

ENGG 400 Individual Development Plan

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INTRODUCTION

What is an Individual Development Plan?

An individual development plan, or IDP, is a professional development tool that can help you assess your current strengths and areas of desired growth as well as clarify your career goals. It acts as both a planning and communication tool, allowing you to map out your career as well as share these goals with mentors, peers, and future supervisors.

Steps for Completing Your IDP



STEP 1: PERSONAL INVENTORY

As a first step in creating your IDP, think about the things you like do, the things you are already good at and what is important to you in your professional future. This will help you think about career paths that are a good fit (Step 3), and to evaluate opportunities that emerge. It is also good to know what you do not want in your next opportunity, job, or position.

Who are the stakeholders in your professional development?

- family members
- APEGA
- organizations and the people I end of working with
- University of Alberta
- society
- myself

***Stakeholders** are individuals, groups, or organizations who are impacted by the outcome of your work and who have an interest in your success.*

Who or what do I hope to inspire? List at least 3.

- prospecting future engineers
- digital literacy
- good security practices
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What social issues do I feel passionate about and want to help support or change? List at least 2.

- digital privacy
- civil rights (free speech, right to protest, right to privacy, etc)
- voter participation

What are my hobbies and interests? List at least 3.

- GNU + Linux
- programming
- personal computer hardware
- writing software
- gaming

What are my strengths? List at least 5. Consider utilizing online strength-finder assessments and other available resources.

- stubbornness, not giving up
- natural curiosity to learn more about things, an eagerness for learning
- finding the positive in things (glass half full)
- reading nonverbal cues of human emotion
- enjoy teaching/helping others
- question established rules e.g. why is something done this way and is there a better way
- willingness to try new things
- working in groups

What are my areas for growth? List at least 3.

- sometimes it is okay to give up but I have trouble accepting defeat
- easily bored
- not wanting to do something because "it's already been done"

STEP 2: SELF-ASSESSMENT

There are certain skills and attributes employers look for in potential employees and that graduates of Canadian Engineering programs are expected to have developed. The self-assessment component of this IDP focuses on eight broad topics:

- Life-long Learning
- Communication
- Professionalism
- Ethics
- Collaboration & Teamwork
- Human Rights and Equity
- Leadership, Initiative, and Stewardship
- Knowledge Base

Alongside—and equally as important as—the technical skills you’ve developed in your education, the competencies that fall within these categories will help you articulate your engineering program experiences into skills and competencies required in the career goals you will identify later in your IDP.

Taking the time to think carefully about how your experiences have supported the development of skills and competencies is an important part of career management. In this section, you will evaluate your skills and competencies across these eight IDP areas. As part of your self-assessment, you will think of specific examples where you have demonstrated workplace skills/competencies.

Rating your skills and competencies

Throughout this section, you will reflect on your skills and competencies, particularly as they relate to your career goals and aspirations. You will use the criteria below. As you rate your skills and competencies, think about evidence of your rating. If you have given yourself a strong rating, what are examples of situations where you have demonstrated this skill or competency? If you have identified an area of growth, what leads you to believe that you need to develop this skill or competency?

Rating	Descriptor
1	Yet to be Developed: You have no experience with this skill/competency.
2	Developing: You have started to develop your skill/competency in this area, but your proficiency is limited or you have no applied experience. With coaching, you are able to demonstrate this skill in simple situations.
3	Proficient: You have a developed understanding of and experience with this skill/competency, and you are able to apply it in both predictable and new situations.

4	Highly Effective: You demonstrate a broad and deep understanding of this skill/competency and have substantial experience in the area. You are able to apply this skill/competency regularly and independently, and display it in complex and varied situations. You are a role model for this skill/competency.
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Types of Skills and Competencies

Technical Skills: Technical skills are developed through education, professional training and work experience. Examples include using computer software, specialized equipment, programming.

Personal Skills: Interpersonal skills and tactics used to interact with others. Examples include diplomacy, independence, and motivation.

Transferable Skills: Transferable skills may be learned in one context but can be applied in multiple contexts. Examples of transferable skills include teamwork, leadership, communication, decision making, and critical thinking.

TOPIC 1: Life-long Learning

Life-long learning refers to your ability to identify and address your own educational needs in a changing world and in ways sufficient to maintain your competence while also allowing you to contribute to the advancement of knowledge in your field. Critical to life-long learning is your ability to continually identify gaps in your knowledge and abilities and to be able to develop a strategy to address them.

Rate your current creativity skills/competencies on a scale of one to four:

1—Yet to be developed

2—Developing

3—Proficient

4—Highly effective

Ability to:	Rating	Evidence for my rating
Identify gaps in knowledge and training	4	I'm naturally curious, so I'm always asking questions about things I do not know
Develop a strategy to address gaps in knowledge and training	4	My strategy is usually to google things, read articles, and watch videos on the topic until I understand it.

Address gaps in knowledge and training	4	My strategy is usually to google things, read articles, and watch videos on the topic until I understand it.
Seek out information and sources of knowledge from a wide variety of sources	4	As a programmer, this is a necessary skill to do my job. We have to be able to seek information, filter irrelevant information, and synthesize the knowledge to be figure out how to make the software do what we want it to
Develop a research or project plan	3	I usually rely on templates for this sort of thing, so while I can do it, it's not entirely on my own
<i>Write your own</i>		

TOPIC 2: Communication

An ability to communicate in a variety of contexts, with different audiences, and across cultures are essential skills in your professional life. This means communicating clearly and assertively, while demonstrating emotional intelligence and good listening habits. Professional networking skills and exhibiting professional etiquette are also essential to your career success.

Rate your current creativity skills/competencies on a scale of one to four:

1—Yet to be developed

2—Developing

3—Proficient

4—Highly effective

Ability to:	Rating	Evidence for my rating
Write for a general audience	3	I usually have to edit my writing to “dumb it down” a little. Tools like Grammarly help me identify when I’m using too much jargon. In the end, the writing does end up being easy enough for a normal person to read.
Write for a discipline specific audience	4	Like mentioned above, I naturally write in a discipline specific style
Give an oral presentation to a general audience	4	I have made several public presentations in the past, some with a large audience
Give an oral presentation to a discipline specific audience	3	Most of the presentations I’ve done were to a general audience, but I have done discipline specific ones in the engineering program and I think I’ve done reasonably well
Communicate your expertise to a general audience	2	I feel that I am reasonably good at this, however, sometimes I either undersell my expertise, or someone might think I know more than I actually do.
Communicate your expertise to a discipline specific audience	3	When working in teams of people in the same or similar disciplines, I can accurately explain my level of skill and how I can contribute to the project.
Ask clearly defined questions	4	I always make sure my questions are clearly defined. For example, over email, when I am asking a question, I will often directly quote something, refer to a specific section, or explain exactly what I mean.

Answer questions in a variety of contexts	2	I tend to do better when answering questions in a non formal verbal or written form, and not as well in structured forms like debate
Express complex ideas in an accessible manner	4	People tend to come to me for ELI5, or “explain like I’m five” explanations of things related to computers
Effectively use multimedia communication	4	I make effective slide presentations, but I have also made videos with Adobe After Effects, websites with HTML+ Javascript, and interactive presentations in the form of a website.
Network in academic circles	2	My network is not that large and I’d like it to be bigger
Network in non-academic circles	2	My network is not that large and I’d like it to be bigger
Communicate cross-culturally	2	I grew up in the Western world, so I don’t know much about how communication is normally done in other cultures. I know a few things, but not much.
Communicate assertively	2	Sometimes, I’m not assertive enough, and other times I accidentally talk over someone when I shouldn’t.

Communicate with emotional intelligence (empathy, respect, self-awareness)	4	I'm good at reading nonverbal emotional cues, and I know when to be lighthearted, sensitive, or serious
Know when to let others speak and to amplify voices that are not your own	3	Sometimes I find myself accidentally talking over others, but when I realize it, I apologize. I also find myself saying something to the effect of "___ <person> suggested <action>" if they were not assertive and their words were missed by others.
Demonstrate active listening skills	4	I can act as a listening ear for friends when they are going through a rough time
Pitch an idea to a general audience	4	I have done presentations where the idea is to explain a random idea (not related to work) to your coworkers during lunch time, and they were fun.
<i>Write your own</i>		

TOPIC 3: Professionalism & The Workplace

A clear understanding of your roles and responsibilities, as well as your expected professional conduct are critical components of professionalism. A clear understanding of accountability, safety, workplace policies, consequences of action/inaction, and due diligence are all integral to professionalism.

Rate your current creativity skills/competencies on a scale of one to four:

1—Yet to be developed

2—Developing

3—Proficient

4—Highly effective

Ability to:	Rating	Evidence for my rating
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Understand the responsibilities and consequences set out under EGGP Act and OHS legislation	2	Still getting myself familiar with it
Understand the requirements for licensure in the province of Alberta, across Canada and in the USA	2	I know where to look to get this information but I don't know it off the top of my head
Seek out workplace Human Resources policies	3	I've done this before
Identify potential consequences of actions/inactions	3	I'm usually creative and can think ahead about what will/wont happen
Apply the concept of due diligence	3	I usually do the research to get familiar with something and understand it before I go out and do it
Compose professional emails	4	My email writing style is usually very professional, and I'm rarely informal when communicating via email.
Behave in a professional manner	4	I have worked in a professional environment at a bank before.

Seek out professional input when necessary	2	I'm stubborn and will usually struggle to solve something by myself for a while before going out and seeking help when it could save time
Identify the process to determine my capable fit within a new role	3	When joining a new team, I usually get familiar with the team, its processes, and the project we're working on quite quickly. I know whether or not I'm a capable fit very quickly.

TOPIC 4: Ethics

Your ability to conduct yourself with ethical responsibility is inextricably linked to all the skills you bring to your professional life. To act ethically means conducting yourself in a principled way, not only by observing engineering codes of behavior, but also by acknowledging others' work, carrying out ethical research, separating your personal and professional lives, and demonstrating good use of your time. Ethical responsibility is about demonstrating civic and social responsibility by sharing your ideas, work, and research with society and advocating for the needs of others.

Rate your current creativity skills/competencies on a scale of one to four:

1—Yet to be developed

2—Developing

3—Proficient

4—Highly effective

Ability to:	Rating	Evidence for my rating
Identify conflicts of interest	3	I like asking what-if questions, so I usually identify conflicts of interest quickly
Give due credit to others	4	I like to give credit when it's due. Also, when writing software, it is important to pay attention to the software licenses for libraries your project depends on, and usually these licenses require giving credit to the original author
Maintain confidentiality	4	I am good at keeping secrets. Also, when I worked at ATB financial, I managed confidential customer files with sensitive information

Separate your personal and professional lives	4	When I leave the office, I never check my work email until I'm back in the office
Conduct yourself with personal accountability	3	When I say I'm going to do something it usually gets done. I honour the commitments I make.
Conduct research ethically	3	I haven't done any unethical research, but if I was part of a team developing some kind of nefarious algorithm, I feel like I would definitely mention the ethical issues that may arise.
Maintain integrity in data representation	3	I am aware of how different representations of the same data can lead to different conclusions. I try to make sure that the data is represented in an intuitive and true fashion
Demonstrate environmental responsibility	3	My first car will be electric
Demonstrate civic responsibility	4	I always go out and vote
Demonstrate social responsibility	4	I reduce, reuse, recycle and compost.

Conduct yourself according to the APEGA Code of Ethics	2	Although I am familiar with the code of ethics, I am not intimately familiar with it
<i>Write your own</i>		

TOPIC 5: Collaboration and Teamwork

The ability to collaborate, assume different roles within the team environment, and build working relationships is crucial professional skills. Your ability to give and receive constructive feedback, have difficult conversations, and resolve conflicts are an essential part of collaboration.

Rate your current creativity skills/competencies on a scale of one to four:

1—Yet to be developed

2—Developing

3—Proficient

4—Highly effective

Ability to:	Rating	Evidence for my rating
Collaborate across disciplines	4	I have collaborated with my friends on projects, who are in CivE, CompE, MechE, and Paleontology
Collaborate with people of different educational backgrounds	4	When I was working at ATB, a lot of the people came from different backgrounds. Some were business majors, others came from out of the country...
Collaborate in a multicultural environment	3	I don't discriminate, and am usually aware of how some cultures differ from Western culture, and am patient and accommodating with it.

Provide constructive feedback	4	I try to provide feedback that is useful. It's not helpful when the only feedback is that something sucks.
Receive and act upon constructive feedback	4	I tend to address constructive feedback as soon as I can. If possible, I usually also reach out to the person who gave the original feedback and ask if they like the change or if it could be improved
Compromise and balance competing needs	2	Given a lot of tasks, I usually try to finish them all, even when it's not possible to do so. I do however, prioritise the more important ones.
Build and maintain meaningful relationships	3	I am still in touch with good friends I know from high school
Establish definitions and agreement on the role of partners in collaborative work or a team environment	3	I usually try to nail down who's responsible for what in group projects as soon as possible
Facilitate discussion in a collaborative or team setting	3	Given no one else takes this role in a group, I will usually rise up and help with directing the flow of conversation in group projects, or when in a team meeting at work.
Recognize and respect the contribution of collaborators	4	As mentioned before, I give credit when credit is due

Respect the time of others	4	I usually consult a person's calendar if it's available before reaching out to them to schedule a time to meet.
Have difficult conversations	3	While they're not fun, I can set emotions aside during a conversation and relay the information that needs to be relayed
Share necessary information with collaborators/team to carry out tasks	4	I keep my team members up to date with what tasks I am doing, and what dependencies I am waiting on
Identify obstacles and address problems when working collaboratively or in a team setting	3	I am pretty good at identifying obstacles, and try to mitigate them as best as possible.
Take responsibility for mistakes/errors	3	Sometimes it's not fun, but it must be done
Ability to identify my role (positive and negative) on the outcomes of collaborative projects	4	I usually keep a log of what everyone in a group project has done, including myself.
<i>Write your own</i>		

TOPIC 6: Human Rights & Equity

Critical to the role of every engineer is the ability to recognize, support the need for, and apply the responsibilities of an engineer towards the public. As an engineer, it is crucial to be able to apply the Code of Ethics to equity-based dilemmas as well as to conduct oneself in a manner that demonstrates individual accountability.

Rate your current creativity skills/competencies on a scale of one to four:

1—Yet to be developed

2—Developing

3—Proficient

4—Highly effective

Ability to:	Rating	Evidence for my rating
Identify situations containing equity issues	3	As a visible minority, this usually comes natural for me. I also tend to be aware when I am in a privileged position which may not be equitable.
Advocate for the needs of others	3	II like to make sure everyone is on an even playing field, and if someone is not getting the same opportunity as someone else, I tend to raise it as an issue.
Recognize and understand my own unconscious biases	3	I am aware of my unconscious biases, and usually take a step back to take an objective look at things
Communicate provisions within the Alberta Human Rights, Citizenship and Multiculturalism Act	2	I cannot quote anything directly off the top of my head, but I know where to find a copy of the act, and I know its general contents
Demonstrate workplace behaviours that support the work of Truth and Reconciliation	3	I have worked in environments before, where before a speech starts, we recognize the Treaty 6 land we stand on

Demonstrate workplace behaviours that highlight the value of equity, diversity and inclusion (EDI)	3	When there is a multicultural event at work, I usually participate When working in teams and I happen to be leading the conversation, I recognize that sometimes I may be unconsciously be taking favourites, so I occasionally reach out and ask for the opinion of someone who did not have a chance to speak yet
<i>Write your own</i>		

TOPIC 7: Leadership, Initiative, and Stewardship

Important to the ability to analyze social and environmental aspects of engineering activities is an understanding of the interactions that engineering has with the economic, social, health, safety, legal, and cultural aspects of society, the uncertainties in the prediction of such interactions. Often times in your professional career, being a leader will take on many forms common. Amongst all of them will be the role of an advocate and a steward: of others, of society, of the environment, and more.

Rate your current creativity skills/competencies on a scale of one to four:

1—Yet to be developed

2—Developing

3—Proficient

4—Highly effective

Ability to:	Rating	Evidence for my rating
Pursue a project to completion with minimal supervision	2	most of my personal projects on github are left in a perpetually half-completed state
Work independently, self-manage and be self-aware	3	I can work independently, and self-manage my time

Take initiative	3	When no one else rises to the occasion, I will take initiative
Think and act decisively, and initiate a course of action	3	I usually act decisively, but will make changes when new information comes to light
Demonstrate perseverance and resilience following challenges/failures	4	I am stubborn, so when faced with challenges and failures, I keep trying harder
Advocate for others	4	I try to make sure everyone's voice is heard
Advocate for yourself	3	Although I try to make sure everyone's voice is heard, sometimes I forget about myself
Act as a role model for others	2	I think I might do a good job but no one has told me that I am a role model for them yet
Lead from where you are	3	Even when I'm not in a leader position, I tend to do leader-like things like taking initiative and leading by example.

Identify personal strengths and weaknesses	3	I am good at identifying my strengths, and am aware of some weaknesses, but sometimes struggle with identifying all the weaknesses.
Link your skills, competencies, and interests to emerging opportunities	4	If I see an emerging opportunity, I check if my skills are applicable to it and then decide if I should take the opportunity
Take initiative to bring about positive change in academic, professional, and personal contexts.	2	Sometimes I take initiative to bring about positive change, but it is really easy to do nothing and leave it as it's always been.
<i>Write your own</i>		

TOPIC 8: Knowledge Base

Knowledge Base refers to your ability to develop a deep understanding of your subject field. From competencies in mathematics, to natural sciences, engineering fundamentals, and specialized engineering knowledge or tools, your knowledge base brings together diverse skills that demonstrate your capacity to locate, interpret, and manage information. Since Knowledge Base will vary greatly depending on your field and chosen career path, it is possible that not all of the abilities outlined below will apply to you. Please expand upon the requirements of Knowledge Base by filling in the *write your own* boxes below.

Rate your current creativity skills/competencies on a scale of one to four:

1—Yet to be developed

2—Developing

3—Proficient

4—Highly effective

Ability to:	Rating	Evidence for my rating
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Demonstrate discipline-specific proficiency in advanced mathematics	4	I have explained complex discipline specific math concepts to people without a background in mathematics while completely drunk and have gotten the points across, enough for the person to have a basic understanding
Demonstrate discipline-specific proficiency in applied multi-physics concepts (i.e. combining physics, chemistry, biology, etc.) for broader applications	3	I have combined software projects with hardware with the Arduino and raspberry pi microcontrollers and computers.
Demonstrate discipline-specific proficiency in advanced engineering design	3	I am pretty good at designing software projects
Demonstrate discipline-specific proficiency in economic sciences	4	I got an A or A+ in ENGM 401, Econ 101, and Econ 281
Demonstrate discipline-specific knowledge of the specific working environment (office, mine, plant, field, etc.)	4	I am familiar with computer desks, chairs, and networking setups, and have a really good idea of what is good, and what is not ideal.
Use field specific engineering tools (e.g. computer programming, software, AI, etc.) to solve discipline-specific problems	4	I am really familiar with using Linux. I have my own Arch Linux install script which sets up my environment exactly how I like it. I even program my own text editor to work exactly how I want it to, to help me with solving problems.
<i>Write your own</i>		

Write your own		
Write your own		

STEP 3: MAPPING YOUR CAREER GOALS

Step 3 asks you to identify a possible career path that is of interest to you. Consider possibilities in business, industry, government, non-profit sectors, and academia. Identify early, mid, and late-career goals and think about the steps you might need to take to move through these career goals. Leave yourself open to careers that you otherwise might not have thought to pursue. Remember that this is just the beginning of your career exploration and that your thinking may change as you move forward in your career.

Before you identify your top career goals, take a moment to reflect on the strengths you already have, those you would like to develop, as well as your long and short-term goals. Finally, begin to envision your work. Some questions to ask yourself as you begin to think about this are:

What do I really like doing? (E.g. organizing, working on a team, writing, creativity, etc.)

What am I great at?

What new things would I like to try?

What are my long and short-term life goals? (E.g. Helping people, work-life balance, contributing to social, cultural, economic innovation, relationships/family)

What does career success mean to me? (e.g. impact, recognition, money, professional and personal growth, flexibility, job security, work-life balance)

When do I want to retire?

Career Exploration Resources

As you move through this Step 3, explore some of these external resources to help identify career options and professional strengths.

Engineering Employment Centre

<https://www.ualberta.ca/engineering/student-services/employment/contact-us>

- All Engineering Students and Alumni can take advantage of the EEC's free career development services, including workshops covering job search strategies, resume and cover letter writing, and interview skills.

Myers-Briggs Type Indicator: 16Personalities

<https://www.16personalities.com/free-personality-test>

- The completed MBTI tool places you in one of 16 personality types based on your preferences among pairs of characteristics. Your MBTI personality type is a four-letter code that explains how your preferences combine to form your interests, views, motivations and actions. You can view your choice of career, the degree of position fit and your level of success through the lens of your personality type.

Clifton Strengths Finder

<https://www.gallup.com/cliftonstrengths/>

- The results of the Strengths Finder provide a set of strengths that can be applied to both your career and academic pursuits. Once you have completed the assessment, you are provided with your set of strengths from among 34 descriptors. Your strengths are a combination of your personal set of talents, knowledge and skills.

Alberta OCCInfo

<https://alis.alberta.ca/occinfo/>

- This tool allows you to explore the educational requirements, working conditions, salaries, demand, and responsibilities for over 500 careers in Alberta.

Engineers Canada: Explore Engineering

<https://exploreengineering.ca/>

- ExploreEngineering.ca is a resource hub developed by Engineers Canada to help you take your first steps towards discovering a rewarding future in engineering.

Career Goals

Short Term Career Goal (0-5 years)
Describe your career goal: Get a decent starting salary (70k-100k) at any large company Failing that, start a course-based masters degree funded with internships then get a job 2 years later

Reasons this career goal interests you:

While I am young, I want to

- 1) get experience, either through work, or through graduate studies, and
- 2) save as much money as possible because that will become harder to do if I say, get married and have children

Skills, competencies, and experiences required in this career:

- computer engineering

Identify the strategies you would use to develop these skills, competencies, and experiences:

- graduate
- studying
- networking

Mid Term Career Goal (5-10 years)

Describe your career goal:

At this point, I'd like to be in a senior developer or even manager position at any large company.

Reasons this career goal interests you:

At this point, I'd probably want to pay down a mortgage on a home, and closer to the 10 year mark, probably start a family, so there would be a lot of expenses there. I'd like to go through this stage without dipping into the nest egg I've built up in the last 5 years.

Identify the skills, competencies, and experiences from your early career goal that will be necessary to achieve this mid career goal:

- best practices
- industry experience
- networking

New skills, competencies, and experiences required in this career:

- leadership experience
- industry experience
- knowledge about trade secrets

Identify the strategies you would use to develop these new skills, competencies, and experiences:

- learn as much as I can on the job
- take on responsibility when I can, and look for opportunities for salary increases
- never staying still at one company, always on the job hunt looking for opportunities where I can expand my skills (and salary)

Long Term Career Goal (15+ years)

Describe your career goal:

living comfortably in some senior exec position, potentially even at a company I founded

Reasons this career goal interests you:

Ideally at this point I have a nice nest egg saved up and am comfortable financially. Potentially, even enough to live off of dividends, or at least a 4 day work week. However, the plan is not to retire early because I get bored easily

Identify the skills, competencies, and experiences from your mid-career goal that will be necessary to achieve this long-term career goal:

- industry experience
- trade secrets
- networking
- leadership

New skills, competencies, and experiences required in this career:

- business experience
- executive experience
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Identify the strategies you would use to develop these new skills, competencies, and experiences:

- get experience

STEP 4: REVIEW

Congratulations! You have created your IDP. Before you have completed the IDP process, you must review your IDP. Of critical importance in this fourth and final step is receiving and providing feedback. Throughout your career, your employer will likely also require you to create an IDP and review it with you. Their job is to give you meaningful feedback. One day, it will surely be your turn to provide constructive and meaningful feedback to others.

The review conversations you have with your classmates—and in the future with your supervisors and mentors—will help you clarify your academic program goals, and professional aspirations. These conversations can provide you with guidance about the ways that you can maximize your education,

current skills, and help identify the skills you want to develop. The review process can also alert you to professional development opportunities applicable your interests, help assess whether you have created a realistic timeline, and if you have allocated sufficient time for professional development.

Tip: *Reviewing your IDP with your supervisor is a great opportunity to ask them about their career. What do they enjoy? What do they dislike or find challenging? What do they spend most of their time doing? This may provide you with unexpected insight into career management.*