PURDUE UNIVERSITY

James Tarpo Jr. and Margaret Tarpo Department of Chemistry

INDIVIDUAL DEVELOPMENT PLAN

PURDUE COLLEGE OF SCIENCE

TARPO DEPARTMENT OF CHEMISTRY

YEAR +3

STUDENT NAME	ADVISOR NAME	DATE

Passing your preliminary exam and required coursework has officially made you a candidate for the Ph.D. Your IDP at this stage (Years 3+) should be focused on designing not only a plan for completing the experiments you have proposed, but also for formulating new questions based on the results you obtain. Professional development in terms of how to package your results for publication and present your work at local, regional, and national meetings should be a high priority.

It is not uncommon for the goals/aims of a thesis project to change as you accumulate data; science is all about generating new information and revising hypotheses based on that information. Continued regular communication with your advisor, the members of your thesis committee, and other graduate students will allow you to develop the mental flexibility that is essential to thinking creatively about your work. This IDP is a tool that will help you set milestones for yourself to complete your research and achieve your training goals in a timely manner so you can achieve your long-term professional objectives. A key component to this exercise is establishing honest and open lines of communication with your thesis advisor. Meeting with your advisor about this document provides an opportunity to discuss topics that are important to you. It follows then that you are not obligated to answer every question posed by the IDP as some may not be relevant or of high value to you at present.

The College of Science IDP portal provides a list of the student's and advisor's responsibilities when it comes to designing a training plan. Make sure that you and your advisor review those responsibilities as they will be important to the success of your student-advisor relationship. If you haven't done so already, we encourage you to create a free American Association for the Advancement of Science myIDP account, https://myidp.sciencecareers.org/, to further assist you in thinking about your skills, interests and goals, finding tools to set goal (with optional goal reminders), discovering career paths that may be best suited for you based on your skills and interests, and more.

IDP Steps Reminder

1. Schedule an annual report meeting with your advisor to discuss your IDP and other annual report documents.
2. Reflect on the previous year's IDP, perform a self-assessment of your progress and goals and complete the following Development Plan (IDP). Submit your IDP with your Annual Report through the Annual Reportal for your advisor's review prior
3. Obtain your advisor's feedback on your IDP, other annual report documents and your advisor's evaluation.
4. Lead the discussion of your IDP self-assessment during your annual report meeting.

FIND PROFESSIONAL DEVELOPMENT RESOURCES FOR GRADUATE STUDENTS THROUGH THE PURDUE CHEMISTRY CAREER PREP HOMEPAGE

PROFESSIONAL AND PERSONAL DEVELOPMENT

1. What are your long-term goals (i.e., what do you want to be doing on a daily basis 5-10 years after you graduate)? For example: PI in a research-intensive institution; teaching intensive career; scientific testing; entrepreneurship.

2. What skills, or knowledge content have you identified for targeted development to best position you to succeed in your long-term goals? Use this worksheet to assess and identify skills that you would like to target in the coming year, marking your current ability level from weak (1) to strong (3) relative to where you think a student should be at the end of their Ph.D. studies.

RESEARCH SKILLS & SCIENTIFIC THINKING	**1 weak**	**2 Avg.**	**3 strong**	**Target skill**	**WRITING**	**1 weak**	**2 Avg.**	**3 strong**	**Target skill**
Broad-based knowledge of science	○	○	○	□	For a scientific publication	○	○	○	□
Critical reading of scientific literature	○	○	○	□	For a research/grant proposal	○	○	○	□
Experimental design	○	○	○	□	For a lay audience	○	○	○	□
Interpretation of data	○	○	○	□	Grammer/structure	○	○	○	□
Statistical analysis	○	○	○	□	Editing your own writing	○	○	○	□
Creativity and innovative thinking	○	○	○	□					
Navigating the peer review process	○	○	○	□					
LEADERSHIP/ PERSONNEL MANAGEMENT	1 **weak**	**2 Avg.**	**3 strong**	**Target skill**	**Oral Communications**	**1 weak**	**2 Avg.**	**3 strong**	**Target skill**
Providing instruction and guidance	○	○	○	□	To a specialized audience	○	○	○	□
Providing constructive feedback	○	○	○	□	To a lay audience	○	○	○	□
Dealing with conflict	○	○	○	□	In a classroom	○	○	○	□
Leading and motivating others	○	○	○	□	One-on-one	○	○	○	□
Serving as a role model	○	○	○	□	English fluency	○	○	○	□
Setting expectations	○	○	○	□	Approaching difficult conversations	○	○	○	□
Creating vision and goals	○	○	○	□					

3. What professional development and research activities did you take part in during the last 12 months? (e.g. conferences, workshops, publications, internships, networking, etc.)? Which experience or experiences have been most valuable to you, your research and/or your professional goals?

4. Which of the professional development activities listed below would you like to work on over the next 12 months to better position you for success in achieving long-term career goals?

Improve	Area to work on
☐	Join or form a peer group to help me follow through on my career advancement goals
☐	Get involved in a local/regional committee or group
☐	Get involved in a professional organization
☐	Update/create your professional profile online
☐	Identify a few career options that are a match to your skillset and learn what is necessary to obtain these positions
☐	Attend workshops, conferences, or events related to my career interests
☐	Get experience (internship, part-time position, volunteering, etc.)
☐	Learn more about various career options
☐	Research what positions appear to be in demand or look like they'll be needed in the future. Add skills that would make you marketable in these positions if they are of interest
☐	Prepare additional documents, such as cover letters, teaching/research statements, etc.
☐	Prepare for interviews
☐	Learn how to negotiate

As adapted from the American Association for the Advancement of Science's myIDP's Career Advancement Goals, https://myidp.sciencecareers.org/CareerAdvancementGoals/Improvements

5. If you are interested in pursuing an internship, what skills and experiences do you hope to gain that may be relevant to your long-term career goals? Are you looking for opportunities in a particular sector (e.g., federal, corporate, research)? What would be your ideal timeline be for completing an internship?

6. Have you developed a job search strategy? What is your tentative job search timeline?

SCIENTIFIC | RESEARCH GOALS AND OBJECTIVES

1. Have you developed a clearly defined plan and endpoint for your thesis work? What specific activities are planned for the next 12 months?

2. How confident are you in your ability to complete your thesis work by Year 5? What is your tentative timeline for graduation, including when you plan to defend, deposit and graduate?

3. How firm a grasp do you feel you have of the field in which you work? What are your plans for identifying relevant readings or other means to become a true expert in your field?

4. Your success as a student is linked to your overall wellbeing. What are you doing or what would you like to do to improve your wellbeing?

MEETING CHALLENGES

1. Are there any factors in the lab environment that are complicating or prohibiting your productivity in research?

2. Describe any unusual or unanticipated challenges you experienced in the past year? If any, what actions did you take to meet these challenges?

TRAINING | MENTORING

1. Have you identified a mentorship network for guidance in research and professional development (potential examining committee members, other graduate students and post-docs)? Have you identified areas, if any, could benefit from additional mentorship? If so, what are your plans to strengthen your mentorship network?

2. In what ways are you involved in providing mentorship to those who could benefit from your experience?

3. Are you proactively securing the support you need from your advisor or other faculty/staff members? Do you still have unmet needs? If so, what is your plan to fulfill those needs?

4. What have you found most beneficial about the mentoring you have received? Is there anything that would improve the mentoring you receive?

Assessing Your Scientific Interests

The following ssessment is meant to help you identify scientific tasks that you enjoy and that you'd like to continue performing as part of your future career. By figuring out which things you do (or don't) enjoy doing, you might have an easier time determining the type of field you'd like to go into or will find most fulfilling.

If you had the **ideal job**, rate how frequently would you be engaged in the following activities:

1 = I would like to never do this in my career | 5 = I would like to do this often in my career

Select	Designing experiments
Select	Performing experiments
Select	Analyzing experimental results
Select	Planning new scientific projects or developing new research directions
Select	Writing grant proposals

Select	Writing scientific manuscripts
Select	Writing project reports or other business-related correspondence
Select	Writing position papers or policy papers
Select	Creating presentations
Select	Representing data in figures/illustrations

Select	Giving presentations about science
Select	Reading papers in your field
Select	Thinking about science
Select	Learning about other fields
Select	Keeping up with current events in science

Select	Discussing science with others
Select	Attending conferences or scientific meetings
Select	Learning how to use new equipment or techniques
Select	Building new devices or developing/refining techniques
Select	Using quantitative methods in understanding science (e.g., statistics, mathematical modeling)

Select	Using qualitative methods in understanding science (e.g., focus groups, in-depth interviews, field observations)
Select	Teaching in a classroom setting
Select	Writing about science to non-scientists
Select	Speaking about science to non-scientists
Select	Mentoring or teaching one-on-one

Select	Developing collaborations
Select	Working in a team
Select	Networking with others
Select	Leading or supervising others
Select	Organizing things, creating systems in the workplace

From the American Association for the Advancement of Science's myIDP's Interest Assessment, https://myidp.sciencecareers.org/Interests/Assessment