Enhancing Chances of Success in and Post Grad School

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DMS Brown Bag

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This presentation will be posted on the student handbook on the DMS website

Summary

- **Career readiness** is more than courses and research thesis
- Know the employment landscape and the **skills** employers expect and seek
- **Cultivate** those skills throughout your time as a student
- Be **proactive**: IDP, search resources, network
- Get out of your comfort zone

Career Readiness Modules

Universal Career Readiness Competencies Sought by Employers

CAREER READINESS

Competencies for a Career-Ready Workforce **Overview**

Competencies

There are eight career readiness competencies, each of which can be demonstrated in a variety of ways.

- Career & Self Development
- Equity & Inclusion
- Teamwork
- Communication
- Leadership
- Technology
- Critical Thinking
- Professionalism

What is Career Readiness?

Career readiness is a foundation from which to demonstrate requisite core competencies that broadly prepare the college educated for success in the workplace and lifelong career management.

naceweb.org/career-readiness-competencies

NACE
NATIONAL ASSOCIATION OF COLLEGES AND EMPLOYERS

Not Much Different for Postdocs

THE NATIONAL POSTDOCTORAL ASSOCIATION'S

CORE COMPETENCIES

DISCIPLINE-SPECIFIC CONCEPTUAL KNOWLEDGE

An overall understanding of implications of work on broader field, the importance of innovation & creativity, & grasp of cultural, language & technical discipline-specific knowledge.

- Analytical approach to defining scientific questions
- Design of scientifically testable hypotheses
- Broad based & cross-disciplinary knowledge acquisition
- Interpretation & analysis of data

RESEARCH SKILL DEVELOPMENT

Ensure that postdocs are adequately equipped to carry out independent research, whether in bench- or non-bench related professions.

- Research techniques & laboratory safety
- Experimental design
- Data analysis & interpretation
- Statistical analysis
- Effective search strategies & critical evaluation of the literature
- Principles of the peer review process

COMMUNICATION SKILLS

Postdocs should master communication skills which ensure that messages are heard & understood by the appropriate audience.

- Writing (scientific publications, grants/applications, career documents)
- Speaking (presentations, interviews)
- Teaching
- Interpersonal Skills (style, negotiation, reviews/feedback, networking, conflict resolution, media management)

PROFESSIONALISM

Postdocs instill and enforce the virtues of honor, integrity, compassion, cooperation, reliability, &enhance the perception of this work in society.

- Workplace professionalism (diverse teams)
- Institutional professionalism (connecting at/across/with institutions as employees or representatives)
- Collegial professionalism (engaging as a citizen to scholarship)
- Universal professionalism

LEADERSHIP & MANAGEMENT SKILLS

Postdocs should understand which leadership styles are appropriate for any given time & situation increase performance & productivity. Leaders must also be able to competently manage projects, budgets, & staff.

- Management Skills (research staff management, project management, data & resource management, general management)
- Leadership Skills (Identifying & clarifying goals, motivating/inspiring others, serving as a role model)

RESPONSIBLE CONDUCT OF RESEARCH (RCR)

The pursuit & advancement of knowledge depend on openness, honesty, objectivity, & trust. Therefore, postdocs are responsible for upholding &engaging the ethical norms of their fields.

- Data ownership & sharing
- Publication practices & responsible authorship
- Research with human subjects or animals (where applicable)
- Identifying & mitigating research misconduct
- Conflicts of interest

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NATIONAL POSTDOCTORAL ASSOCIATION

The six core competencies are:
1. Discipline-specific conceptual knowledge
2. Research skill development
3. Communication skills
4. Professionalism
5. Leadership and management skills
6. Responsible conduct of research

Geosciences-Specific Competencies

- Oral/written communication
- Teamwork/collaboration
- **Technology mastery** (data management, analytics, modeling, AI, Bioinformatics, etc.)
- Leadership/Management
- Professionalism/work ethic
- Self-awareness and career development
- Global perspective

Source: **https://graduate.americangeosciences.org/**

The money at: **https://graduate.americangeosciences.org/recommendations/**

ONGOING GRADUATE STUDENT CAREER PREPARATION ACTION ITEMS

Engage NOW to become the most competitive candidate!

Understand & Utilize Campus Resources	Create and Keep Professional Documents Up-to-date	Consistently Explore Career Fields & Career Paths	Create & Cultivate Your Digital Footprint

Understand & Utilize Campus Resources

☐ Become familiar with the services and resources that the Center for Career Development offers graduate students. http://career.uconn.edu/

☐ Gain knowledge about any career preparation that occurs within your field of study at UConn or through your professional associations.

☐ Learn about the programs and services offered by the Writing Center. http://writingcenter.uconn.edu/

☐ Connect with programs at the Institute for Teaching and Learning to stay current with best practices in the classroom. http://itl.uconn.edu/

☐ Read career-related announcements sent to you through the Graduate Student Listserv and other communication channels.

☐ View The Graduate School's centralized calendar of events.

☐ Consider enrolling in a UConn Certificate Program to build a specific skill set and knowledge base. http://grad.uconn.edu/

Create and Keep Professional Documents Up-to-date

☐ Update or create your CV and/or résumé and review it each semester.

☐ Keep an electronic portfolio of anything that you feel shows evidence of your accomplishments.

☐ If you teach, compile student evaluation data of your courses.

☐ Familiarize yourself with the content that is typically included in a Statement of Teaching Philosophy and/or Research Statement.

☐ If embarking on an academic job search, periodically write down ideas of content to include in your Statement of Teaching Philosophy or Research Statement.

☐ Create drafts of outreach content that you can adapt when desiring to connect with others for networking, informational interviewing, and/or future job search.

☐ Ask people for recommendations while they still remember you.

Consistently Explore Career Fields & Career Paths

☐ Become acquainted with industry-specific job search websites. Identify employers of interest and also view actual jobs, familiarizing yourself with the experiences, skills, and training needed to be a competitive applicant.

☐ Seek opportunities to develop career-related skills through campus and community involvement and workshop attendance.

☐ Attend, network, and present at professional conferences.

☐ Conduct informational interviews with people working in career areas of possible interest.

☐ Consistently use LinkedIn to learn about peoples' work.

☐ Test various career paths through short-term career exploration activities, internships, or summer fellowships.

☐ Identify funding sources for continued research if that is a career path option.

Create & Cultivate Your Digital Footprint

☐ Conduct an Internet search on your name and see what comes up.

☐ Create a strong LinkedIn and/or other electronic professional profile.

☐ Contribute to conversations within professional groups and forums.

☐ Consider creating a blog or consistently contributing to one in your primary and secondary fields of study.

☐ Consider creating your own website with professional content.

☐ Make choices about your digital involvements and create a rhythm to your participation.

☐ Add videos of your best presentations or job talks to your electronic profile.

☐ Explore using an electronic dossier service to organize and gather your professional materials.

To schedule an appointment with a career consultant at the Center for Career Development, call 860.486.3013.

UCONN

Ocean Sciences

Career Compass
Geosciences

This career compass provides options, tips, suggestions, and strategies for how a student can obtain critical skills, experiences, and competencies in order to launch their geoscience career based on their academic standing. The content herein is based on data from the U.S. Bureau of Labor Statistics, interviews with personnel in the occupation, and research on available student opportunities.

Job Summary

Oceanographers study the motion and circulation of ocean waters; the physical and chemical properties of the oceans; and how these properties affect coastal areas, climate, and weather. Oceanographers plan, organize, conduct, and administer seagoing and land-based student and research of ocean phenomena for interpreting, predicting, utilizing, and controlling ocean forces and events.

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AGI american geosciences institute
connecting earth, science, and people

Connect · **Grow** · **Build**
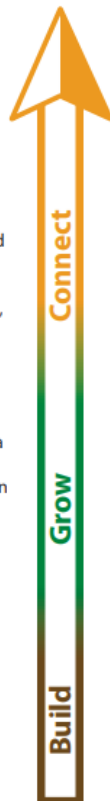
Undergraduate

- Clubs, student government, or geoscience professional societies
- Hone skills through courses, community involvement, and conference presentations
- Geoscience professional society conference
- NOAA's Hollings Undergraduate Scholarship Program
- American Meteorological Society Scholarships (Freshman, Senior, and Minority)
- SOARS program, Research Experience for Undergraduates, NCAR/UCAR summer internships
- NOAA's Pathway Program, Educational Partnership Program with Minority-Serving Institutions Undergrad Scholarship Program internship, Woods Hole Partnership Program Marine Advanced Technology Education Internship, Naval Research Enterprise Internship
- Research and field experience
- Degree in environmental science, geoscience, ocean sciences, or atmospheric science
- Coursework in math or computer science and courses with significant writing component
- Write a senior thesis

Graduate/Master's

- Present research at conference
- Publish research
- Events, activities, and technical sessions at professional society conference
- Geoscience professional society conference
- Departmental committee, Clubs, student government, or geoscience professional societies
- NOAA 's Chesapeake Bay and National Centers for Environmental Prediction internships, NOAA-NSF Graduate Research Internship
- Naval Research Enterprise Internship
- NOAA Pathways Program
- NOAA's Nancy Foster Scholarship
- NOAA's Knauss Fellowship, Coastal Management
- NCAR's Advanced Study Program Graduate Student Fellowship
- American Meteorological Society Graduate Fellowships
- Degree in geoscience, oceanography, or atmospheric science
- Master's thesis related to ocean sciences

Also applicable at Ph.D. level

Ph.D./Post-doc

- Events, activities, and technical sessions at professional society conference
- Departmental committees, geoscience professional society
- Consortium for Ocean Leadership Marine Geoscience Leadership Symposium
- Present research at conference
- Publish research
- Geoscience professional society conference
- NCAR's Advanced Study Program Postdoctoral Fellowship program
- Presidential Management Fellowship
- NOAA/National Research Council Postdoctoral Program, NOAA Climate and Global Change Postdoctoral fellowship, Postdocs Applying Climate Expertise (PACE) Postdoctoral Fellowship
- Degree in geoscience, oceanography, or atmospheric science
- Dissertation topic(s) related to ocean sciences

Symbol Key

- Attend
- Communicate
- Network
- Participate
- Leadership
- Internship
- Scholarship
- Fellowship
- Academics

Professional Development Program for Graduate Students of DMS

Tools and opportunities for career readiness:

- **Research & Scholarship**
- **Professional**
- **Job Market**

Proficiency

- **Research and scholarship:**

    Research skills, thesis, publications, ethics

- **Professional:**

    Presentations, grants, research management, leadership, conflict management

- **Job Market:**

    CV or résumé, teaching portfolio, job application and interview, networking

Elements of Professional Development Program at DMS

- GPA of 3.0 or above
- Plan of study
- Passing the comprehensive general examination (Ph.D. students)
- Completion of thesis
- Annual student report
- Friday seminar series and brown bag series
- Graduate student research colloquium (Feng)
- Travel awards
- Competitive research fellowships
- **Professional development course (MARN 5500)**
- **Individualized Development Plan (http://marinesciences.uconn.edu/academic/graduate-student-handbook/#prodev)**

IDP Advantages

- Research and scholarship proficiency

- Learn the business of science

- Prepare to succeed in the work market

- Satisfactory and productive experience in graduate school

Building your IDP (see graduate student handbook)

- **Aptitudes/Interests**: Assess current skills, strengths and weaknesses, interests, and explore career fits

- **Plan**: How to develop skills to meet academic and professional goals

- **Evolve**: Communicate with supervisors, advisors, and mentors about changing goals and related skills

See: https://myidp.sciencecareers.org/

IDP: AAAS

Your IDP Road: You and Your Mentor

Basic Steps	For Graduate Students	For Mentors
Step 1	Conduct self-assessment	
Step 2	Write an IDP. Share IDP with mentor and revise	Review IDP and help revise
Step 3	Implement the plan. Revise IDP as needed	Establish regular progress review
Step 4	Survey opportunities with mentor	Discuss opportunities with student

Creating your IDP

Areas to develop (Assess your scholarly and professional competencies. What do you need to develop?) **Questionnaire**	Goals: long—term (What will you do to improve in the areas you have identified?) **SMART**	Goals: Short term (What could you do this year?)	Strategy for Reaching Goals	Steps and Timeline for completion of goals (What steps will you take to accomplish your goals and by when?	Resources available (Human or electronic)	Outcomes (What will you have done to indicate that you have reached your goals?

SMART

- **S**pecific – Is it focused and unambiguous?
- **M**easureable – Could someone determine whether or not you achieved this goal?
- **A**ction-oriented – Did you specify the action you will take?
- **R**ealistic – Considering difficulty and timeframe, is this goal attainable?
- **T**ime-bound – Did you specify a deadline?

Simple IDP Example

Establish a broad knowledge base –
Strategy goals [career advancement]:
- Consistently attend seminars and lecture series
- Continue to read papers on a wide range of topics; discuss with other people or in a journal club

Tactics goals [skill improvement goals]:
- Take courses on molecular biology (Fall 2017)

Become more comfortable with statistical analysis and design of experiments –
Strategy goals:
- Work on critical analysis of experimental design from papers
- Take an active role in experimental design in lab projects

Tactics goals:
- Take two stats courses (Fall and Spring 2017-2018)

Work on writing papers and navigating the peer review process –
Strategy goals:
Tactics goals:
- Publish at least one paper a year

Begin to work on writing and managing grant proposals and budgets –
Strategy goals:
- Study successful funding proposals

Tactics goals:
- Complete preliminary study and furnish results into full NSF proposal (Fall 2017?)
- Talk with Lydia about managing lab and ordering

Become comfortable presenting research to scientific audiences –
Strategy goals:
Tactics goals:
- Give at least 1 scientific talk per year (brown bag or at conference)

Hone teaching and mentoring; Become more comfortable with delegating tasks –
Strategy goals:
- Mentor/work with undergrads on research project
- Continue to TA courses

Tactics goals:
- Lecture for undergrad courses when available
- Take at least 1 workshop on teaching/pedagogy per year

Elaborate IDP

Individualized Development Plan (IDP)
Spring 2022 – Year 1
<mark>Name erased to protect the guilty</mark>

Jump to sections of this IDP:
- Short-term goals
- Long-term goals
- How to achieve these goals, networking contacts
- Skills/weaknesses assessment
- Career path assessment
- Milestone timeline/Schedule
- Classes – component of short-term goals

What are your short-term goals?
- Do well in remaining classes / take remaining classes
- pass comprehensive exam (Spring 2023)
- Learn all necessary lab techniques, with emphasis on implications of data
  - Ask for HPLC SOPS, all SOPs
  - go through Dam lab publication methods → determine what techniques are needed
- Define thesis topic and have the majority of background information written by end of summer
- Publish Lake Erie HABs paper
- Identify zooplankton/phytoplankton/nutrient trends in LIS with DEEP data
- Improve statistical skills, modeling, analytics – perhaps learn GIS?
- get experience with policy and outreach -- CIRCA summer 2022?
- Learn more about coastal resilience and climate impacts
- write a short summary/review of social impacts of HABs – arrange with Elle Ouimet
- NETWORK
- Gain teaching experience (would love to teach a basic limnology/freshwater ecology course)

What are your long-term goals?
- Less defined at the moment – somewhere between education/outreach/policy
- I would like to work in a position that allows me to draw connections between coastal resilience, water resources, and climate change.

How to achieve these goals:

How will you achieve these goals within the next two to five years?
- Set aside specific allotted time for writing and reading – add these as meetings to my calendars to make sure I always have that time blocked off
- Organize schedule, plan major things month by month
- Continue setting deadlines for myself
- I am the most productive with writing/reading while on campus, will reduce WFH days
- Continue working with Gihong as much as possible for ECOHAB research
- Take statistical refresher course, R centric
- Finalize class schedules ASAP

How will you achieve these goals within the next 10 to 15 years?
- Network
- Determine the position/job I want and work toward that
- Maintain IDP

What did you do last year (currently Fall 2021 – Spring 2022) to help develop contacts relevant to your short-term or long-term goals?
- Reached out to Joanna Wozniak-Brown from CIRCA, likely leading to summer 2022 opportunities focusing on water equity in wetlands/salt marshes of Connecticut
- Reached out to Eleanor Ouimet, a new anthropology dept professor whose research combines inequity/vulnerability and climate change
- Met with Gihong twice weekly to learn basics of relevant research (Alex, copepods)
- Read a lot of background material on relevant research

Skills/weaknesses (non-comprehensive list)

Skills	Weaknesses
- Broad base knowledge of science (biology, ecology, geology, social science, medical, clinical) - Generally able to critically evaluate scientific lit - Broad understanding of lab techniques	- Lacking deep knowledge of my specific research area - Technical skills associated with copepods and oceanography - Statistical analysis (okay at it, but not a strength) - Data interpretation

Summary

- Career readiness is more than courses and research thesis

- Know the employment landscape and the skills employers expect and seek

- Cultivate those skills throughout your time as a student

- Be proactive: IDP, search resources, network

- Get out of your comfort zone

WHAT'S YOUR NEXT STEP?
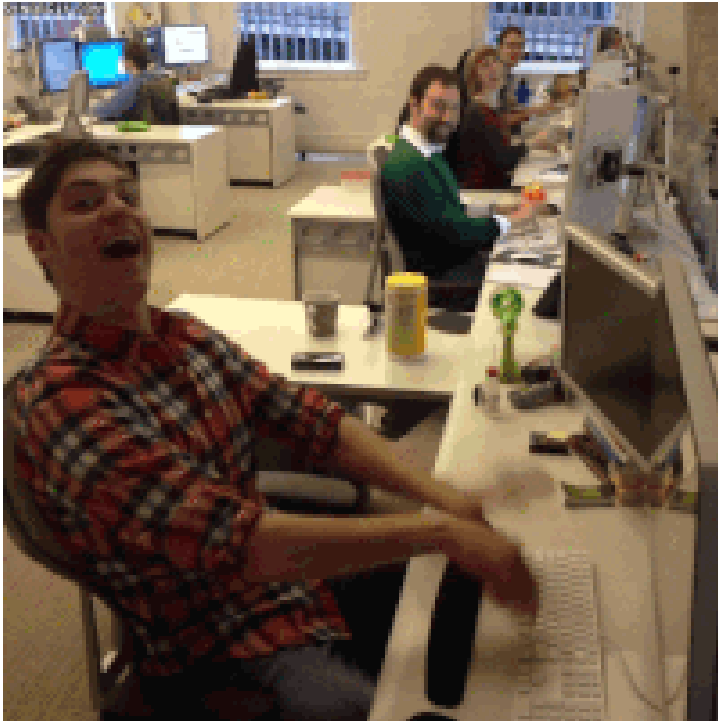
- **Giddy up: Start working on your IDP**

- **Annual report asks about your IDP**

Goal: To foster a culture of professional development for both technical and nontechnical skills that enhances the graduate experience, prepares students for the future workforce, and increases the likelihood of student employment in their desired areas.

- Critical Thinking
- Oral/written communication
- Teamwork/collaboration
- Technology mastery
- Leadership/Management
- Professionalism/work ethic
- Self-awareness and career development
- Global perspective
- Diversity, equity, inclusion, justice

- IDP 👍
- Student handbook 👍
- Student annual reports 👍
- Align measures and rewards (faculty)
- Implement and experiment (faculty)
- Assess (faculty)