Individual Development Plan

Individual Development Plans (IDPs) provide a planning process that identifies both professional development needs and career objectives. Furthermore, IDPs can serve as a tool to help facilitate communication between trainees and their mentors.

Goals

An annual IDP can be one component of a broader mentoring program. Specifically, it helps graduate student trainees:

- Create annual plans to reach their career goals;
- Establish target dates for academic and research milestones;
- Set goals and sub-goals for the next year, including discussions of how to spend their time; and
- Define in detail the approach they plan to take in order to obtain the specific skills and strengths needed (e.g., courses, technical skills, teaching, supervision) along with an anticipated time frames for obtaining those skills and strengths.

Benefits

Graduate student trainees will have a process that assists them in developing long-term career goals. Additionally, identifying short-term (annual) goals will give them a clearer sense of expectations and help identify milestones along the way to achieving specific objectives. The IDP also provides a tool that can be used to provide structure to conversations between the trainee and the trainee's mentor.

Outline of the IDP Process

The development, implementation and revision of the IDP require a series of steps to be conducted by the trainee, and then discussed with their mentor. These steps are an interactive effort, and ideally both the trainee and their mentor will fully participate in the process.

Annual Goals	Summary of expectations and responsibilities for each stage of training with links to tips and resources.
Part 1	Initiating the IDP: State your career goals and evaluate progress made during the past year.
Part 2	Skills assessment: Conduct an assessment of your strengths, weaknesses, and skills; ask your mentor/colleague to also provide an assessment.
Part 3	Set goals for the next year: List individual goals, methods to achieve goals, methods to assess progress, and develop a time management plan.
Part 4	Implementing your IDP: Set an appointment with your mentor. Discuss your IDP with your mentor; implement the steps in your IDP; periodically review progress with your mentor.

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- Bill Lindstaedt, Director, UCSF Office of Career and Professional Development
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Annual Goals: Years 1 and 2

Goals and Responsibilities: The first two years of graduate school are critical for mastering the discipline, knowledge and skills needed for success as a research scientist and for acquiring the kind of insight into yourself and the scientific universe that will allow you to make the most of your talents and interests.

General:

- Have I established a clear set of goals that I wish to accomplish this year and next?
- Have I discussed these goals with my mentor/ advisory committee members?

Learning:

- What are the courses I need to become literate in graduate level biology and chemistry?
- What courses will provide me with the specialized background needed for research in my field of interest?
- Am I spending enough time and effort on my coursework in order to learn what I need to know?
- What primary literature should I be reading? Which reviews?
- How do I learn about new developments in my field?
    - How do I know when to trust what I read in the literature or hear in a seminar?
- How do I learn about emerging knowledge in biology and chemistry?
    - Am I attending seminars within and outside my area of focus to broaden and deepen my scientific knowledge base?
- What laboratory and/or computational skills do I need?

Research:

Choosing a lab:

- What laboratory rotations will provide me with the experiences I need to choose a thesis area?
- Who do I want to supervise my thesis research?
- What is my thesis project?
- Who will be on my committee?
- When will I take my qualifying exam?

Scientific Research Skills: What are my goals and how will my progress be assessed?

(see Part 3 of this IDP, "Setting Goals: Research/Laboratory Skills")

- Am I spending enough time and effort in the lab to accomplish my goals?
- Can I design an experiment to address a scientific question that would generate a conclusive answer from the results?
- Can I plan and execute an experiment and record the results in a form that could be published?
- Am I beginning to interpret my results and to assimilate new knowledge to formulate good scientific questions?

Participation in the scientific community:

- Do I understand the standards of professional scientific conduct and am I committed to upholding them?
- Have I formed appropriate support relationships with mentors, peers, and administrative staff?

Communication skills: What are my goals and how will my progress be assessed?

(see Part 3 of this IDP, "Setting Goals: Oral Presentation Projects and Skills" and "Setting Goals: Writing Projects and Skills")

- Can I organize, interpret and present my research results using the appropriate graphics and text?
- Can I communicate my research results effectively in an oral and visual presentation to my colleagues? to a general audience?
- Can I communicate scientific concepts effectively through speech, visual presentations and writing?
- What fellowships will I apply for and when are the deadlines?
- Who are key contacts, in addition to my PI, for editing and helping me think through ideas?

Annual Goals: Year 3

Goals and Responsibilities: The third year of graduate school is the first year entirely dedicated to research in the laboratory. As a member of a team, your role is to expand your interest far beyond the bench in order to: build multi-tasking skills; further your academic knowledge; expand your network through collaboration and technical interactions; and become a scientist. The third year is the pivotal point to grasp the entirety of what a good scientist must consider and do to be successful. Your sense of belonging to the scientific community should develop. Your longer term goals should emerge in order to make appropriate decisions with respect to scientific projects and your career.

General:

- Have I begun to define my specific interests and objectives for my Ph.D. studies?
- Have I evaluated my strengths and weaknesses and made adjustments to my program to improve on or accommodate them?
- Have I developed a focused set of goals that will lead to publication of a paper and development of my thesis within the next year?
- Have I discussed these goals with my mentor/ advisory committee members?

Learning:

- What reading must I be doing to become an expert in my field?
- What knowledge will broaden the scope of my work?
- How do I stay abreast with novelty in science?
- Am I attending enough, or too many, seminars?
- Am I critical enough of the literature or of what I hear in a seminar?
- What additional skills may I need to be even better?
- Am I becoming an expert in my area of research?
- Am I balancing bench work and dry lab work efficiently?
- How could I improve my multi-tasking skills?

Research:

Scientific Research Skills: What are my goals and how will my progress be assessed?

(see Part 3 of this IDP, "Setting Goals: Research/Laboratory Skills")

- How do I refine my research project and become more focused?
- Am I spending enough time and effort inside and outside the lab to accomplish my objectives?
- How can I improve my experiment design?
- Am I thinking creatively, troubleshooting my own experiments, and developing my independence?
- How do I efficiently translate results into publication quality data?
- How far am I from my 1st publication?

Participation in the scientific community:

- Do I understand the overall philosophy of research/the scientific method?
- How can I improve my relationships with mentors, peers, and other scientists?

Communication skills: What are my goals and how will my progress be assessed?

(see Part 3 of this IDP, "Setting Goals: Oral Presentation Projects and Skills" and "Setting Goals: Writing Projects and Skills")

- How good am I at presenting my research results?
- How can I improve my presentation skills? Whom should I get feedback from?
- Have I presented my work at and/or attended a scientific meeting?
- Have I written an abstract or paper?
- How can I improve my writing?

Annual Goals: Year 4

Goals and Responsibilities: As a fourth year graduate student you should be focused on your research, on writing papers and communicating your findings. By now, you should have acquired considerable expertise in your chosen field and you should be exhibiting this expertise through more effective planning and implementation of experiments, through mentoring newer lab members and through discussions with others in your scientific community. By the end of the fourth year, your thesis project should be nearing completion, or at the very least, a detailed thesis outline and attainable set of objectives for completion should have emerged. You should be able to critically read the literature, identify important new problems, develop hypotheses and design experiments to test them. These skills will be demonstrated by preparing and defending an original research proposal. Finally, you should begin planning the next stage of your career.

General:

- Do I have a clear plan for completing my PhD thesis research?
- Am I developing my original research proposal and do I understand the criteria for assessment?
  (see Part 3 of this IDP, "Setting Goals: Research Projects")
- Am I thinking ahead about my next career stage having evaluated my strengths, weaknesses and passions?
- Am I discussing my timetable for completion and career plans with my mentor(s)?

Learning:

- Am I establishing and demonstrating expertise in my chosen area of study?
- Am I staying up with the current literature in my field?
- Can I read the literature critically and identify assumptions, important implications and/or alternate interpretations?
- Am I increasing the depth and breadth of my knowledge by attending seminars within and outside of my field?
- Am I asking important questions and developing good scientific taste and judgment?
- Can I develop new hypotheses and design experiments to test them?
- Am I willing to learn new techniques and to take risks?
- Can I write an original and competitive research proposal?

Research:

Scientific Research Skills: What are my goals and how will my progress be assessed?
(see Part 3 of this IDP, "Setting Goals: Research/Laboratory Skills")

- Am I interpreting my own data, questioning my assumptions and identifying important implications of my findings?
- Am I asking important questions and designing my own experiments to generate answers?
- Am I working with sufficient focus and intensity to drive discovery and complete my research objectives?
- Am I managing my time for experiments, reading, and writing?
- Am I developing and following through on my own ideas?
- Have I demonstrated creativity and innovation in my experimental work?
- Have I published a paper, or am I preparing manuscripts for publication?

Participation in the scientific community:

- Am I developing confidence as a member of the scientific community?
- Do I ask questions and enter into discussions in seminars, conferences and journal clubs?
- What have I discovered? Why is it important? Can I articulate this?
- Can I deliver an effective seminar?
  (see Part 3 of this IDP, "Setting Goals: Oral Presentation Projects and Skills"
- Am I seeking out and taking advantage of opportunities to present my research?
- Am I at presenting my research results authoritatively?
- Am I attending local and national meetings and presenting my results?

Annual Goals: Year 5

Goals and Responsibilities: In the fifth year you should be focused on completing your experimental work, writing research papers and your thesis, scheduling your thesis defense, and making plans for a post-graduate position as the next step in your career. As a fifth year student, you should have your thesis plans, and a chapter by chapter outline of your thesis, approved by your committee. You will be expected to be an expert in your specific field of research, have command of the literature, and articulate how your research contributions complement those of other laboratories. By the end of the fifth year it is expected that you will have defended your thesis, or will at a minimum have a clear timeline for finishing and defending your thesis.

General:

- Do I have a well-organized thesis plan?
- Have I set my thesis committee and a thesis defense date?
- Have I made plans for the next stage in my career?
- If not, what must I do to complete these goals?

Learning:

- Can I demonstrate that I am an expert in my field?
- Can I present and defend my work in an authoritative manner?
- Can I articulate how my work contributes to the knowledge in my field?
- Can I demonstrate that I have a breadth of knowledge in areas related to my area of research expertise?
- Am I able to balance bench work with writing papers and finalizing my thesis?

Research:

Scientific Research Skills: Have I reached a high level of proficiency for all criteria?

(see Part 3 of this IDP, "Setting Goals: Research/Laboratory Skills")

- Do I have a clear path and timetable for completion and publication of my thesis research?
- Have I demonstrated the ability to identify experiments necessary for writing up the results for publication and a final thesis?
- Do I think creatively about the implications of my research to other work in the field?
- Have I published any research papers, and if so are they planned as chapters of my thesis?

Participation in the scientific community:

- Can I confidently discuss the current literature in my area of expertise?
- Do I ask questions and enter into discussions in seminars, conferences and journal clubs?
- Have I maintained good communications mentors, peers and administrative staff?
- Have I effectively communicated with my thesis committee about finalizing my research and defending my thesis?

Communication skills: Have I reached a high level of proficiency for all criteria?

(see Part 3 of this IDP, "Setting Goals: Oral Presentation Projects and Skills" and "Setting Goals: Writing Projects and Skills")

- Have I presented my research in local, national, or international meetings?
- Have I prepared and practiced my thesis seminar to be understood by my committee and a diverse scientific audience?
- Have I demonstrated writing skills through publication of my research or writing chapters of my thesis?

Annual Individual Development Plan (IDP)

Year:_____

Name:_____ Today's Date:_____

Part 1: State your career goals and evaluate your progress during the past year.

Primary mentor: _____

List any additional mentors: _____

Thesis committee members: _____

How many years have you been in graduate school? _____

Have you chosen a track? Which one and why? _____

At this point, what month and year do you hope to finish your graduate degree? _____

What is your "Next Step Career Goal" (postdoctoral training, job, etc)?

_____

_____

What is your "Long Term Career Goal" (academic, industry, teaching)?

_____

_____

If your career goals have changed in the past year list why:

_____

_____

Provide a brief overview of your research project and major accomplishments in the past year:

_____

_____

_____

_____

_____

_____

What were your main goals for the past year?

Which goals did you meet? If you did not meet a goal, why not?

New areas of research or technical expertise acquired in the past year:

Publications:

Honors/Awards:

Local and national meetings attended (indicate meeting title, oral or poster presentation):

Oral presentations (indicate date and venue):

Teaching activities:

Other professional activities:

Community/service activities:

Part 2: Skills Assessment

SELF Evaluation: Assess your strengths, weaknesses and skills

Evaluate your skills and abilities in the following areas where:

5 = Highly proficient

1 = Needs improvement

Overall Core Scientific Knowledge		1	2	3	4	5
	Knowledge of literature in the field	1	2	3	4	5
	Knowledge of literature related to project	1	2	3	4	5
	Knowledge area:	1	2	3	4	5
	Knowledge area:	1	2	3	4	5
Laboratory or Bench Skills (eg, microscopy, animal skills):						
	Skill set:	1	2	3	4	5
	Skill set:	1	2	3	4	5
	Skill set:	1	2	3	4	5
	Efficiency and speed	1	2	3	4	5
	Other:	1	2	3	4	5
General Research Skills (eg, designing experiments, creativity):						
	Designing experiments	1	2	3	4	5
	Analytical skills	1	2	3	4	5
	Problem solving/troubleshooting	1	2	3	4	5
	Creativity/developing new research directions	1	2	3	4	5
	Other:	1	2	3	4	5
Professional Skills:						
	Oral presentation skills	1	2	3	4	5
	Grant writing skills	1	2	3	4	5
	Manuscript writing skills	1	2	3	4	5
	General scientific writing skills	1	2	3	4	5
	Teaching skills	1	2	3	4	5
	Mentoring others	1	2	3	4	5
	Being mentored	1	2	3	4	5
	Other:	1	2	3	4	5
Leadership and Management Skills:						
	Leading and motivating others	1	2	3	4	5
	Budgeting	1	2	3	4	5
	Managing projects and time	1	2	3	4	5
	Organizational skills	1	2	3	4	5
Interpersonal Skills:						
	Getting along with others	1	2	3	4	5
	Communicating clearly in writing	1	2	3	4	5
	Communicating clearly in conversation	1	2	3	4	5
	Conflict resolution	1	2	3	4	5
	Networking/meeting new colleagues	1	2	3	4	5
	Other:	1	2	3	4	5

MENTOR Evaluation:

Ask your mentor or other trusted colleague to assess your strengths, weaknesses and skills, and then return the list to you for discussion. Evaluation from last year can be provided to assess progress.

Please evaluate the skills and abilities of _____in the following areas, where:

5 = Highly proficient

1 = Needs improvement

Overall Core Scientific Knowledge		1	2	3	4	5
	Knowledge of literature in the field	1	2	3	4	5
	Knowledge of literature related to project	1	2	3	4	5
	Knowledge area:	1	2	3	4	5
	Knowledge area:	1	2	3	4	5
Laboratory or Bench Skills (eg, microscopy, animal skills):						
	Skill set:	1	2	3	4	5
	Skill set:	1	2	3	4	5
	Skill set:	1	2	3	4	5
	Efficiency and speed	1	2	3	4	5
	Other:	1	2	3	4	5
General Research Skills (eg, designing experiments, creativity):						
	Designing experiments	1	2	3	4	5
	Analytical skills	1	2	3	4	5
	Problem solving/troubleshooting	1	2	3	4	5
	Creativity/developing new research directions	1	2	3	4	5
	Other:	1	2	3	4	5
Professional Skills:						
	Oral presentation skills	1	2	3	4	5
	Grant writing skills	1	2	3	4	5
	Manuscript writing skills	1	2	3	4	5
	General scientific writing skills	1	2	3	4	5
	Teaching skills	1	2	3	4	5
	Mentoring others	1	2	3	4	5
	Being mentored	1	2	3	4	5
	Other:	1	2	3	4	5
Leadership and Management Skills:						
	Leading and motivating others	1	2	3	4	5
	Budgeting	1	2	3	4	5
	Managing projects and time	1	2	3	4	5
	Organizational skills	1	2	3	4	5
	Other:	1	2	3	4	5
Interpersonal Skills:						
	Getting along with others	1	2	3	4	5
	Communicating clearly in writing	1	2	3	4	5
	Communicating clearly in conversation	1	2	3	4	5
	Conflict resolution	1	2	3	4	5
	Networking/meeting new colleagues	1	2	3	4	5
	Other:	1	2	3	4	5

Part 3: Set goals and learning objectives for the next year.

In the "Setting Goals" sections, you will set goals for developing your skills and accomplishing your projects during the coming year.

Setting Goals: Research Projects

Scientific question: What are the **scientific questions** that you will be working towards answering in the next year? These may be individual papers (or figures within a single paper) that you aim to publish.

Experimental approach: What are the experimental approaches that you are currently pursuing? Are there other approaches that you could try? Are there additional more promising experiments that you should be doing?

Time management: We all know science doesn't follow timelines; but it's important to set limits and goals. How long are you willing to keep trying before you drop each of these experiments/projects? What result or deadline will trigger when you begin the next approach?

Scientific question: _____

Experimental approach (current and potential)	Time management	Overall Priority*

Scientific question: _____

Experimental approach (current and potential)	Time management	Overall Priority*

Scientific question: _____

Experimental approach (current and potential)	Time management	Overall Priority*

Scientific question: _____

Experimental approach (current and potential)	Time management	Overall Priority*

Setting Goals: Scientific Knowledge

Knowledge area: In what areas do you want to acquire more **scientific knowledge**?

Method for knowledge development: Do you plan to do more *reading* in this area? *Discuss* with specialists? Attend *conferences*?

Time management: How much time do you think you will need to set aside (per week, per month, etc)? Is there an event or time by which you'd like to have achieved this knowledge goal?

Knowledge area	Method for knowledge development	Time management	Overall Priority*

Setting Goals: Research/Laboratory Skills

Skills Area: What further **research-related or laboratory skills** do you need to acquire to be successful in this step of your career and in the next step? (See the Skills Assessment Worksheet in Part 2.)

Method for skill development: How will you gain exposure to those skills?

Time management: How much time will you set aside to work on developing this skill (per week, per month, etc.)? Set a date by which you would like to reach your desired level of competency in this skill.

Research/Laboratory Skills	Method for skill development	Time management	Overall Priority*

Setting Goals: Oral Presentation Projects and Skills

Presentation **Projects**: What talks and posters do you plan to present in the next year? (at lab meetings, journal clubs, in-house seminars and scientific meetings)

Time management: When will this presentation take place? When should you begin preparing?

Presentation projects	Time management	Overall Priority*

Presentation **Skills**: Are there specific presentation skills you would like to work on in the coming year?

Method for skill development: What will you do to develop these skills? (attend professional development workshops, volunteer to give more presentations, attain feedback from mentors and peers)

Time management: How much time will you set aside to work on developing this skill (per week, per month, etc.)? Set a date by which you'd like to reach your desired level of competency in this skill.

Presentation Skills	Method for skill development	Time management	Overall Priority*

Setting Goals: Writing Projects and Skills

Writing **Projects:** Are there any writing projects that you will be continuing or initiating this year? (fellowships, manuscripts, grants)

Time management: List the stages and sub-steps toward finishing the project. Set goals/deadlines for each stage within the writing process.

Writing projects	Time management	Overall Priority*

Writing **Skills**: Are there specific writing skills you would like to work on in the coming year?

Method for skill development: What will you do to develop these skills? (writing workshops, practice writing projects, seek editing assistance)

Time management: How much time will you set aside to work on developing this skill (per week, per month, etc.)? Set a date by which you'd like to reach your desired level of competency in this skill.

Writing Skills Area	Method for skill development	Time management	Overall Priority*

Setting Goals: Leadership, Interpersonal, and Communication Skills

Leadership, management, and interpersonal skills area: What specific skills do you need to acquire or improve? What specific skills will you work on in the coming year? (See Part 2 of this IDP for examples.)

Method for skill development: How will you work to develop these skills? (examples: attend workshops/seminars, seek advice of mentors/colleagues or advisors/counselors, ask to lead meetings and seek feedback, seek leadership positions on your campus or in a professional society.)

Time management: How much time will you set aside to work on developing this skill? How will this affect the time you can dedicate to your research and other goals?

Leadership, interpersonal and communication skills	Method for skill development	Time Management	Overall Priority*

Setting Goals: Career Development Projects

Career Development Projects: List activities that you will complete during the next year to learn more about and move closer to your major career goal. (attend workshops, advice from counselors, conduct informational interviews with people in your desired career path, read/research potential career paths).

Time management: During what months do you plan to do these activities? How will this affect the time you can dedicate to your research and other goals?

Career Development Projects	Time management	Overall Priority*

Setting Goals: Time Management

1. How many hours do you spend per week doing work-related activities? _____
    a. Is this a good balance to achieve your goals at work and in your personal life?
    b. Do you want to increase or decrease this time in the coming year?

2. Provide a ***rough estimate*** of your time: What % of your time at work was spent on each of the following activities ***during the past year***?

Advancing Your Research			
Performing research			
Discussing your research with others			
Attending science seminars			
Attending conferences			
Reading in your field			
Reading to expand your knowledge of other fields			
Writing papers or grants			
Other lab management, lab duties			
Teaching, Mentoring, and Leadership			
Teaching in the classroom			
Mentoring in the lab			
Volunteer or leadership activities (committees, etc.)			
Career and Professional Development			
Attending training/career development seminars/workshops			
Networking to promote your goals (socializing, emails, etc.)			
Career exploration (information interviewing, reading about			
careers, visiting career counselors)			
Job search activities (CV writing, researching job opportunities)			
Socializing, e-mails, other activities not directly promoting your goals			
Other:			

3. To reach your goals, how would you like to change the amount of time you spend on each of these types of activities (***increase***, ***same***, or ***decrease***)?

4. What is your goal for % of time (***rough estimate***) spent on each activity for ***this coming year***?

Prioritizing Your Goals

Looking back at the tables, identify the *project and skills-development goals* that you feel belong in your Top 10 Priority list. **Star these goals in the "Overall Priority" box**, or number them in order of priority.

Identifying Methods for Assessing Whether You Have Met Your Goals

When setting goals for skills development, it is important to decide on a concrete method for how you will identify whether you have reached these goals. How will you be certain that you have acquired your desired competency in these skills?

List your top-priority goals for *skills development* in this table, and how you will assess whether you have accomplished each goal.

Top-priority skill to be developed	Method for assessment of skill development	When and how often will you do this assessment?

How do I assess my own skill development?

Identify a method for how you will assess whether you reached your goal for skills development in each area. Set standards, and select a person or group of people (mentor(s), expert(s), peer(s), and/or yourself) to assess whether you have improved and/or met those standards.

Making a Plan

Create a month-by-month timeline for the next twelve months, integrating your top-priority projects and skills development goals that you identified in the "overall priority" boxes. After you are finished, add any deadlines or important dates from this timeline to your daily calendar. (Or, post this calendar next to your desk to remind you of your goals & timeline!)

Update your CV and attach it to this document.

Part 4: Implement Your IDP

Writing your IDP is just the beginning of the career development process and serves as the road map. Now it's time to take action!

- Discuss your plan with your mentor(s): Plan to set an annual (or more frequently if appropriate) meeting with your mentor to review and discuss your IDP. Be sure to prepare a written outline or agenda for this discussion. For example, create a prioritized list of the most important items you wish to discuss, areas where you are seeking advice, and goals for the discussion.
- Put your plan into action: Read it over regularly to check your progress.
- Revise and modify the plan as necessary: The plan is not cast in concrete; it will need to be modified as circumstances and goals change. The challenge of implementation is to remain flexible and open to change.