

# INDIVIDUAL DEVELOPMENT PLAN

PURDUE COLLEGE OF SCIENCE  
DEPARTMENT OF MATHEMATICS

YEARS **3-4**

STUDENT NAME

ADVISOR NAME

DATE

By passing your qualifying exams and completing other required milestones, you are now officially a candidate for the Ph.D. You should have begun to identify areas of mathematics and one or more faculty members who appeal to you enough to consider a thesis topic area. Your IDP at this stage (Years 3-4) should be focused on choosing a thesis advisor, passing advanced topics, and laying out expectations about further classes you might need and about the research needed for a thesis. You should also begin thinking about professional development in terms of attending local, regional and national meetings, and building a network of peers and senior mathematicians in your field. It is not uncommon for the goals/aims of a thesis project to change as your research progresses. 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. Although you should complete your IDP annually, just as you did for Years 1 and 2, it is time now to decide how you want Years 3- 4 to progress. This will help you set milestones for yourself and complete your research and training goals in a timely manner.

The CoS IDP portal contains a list of steps for successfully completing an IDP. Refer to those steps which are abbreviated in the box below.

In addition, the portal contains 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 the student-advisor relationship.

## IDP Steps Reminder

- 1** Step back and self-assess!
- 2** Set your first meeting with your advisor.
- 3** Lead the discussion.
- 4** Obtain your advisor's feedback on your IDP.
- 5** Complete the "Action Plan" (page 3.7) and submit a copy to the Graduate Studies Office.

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**SCIENTIFIC ● RESEARCH GOALS AND OBJECTIVES**

1. Have you chosen a thesis advisor? If not, what are your thoughts about choosing one?
2. What is your plan for passing your Advanced Topics Exam?
3. Who is on your Advanced Topics Committee?
4. What are your topics?
5. How firm a grasp do you feel you have of the field in which you work?  
  
- **If insufficient**, what help do you need identifying relevant readings or other means to be a true expert in your field?
6. What are your near-term research goals? For each goal, specify any areas where you feel you need help or additional training. Include the need for scientific collaborations, if relevant.

**CHALLENGES**

1. Describe any unusual or unanticipated challenges you experienced this year in trying to accomplish the goals you set out last year with your advisor.
2. What actions have you taken to meet these challenges?
3. How can your advisor help you?

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For the following areas, list your recent involvement in the past year and/or current plans you have for participating in these areas.

**ACADEMIC COURSEWORK/TRAINING:****RESEARCH:****TEACHING/MENTORING:****PROFESSIONAL DEVELOPMENT:****CONFERENCES:****SERVICE/OUTREACH:****WELLNESS:**

Which experience or experiences have been most valuable to you, your research, and/or your professional goals? Are there ways that your involvement in any of the activities above should be adjusted

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One of the most important parts of your PhD training is to develop a skill set transferrable beyond graduation. As in past years, 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 PhD studies**. Ask your advisor how s/he agrees or disagrees. Spaces have been provided after each section to allow you and your advisor to add any additional skill targets. An honest self-assessment and discussion will help you set your training goals.

RESEARCH SKILLS & SCIENTIFIC THINKING	1	2	3	Target skill	LEADERSHIP/ PERSONNEL MANAGEMENT	1	2	3	Target skill
	(weak)	(aver.)	(strong)			(weak)	(aver.)	(strong)	
Broad-based knowledge of science				<input type="checkbox"/>	Dealing with conflict				<input type="checkbox"/>
Critical reading of scientific literature				<input type="checkbox"/>	Leading and motivating others				<input type="checkbox"/>
Creativity and innovative thinking				<input type="checkbox"/>	Setting expectations				<input type="checkbox"/>
				<input type="checkbox"/>					<input type="checkbox"/>
				<input type="checkbox"/>					<input type="checkbox"/>
				<input type="checkbox"/>					<input type="checkbox"/>
				<input type="checkbox"/>					<input type="checkbox"/>

WRITING	1	2	3	Target skill	PROFESSIONALISM	1	2	3	Target skill
For a research proposal				<input type="checkbox"/>	Identifying and seeking advice				<input type="checkbox"/>
Grammar/structure				<input type="checkbox"/>	Upholding commitments/deadlines				<input type="checkbox"/>
Editing your own writing				<input type="checkbox"/>	Maintaining positive relationships				<input type="checkbox"/>
				<input type="checkbox"/>	Approaching difficult conversations				<input type="checkbox"/>
				<input type="checkbox"/>					<input type="checkbox"/>
				<input type="checkbox"/>					<input type="checkbox"/>

ORAL COMMUNICATIONS	1	2	3	Target skill	PROJECT MANAGEMENT	1	2	3	Target skill
To a specialized audience				<input type="checkbox"/>	Planning projects				<input type="checkbox"/>
In a classroom				<input type="checkbox"/>	Breaking down complex tasks				<input type="checkbox"/>
One-on-one				<input type="checkbox"/>	Time management				<input type="checkbox"/>
English fluency				<input type="checkbox"/>	Managing data and resources				<input type="checkbox"/>
				<input type="checkbox"/>	Record keeping: electronic and hand-written files				<input type="checkbox"/>
				<input type="checkbox"/>					<input type="checkbox"/>

What are the top one or two skills that you plan to focus on for the next year?

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Mentoring is a distributive process and in Year 2 you listed the people whose talents and experiences you would count on to assist you in your training. As you look toward the completion of your degree, will that mentoring change? This IDP can serve as an impetus for conversations with each of your mentors, not just your advisor. Revise your mentoring network, if necessary, using the table below.

	How often are you meeting?	Is this sufficient?	Do you initiate meetings?	Need help finding or coordinating
<b>Thesis Advisor</b>				
<b>Advanced Topics committee: as a group</b> (List names)				
<b>Advanced Topics one-on-one</b>				
<b>Additional mentors</b> (List names)				
<b>Collaborators</b> (List names/ roles in your research)				

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

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**PROFESSIONAL AND PERSONAL DEVELOPMENT**

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?)

- What professional and/or other factors have informed these goals?

For each goal you listed above, identify one or two shorter-term goals that may be important to achieving the larger objective. Indicate how you intend to meet these goals next year.

What guidance would help you with your development and exploration of career options?

Do you want to be involved in more collaborative work, or do you need more time to focus on your own research?

Are there any factors that you feel may negatively affect your progress?

What help can your advisor or other faculty/staff provide?

Indicate here if you need help finding professional or personal development resources.

Your success as a student is linked to your wellness. What are you doing to maintain this?

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**THIS ACTION PLAN IS TO BE DEVELOPED JOINTLY BY THE GRADUATE STUDENT AND THE MENTOR DURING OR AFTER YOUR DISCUSSION.** Keep it accessible for your yearly IDP meetings and potential monthly check-ins, as determined by you and your advisor.

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**Projected timeline**

1

What is the projected timeline for completing your current projects and publishing your work?  
When do you expect to graduate?

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**Target skills**

2

What skills (~1-2) did you identify as important development targets for the coming year?

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**Coursework and Activities**

3

List any activities in which you and your mentor agree you should participate to achieve your academic objectives in the coming year; including any coursework you need to complete.

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**Financial support**

4

If you know, what will be your financial support for the next year?

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**Additional actions**

5

In order to aid your success, are there any additional actions that can be initiated or continued by you? By your advisor?

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**Following up**

6

When are you and your advisor going to follow up on your IDP and progress?

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**Other**

7

Is there anything else you and your advisor discussed?

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