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Trainee Development Plan

**Goal**

The purpose of this development plan is to help you identify your graduate-training goals and make a plan to achieve those goals. This development plan is specific to the BRIDGES training program and your INFEWS training goals, but you are encouraged to undertake a similar process thinking about your long-term career goals. A development plan is a working document, and you should revisit and rework this document as you move through your graduate studies.

**Context**

An “Individual Development Plan” (IDP) is a structured planning tool that has 4 primary steps.

1. Self-assessment: consider your skills and interests;
2. Identify your objectives: this can be exploring your graduate studies and research “end game” – whatever your primary objective – then working to understand how your skills and interests compare to that overarching objective;
3. Set goals: make a concrete plan for how you will prepare for/achieve your objective;
4. Implement the plan: work with mentors to achieve your goals and ultimately, your objective.

There are a number of IDP planning tools available. For your career, we recommend the free, on-line IDP provided by AAAS, at <https://myidp.sciencecareers.org/>. We recommend starting the AAAS IDP process prior to thinking more specifically about your INFEWS training/research plan in order to provide the broader context behind this exercise.

For this development plan, you will work through steps 1 and 2 ahead of time, and begin working on step 3 (pages 1-7).You will then meet with the Program Coordinator to talk about your objectives and required skills, and begin to identify which BRIDGES components might forward your skills and objectives. Finally, you will meet with your advisor to share and refine your objectives and identify steps and resources to achieve your objectives and develop necessary skills. **A completed first-round development plan, signed by your advisor, is due to the Program Coordinator by January 31st.** Please provide an electronic scan of the last two pages of the document. If you don’t have a scanner, you can provide the hard copy to the Program Assistant, Teresa Clark, who can scan and forward the document on to the Program Coordinator for you.

After, it will be up to you to determine the amount of effort you want to invest in continually identifying skills and actions you need to achieve your objectives, but we urge you to continually reassess as you move forward in your grad studies and career.

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| **If you do not change direction,**  **You may end up where you are heading.**  **- *Lao Tzu*** | **How can I move forward when I don’t know which way I’m facing?**  **- *John Lennon*** | **Alice: Would you tell me, please, which way I ought to go from here?  Cheshire Cat: That depends a good deal on where you want to get to.**  **- *Alice in Wonderland*** |

**HOMEWORK**

**Self-Assessment**

Please complete this section prior to your meeting with the BRIDGES Program Coordinator. Answer these questions regarding your graduate training or research.

**Interests Assessment**

Assess your interest in the following areas (both for graduate school and beyond) as low, moderate, or high interest.

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| ***INFEWS Topics*** | **Low (1)** | **Mod (2)** | **High (3)** |
| Work/research related to water science and systems |  |  |  |
| Work/research related to energy science and systems |  |  |  |
| Work/research related to food science and systems |  |  |  |
| Work/research at the food-water nexus |  |  |  |
| Work/research at the food-energy nexus |  |  |  |
| Work/research at the water-energy nexus |  |  |  |
| ***Interdisciplinary Research and Work*** | **Low (1)** | **Mod (2)** | **High (3)** |
| Conducting physical or biological science |  |  |  |
| Conducting social science |  |  |  |
| Implementing/advocating for policy and law |  |  |  |
| Applying systems thinking approaches |  |  |  |
| Working in an interdisciplinary team |  |  |  |
| Writing scientific manuscripts |  |  |  |
| Grant writing and pursual |  |  |  |
| Writing position or policy papers |  |  |  |
| Writing reports |  |  |  |
| Giving presentations about science |  |  |  |
| Developing curricula |  |  |  |
| Teaching in a classroom |  |  |  |
| Teaching or training informally |  |  |  |
| Discussing science with others |  |  |  |
| Attending conferences and scientific meetings |  |  |  |
| Using quantitative methods in science |  |  |  |
| Using qualitative methods in science |  |  |  |
| ***Management and Leadership Skills*** | **Low (1)** | **Mod (2)** | **High (3)** |
| Using science to inform/influence policy and law |  |  |  |
| Managing/supervising others |  |  |  |
| Mentoring others |  |  |  |
| Planning and organizing projects |  |  |  |
| Planning and organizing events |  |  |  |
| Planning and organizing research |  |  |  |
| Developing/managing budgets |  |  |  |
| Managing data |  |  |  |
| Work/research-related travel |  |  |  |
| ***Add your own if necessary*** | **Low (1)** | **Mod (2)** | **High (3)** |
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**Skills Assessment**

Assess your proficiency in the following areas as low, moderate, or high proficiency.

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| ***INFEWS Knowledge*** | **Low (1)** | **Mod (2)** | **High (3)** |
| Knowledge of water science |  |  |  |
| Knowledge of water system policy and law |  |  |  |
| Knowledge of water system economics |  |  |  |
| Knowledge of social issues related to water systems |  |  |  |
| Knowledge of energy science |  |  |  |
| Knowledge of energy system policy and law |  |  |  |
| Knowledge of energy system economics |  |  |  |
| Knowledge of social issues related to energy systems |  |  |  |
| Knowledge of food science |  |  |  |
| Knowledge of food system policy and law |  |  |  |
| Knowledge of food system economics |  |  |  |
| Knowledge of social issues related to food systems |  |  |  |
| Understanding of food-water system/nexus tradeoffs and issues |  |  |  |
| Understanding of food-energy system/nexus tradeoffs and issues |  |  |  |
| Understanding of water-energy system/nexus tradeoffs and issues |  |  |  |
| Understanding complex adaptive systems |  |  |  |
| ***Interdisciplinary Research Skills*** | **Low (1)** | **Mod (2)** | **High (3)** |
| Conceptualizing and creating research topics and questions |  |  |  |
| Narrowing and targeting research topics and questions |  |  |  |
| Identifying creative approaches to address research topics and questions |  |  |  |
| Applying systems thinking approaches |  |  |  |
| Understanding peer-reviewed literature from biophysical sciences |  |  |  |
| Understanding peer-reviewed literature from social sciences |  |  |  |
| Applying appropriate/advanced research methods in the physical or biological sciences |  |  |  |
| Applying appropriate/advanced research methods in the social sciences |  |  |  |
| Creating appropriate experimental designs |  |  |  |
| Finding data in home discipline |  |  |  |
| Finding data in other disciplines |  |  |  |
| Working with and interpreting data |  |  |  |
| Conducting statistical analyses |  |  |  |
| Working with and interpreting numbers and quantitative analyses |  |  |  |
| Working with and interpreting qualitative analyses |  |  |  |
| Working in a cross-disciplinary research team |  |  |  |
| Navigating the peer review process |  |  |  |
| ***Science and Interdisciplinary Communication*** | **Low (1)** | **Mod (2)** | **High (3)** |
| Basic writing and editing skills |  |  |  |
| Writing scientific publications |  |  |  |
| Writing grant proposals |  |  |  |
| Writing for non-scientists |  |  |  |
| Speaking about research clearly and effectively |  |  |  |
| Presenting research to scientists within discipline |  |  |  |
| Presenting research to non-scientists or those outside of discipline |  |  |  |
| Speaking to the media |  |  |  |
| Negotiating difficult conversations |  |  |  |
| Training or teaching others |  |  |  |
| Targeting communication for a specific audience |  |  |  |
| ***Management and Leadership Skills*** | **Low (1)** | **Mod (2)** | **High (3)** |
| Providing instructive feedback |  |  |  |
| Receiving and responding to feedback |  |  |  |
| Planning and organizing projects |  |  |  |
| Time management |  |  |  |
| Developing/managing budgets |  |  |  |
| Data management |  |  |  |
| Creating vision and goals |  |  |  |
| Inspiring and motivating others |  |  |  |
| Serving as a role model |  |  |  |
| Developing and maintaining intellectual community |  |  |  |
| Developing and maintaining a career/disciplinary network |  |  |  |
| ***Add your own if necessary*** | **Low (1)** | **Mod (2)** | **High (3)** |
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**Values Assessment**

Rate the importance of the following values in your research/career: low, moderate, or high importance.

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| ***Value*** | **Low (1)** | **Mod (2)** | **High (3)** |
| Work with a team |  |  |  |
| Work independently |  |  |  |
| Work to help society |  |  |  |
| Work to help people |  |  |  |
| Influence people |  |  |  |
| Predictability in work |  |  |  |
| Variety in work |  |  |  |
| Intellectual challenge |  |  |  |
| Supervision of others |  |  |  |
| Diversity of team |  |  |  |
| Continued learning |  |  |  |
| Be the expert |  |  |  |
| Test/apply cutting-edge or unproven methods |  |  |  |
| Take risks and apply approaches unfamiliar to you |  |  |  |
| Travel |  |  |  |

**Identify Objectives**

Please complete this section prior to your meeting with the BRIDGES Program Coordinator. Be as specific as you can, but brevity is fine.

What are your objectives for graduate school? What do you want to learn?

When you leave graduate school, you want to be an expert in these following topics of your home discipline:

When you leave the BRIDGES traineeship, you want to be an expert in the following nexus topics:

How do you believe the BRIDGES traineeship will help your research?

How do you believe the BRIDGES traineeship will help your career?

Compare your skills and interest with your objectives. Identify in which skills must you be proficient to meet your objectives(circle those skills on pages 2-3). Of those, which skills are of most critical need for further development (low skill)? Which skills would benefit from further/continued development because they are of high interest? Which skills could benefit from further development but are not priorities? How does considering your values modify this list?

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|  | ***Moderate Interest*** | ***High Interest*** |
| ***Mod Skill*** | **Skills that wouldn’t hurt to develop but not priority** | **Skills that would benefit from further development/continual improvement** |
| ***Low Skill*** | **Skills that could benefit from further development** | **Skills in critical need of further development** |

**BRIDGES requirements**

Think about how you might like to complete these requirements and come prepared to discuss with Program Coordinator.

**All Trainees**

Internship (80 hours MS/120 hours PhD)

**PhD Trainees**

International experience

**All Fellows**

Broader impacts (4 hours)

**PhD Fellows**

Lead trainee experience in Year 2

**Summarize your objectives**

What are your top 3-5 graduate school objectives?

What are your top 3-5 BRIDGES training objectives?

**Goal Setting**

Prior to meeting with the Program Coordinator, identify at least two skills identified as critical or that would benefit from development, list specific step(s) you will take. Develop this list over the course of your graduate studies.

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| **Required skill** | **Specific step** | **When will you take this step?** | **How will you know you’ve improved?** | **Available resources** |
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| **Critical Skill** | **Specific step** | **When will you take this step?** | **How will you know you’ve improved?** | **Available resources** |
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**WORK WITH PROGRAM COORDINATOR**

**Completing your traineeship**

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| --- | --- | --- |
| **Item** | **Relation to Critical Skill** | **Traineeship** |
| ***Year 1***  *Fall*  *Spring*  *Summer* |  | Core Course  Fall Sci Coms Spring Seminar  Numeracy  M-Internship LA  *PF-*exp plan  *F-* BI plan  RCR |
| ***Year 2***  *Fall*  *Spring*  *Summer* |  | Spring Sci Coms  Research talk  M-Internship  M-Thesis  P-Internship LA  *F-* BI  *F-*colab  *PF –* lead exp |

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| --- | --- | --- |
| ***Year 3***  *Fall*  *Spring*  *Summer* |  | P-Internship  P-International |
| ***Year 4***  *Fall*  *Spring* |  | P-Dissertation |

**Implementing your development plan**

Review and rework your plan with your advisor. Return a signed copy of the final 2 pages of this document to the Program Coordinator for your files. Remember this plan is a living document and consider revisiting annually with your advisor.

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date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

List all planned courses and traineeship elements and identify how they relate to critical skills and/or list other critical skills that require development and planned activities.

***Year 1***

|  |  |  |  |
| --- | --- | --- | --- |
|  | ***Fall*** | ***Spring*** | ***Summer*** |
| **Courses** |  |  |  |
| **Seminars** |  |  |  |
| **Workshops** |  |  |  |
| **Other BRIDGES** |  |  |  |
| **Critical Skills** |  |  |  |

***Year 2***

|  |  |  |  |
| --- | --- | --- | --- |
|  | ***Fall*** | ***Spring*** | ***Summer*** |
| **Courses** |  |  |  |
| **Seminars** |  |  |  |
| **Workshops** |  |  |  |
| **Other BRIDGES** |  |  |  |
| **Critical Skills** |  |  |  |

***Year 3 (PhD only)***

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| --- | --- | --- | --- | --- |
|  |  | ***Fall*** | ***Spring*** | ***Summer*** |
| **Courses** |  |  |  |  |
| **Seminars** |  |  |  |  |
| **Workshops** |  |  |  |  |
| **Other BRIDGES** |  |  |  |  |
| **Critical Skills** |  |  |  |  |

***Year 4 (PhD only)***

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| --- | --- | --- | --- |
|  | ***Fall*** | ***Spring*** | ***Summer*** |
| **Courses** |  |  |  |
| **Seminars** |  |  |  |
| **Workshops** |  |  |  |
| **Other BRIDGES** |  |  |  |
| **Critical Skills** |  |  |  |

**Notes:**

Advisor:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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