctoral Appt.
Assistant Professor
Associate Professor
Professor

Non-Tenure Track

Sabbatical Replacement
Adjunct Professor
Term Appointment



← this should go at end. the main focus is to get the job list!

Job Responsibilities and Type of Institution

	Teaching	Research	Service
Ph.D. granting	• 3 to 6 hours per week (lecture)	• 6 to 10 pubs in 6 years • \$100K+ in grants	
M.S. and Baccalaureate	• 10 to 15 hours per week (lecture and lab)	• 2 to 3 pubs in 6 years • \$20 to 80K grants	
Associate	• 20 plus hours per week (lecture and lab)	• 0 to 2 publications	

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- ### ACS Committee for Professional Training
- Develops and administers the guidelines for defining high-quality undergraduate chemistry programs
 - Approves departments meeting guidelines
 - CPT reviews approved schools on a five-year cycle
 - Approval based on chemistry program's faculty, facilities, and curriculum.
 - CPT requirements include:
 - What?
 - What?
 - What?
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← what is this?

- ### Research University: Research Responsibilities
- Adequate start-up funding from your institution
 - Find research funding (NIH, NSF, DOE, DOD, PRF, state, industry, your university)
 - Sufficient funding to hire post-doc(s)
 - Projects suitable for both graduate and undergraduate students
 - To publish in peer-reviewed journals (the key to tenure decision)
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- ↑
not just publishing*

- ### Research Universities: Teaching Responsibilities
- One to four lecture courses per year:
 - General chemistry
 - An undergraduate course in your field
 - A graduate course in your field
 - Often very large classes
 - Support from lab instructor or teaching assistant
 - Must meet "minimum standard" for tenure decision
 - Other faculty members will be trained in your sub-field
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- ?*

Research Universities: Service Responsibilities



- Departmental committees
 - Undergraduate and/or Graduate Curriculum
 - Graduate Admissions (good place for new faculty to start)
 - ~~Recruitment and Tenure~~ ← not for assistant prof
 - Faculty searches
- To the university
- To the discipline
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 - Chairing technical meetings
 - Refereeing, serving on funding

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^{DUI} Baccalaureate Colleges: Research Responsibilities



- Work exclusively with undergraduates
 - Have little research experience
 - Limited lab time: six to 10 hours per week, semester or two
- Need to identify short-term projects
 - Not in a "hot" field ← why not
 - Can be presented by undergraduates at ACS meetings
- Need to obtain funding for your research

need several pubs.

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Baccalaureate Colleges: Teaching Responsibilities



- Teach both lectures and labs
- 12 to 15 contact hours/semester common (ACS-approved departments limit: 15 hours per term)
- Less support from teaching or lab assistant than in a research university
- Little opportunity to teach specialized courses
- Generalists highly valued (can be the organic-physical-inorganic-analytical department)
- Pedagogy counts more than at a university

Teaching is a major part of the tenure decision.

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Baccalaureate Colleges: Service Responsibilities



- In comparison to a university:
 - Involves more service to the institution
 - More student advising
- Opportunity to become more visible to the college administration (could be helpful at tenure-decision time)

↑ !

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Teaching at Two-Year Colleges



- No research (in fact, sending research proposals when applying could be "the kiss of death")
- Usually, only general and organic chemistry courses offered
- Generalists are valued
- Can require 20 or more contact hours (lecture and lab) per week

not sure what this means.

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Non-Tenure Academic Positions



- Types:
 - Sabbatical replacements
 - Term appointments (two-year contract, for example)
 - Adjuncts (usually one course)
- Sometimes given little respect by tenured faculty and students ←
- Limited job security
- Provide experience and rounds out resume

↑

what does this mean?

or this?

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Why is this here?

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The Upside and Downside of an Academic Career

Small group activity

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A Career in Academia: Agenda

- The Academic Career Pathway
- Crafting a Curriculum Vita
 - The structure of a vita
 - Formatting the vita
 - Developing the vita portfolio (cover letter, statement of teaching philosophy and research proposal)
- Getting Hired for an Academic Position
- Making Myself More Competitive
- Being Successful: Your First Year on the Job

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this is important but not as important as the letters.

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The Curriculum Vita vs Resume

Curriculum Vita	Resume
<ul style="list-style-type: none">• Does not require an "Objective" section• Length is not a constraint• Should include everything you have accomplished	<ul style="list-style-type: none">• Statement of "Objective" is typically a requirement• Should be no longer than two pages, especially at first• Presents a list of accomplishments focused on the position in question

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The Structure of a Vita

- Personal information
- Education
- Research experience
- Teaching experience
- Other employment experience
- Professional activities
- Honors and awards
- Publications and presentations
- ~~Proposals submitted~~
- References

How much more do we need here?

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?

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Critiquing an Ineffective Structure

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Formatting the Vita

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not sure what this is

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Critiquing an Ineffective Format

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Contents of the Vita Portfolio

- Vita
- Statement of teaching philosophy
- Cover letter
- Research proposals

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be consistent how we describe: four-year, Ph.D., M.A.S.S. ...

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Statement of Teaching Philosophy

- Plays a key role in hiring criteria for four-year institutions.
- More and more required by research-intensive institutions as well.
- Provides a summary of your experiences, motivation, and preparation for a teaching career

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always required.

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Statement of Teaching Philosophy: Structure

- Describe preferred delivery methods (advantages and disadvantages)
 - Instructor-centered (lectures, demonstrations, visual aids)
 - Learner-centered (student presentations, group projects/discussions, case studies, Socratic method)
- Describe your point of view on
 - Examinations
 - Homework
 - Using graded web-based assignments
- List courses you are prepared to teach (standard undergraduate and graduate courses)
- Identify new courses you could teach
 - Possible team teaching
 - Special-topics courses

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more effective if they draw from pedagogy & current innovative methods so

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The Cover Letter

Purpose

Structure

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Research Proposal(s): Purpose

- Demonstrate your creativity and independence as an investigator
 - Can build on your doctoral or post-doctoral work
 - Differentiate your ideas from those of your advisor
- Seek feedback about alternative approaches
- Send proposals to your references as basis for their comments in their letters of recommendation

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it's not their opinion


↑ the Research Prop. section is unorganized



Research Proposal(s): Structure

- Required content
 - Goal of the project (a good problem trumps small technical efforts)
 - Background
 - Significance of project
 - Experimental design and methods
 - References
- Optional content
 - Instrumentation and equipment needs
 - Approximate start-up budget and size of your group
 - Other sources of funding
 - Proposed journal for publication of results and thoughts on where you would publish

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Research Proposal(s): Format

- Write for a diverse audience (three to four topics) *at most*
- Prepare in three formats
 - Written: 5 to 15 pages with references
 - Written: 3 pages with one-page summary
 - Oral: Faculty seminar
- Provide enough background to be compelling (demonstrate a sense of urgency, and suggest why you are uniquely positioned to do this project) *not nec.*
- Target project to the level of students who will be involved (graduate vs. undergraduate) *4/5*

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no. just at interview stage


out of order



Research Proposals for PUIs

- Project needs to promise short-term success
 - Undergraduate students typically have limited time for research
 - Six to eight hours per week, often for only a semester or two
- Stay away from really "hot" fields
- Consider seeking collaborators at neighboring institutions

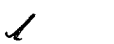
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Research Proposals for RI Institutions

- Identify "cutting edge" research
- Seek fit with current faculty efforts
 - Complement department's current research efforts
 - Propose new areas of investigation for the department
 - Identify collaborators within and outside of the department
 - Describe use of current instrumentation and facilities
- Identify start-up funding requirements


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Getting Started on My Vita

Pairs application activity

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what do these #s mean?

What Counts in Academe?

	A.A.	B.A./B.S	Ph.D.
Teaching experience	2.88	2.52	1.73
Research proposals	1.12	2.18	2.67
Publications (quality and quantity)	1.32	2.34	2.84
Reputation of advisor(s)	1.17	1.94	2.61
Prestige of Ph.D. institution	1.54	2.14	2.37
Campus interview	2.92	2.98	2.91

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Tactic 1: Gain Teaching Experience

- Get a position as a teaching assistant
 - Recitation vs. laboratory
 - Construct exam questions/quizzes
 - Conduct problem solving sessions
- Offer to teach a regular class lecture or an evening class (consider a nearby two- or four-year college.)

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this is a given. Maybe the sessions should focus on strategies on selecting a postdoc position.

Tactic 2: Do a Post-Doc

- About half of chemistry Ph.D.s do a post-doc.
- Post-docs are typically required for a position at a doctoral research institution
 - Broadens your expertise and interests
 - Allows you time to develop independent research proposals
- A post-doc also makes you more competitive for a position in a top four-year college.

if you want to be a professor, this is necessary

teaching postdocs are important also for 4-year

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not needed

Reasons Why Chemists Do Post-Docs

Training outside Ph.D. field	27%
Post-doc expected in field	22%
Additional training in Ph.D. field	22%
Work with a particular person or in a particular place	17%
Other employment not available	11%
Other	2%

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Types of Post-Docs

- "Traditional"
 - Research done in sub-field or aligned field
 - In a chemistry department at R1 institution
 - At a medical school
- Teaching (research coupled with major teaching responsibilities)
- Government (major federal research labs)
- Industry (pharma and major chemical companies)

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What a Post-Doc Does

- Design and conduct experiments (demonstrate independence)
- Start new projects
- Manage the lab
- Share expertise with group members
- Mentor graduate and undergraduate students

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Finding a Teaching Post-Docs

- Identify potential schools
 - Start looking 6 to 12 months before graduation
 - Check job postings and ads
 - Attend clearinghouses (ACS)
 - Network
- Research the advisor
 - Length of appointment
 - Reputation as a mentor
 - Support given to post-docs
 - Placement record on post-docs
- Open the door
 - Personal contact from your Ph.D. advisor
 - Write the letter
 - Get your own funding

not sure what this means related to title

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Tips on Choosing a Post-Doc

- Strike balance between staying in your general area of expertise and broadening your skill base
- Find one that allows you to demonstrate your independence
- Pick an advisor who is known as a mentor
- Make sure you will have the opportunity to publish based on your work.

ask PhD advisor for recommendations

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Writing Your Letter of Application

- Remember that all professors at RI universities get stacks of applications (and famous ones get even more)
- Your letter should:
 - Demonstrate your familiarity with their work
 - Identify areas of work that interest you
 - Suggest ideas for extensions of their work

Better if PhD advisor makes 1st contact unless candidate is really strong

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Making Myself More Competitive

Individual to pairs application activity

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A Career in Academe: Agenda

- The Academic Career Pathway
- Crafting a Curriculum Vita
- Making Myself More Competitive
- Getting Hired for an Academic Position
 - Finding an opening
 - The campus visit
 - The offer
- Being Successful: Your First Year on the Job

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Finding an Academic Position

- Help-wanted ads
 - C&EN
 - Chronicle of Higher Education
 - Science
- Networking with
 - Your advisors (undergrad, grad, post-doc)
 - Mentors
 - Research group alumni

Academic Key

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not sure what this is for - it's after you have an offer you can think about.

Assessing a Potential Opening

- Identify institutions of interest (via websites and conversations with current faculty, postdocs, students)
- Determine requirements for a faculty position:
 - Normal teaching load
 - Class size
 - Research facilities
 - Start-up money
 - Expectations for tenure (teaching, research, service)
 - Library facilities
 - Available instrumentation
- Assess your fit with the department's value system

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~~The Campus Visit~~ Interview

- Individual and group interviews
- The research presentation
- The research proposal presentation
- Teaching a sample class
- Exit interviews and after the visit

Note: I need to fill out this section.

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Presenting Your Research Proposal

- Commonly done after the seminar
- Include "preface points" in your seminar
- Typically a one-hour presentation
 - Expect many interruptions
 - Less formal style than seminar
 - Use PowerPoint format
 - Try to deliver your entire proposal
- Tip: Capture the essence of your proposal using a key phrase in the introduction

need unified theme

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The Offer

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Finding an Academic Job: Summary

- Identify the type of institution that best fits your research and teaching load expectations
- Investigate your "fit" with the institutions
- Prepare and seek feedback on your
 - CV
 - Statement of teaching philosophy
 - Research proposals
- Consider
 - The availability of students to carry out your research
 - Instrumentation requirements
- ~~Be prepared to give an oral presentation of your proposal(s)~~

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Difficult Decisions

Small group activity

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this is a given

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Being Successful in Academia

There's not much in PFLAGS new in this section that's not somewhere in the previous sections. Is there something else to add?

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A Career in Academe: Review

- The Academic Career Pathway
- Getting Hired for an Academic Position
- Making Myself More Competitive
- Crafting a Curriculum Vita
- Being Successful: Your First Year on the Job

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What Career Services Are Available from ACS

- AEI
- PFF
- Postdoc to Faculty

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*This is totally different.
- need a separate course
- onif.*