ENGG 400 Individual Development Plan

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PROGRAM: Computer Engineering

# 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.

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| --- |
| Who are the stakeholders in your professional development?  Myself, my family, my employers. |

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

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

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| What social issues do I feel passionate about and want to help support or change? List at least 2. |

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

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

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

# **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. |

### 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 |  |  |
| Develop a strategy to address gaps in knowledge and training |  |  |
| Address gaps in knowledge and training |  |  |
| Seek out information and sources of knowledge from a wide variety of sources |  |  |
| Develop a research or project plan |  |  |
| *Write your own* |  |  |

### **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 |  |  |
| Write for a discipline specific audience |  |  |
| Give an oral presentation to a general audience |  |  |
| Give an oral presentation to a discipline specific audience |  |  |
| Communicate your expertise to a general audience |  |  |
| Communicate your expertise to a discipline specific audience |  |  |
| Ask clearly defined questions |  |  |
| Answer questions in a variety of contexts |  |  |
| Express complex ideas in an accessible manner |  |  |
| Effectively use multimedia communication |  |  |
| Network in academic circles |  |  |
| Network in non-academic circles |  |  |
| Communicate cross-culturally |  |  |
| Communicate assertively |  |  |
| Communicate with emotional intelligence (empathy, respect, self- awareness) |  |  |
| Know when to let others speak and to amplify voices that are not your own |  |  |
| Demonstrate active listening skills |  |  |
| Pitch an idea to a general audience |  |  |
| *Write your own* |  |  |

### **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** |
| Understand the responsibilities and consequences set out under EGGP Act and OHS legislation |  |  |
| Understand the requirements for licensure in the province of Alberta, across Canada and in the USA |  |  |
| Seek out workplace Human Resources policies |  |  |
| Identify potential consequences of actions/inactions |  |  |
| Apply the concept of due diligence |  |  |
| Compose professional emails |  |  |
| Behave in a professional manner |  |  |
| Seek out professional input when necessary |  |  |
| Identify the process to determine my capable fit within a new role |  |  |

### **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 |  |  |
| Give due credit to others |  |  |
| Maintain confidentiality |  |  |
| Separate your personal and professional lives |  |  |
| Conduct yourself with personal accountability |  |  |
| Conduct research ethically |  |  |
| Maintain integrity in data representation |  |  |
| Demonstrate environmental responsibility |  |  |
| Demonstrate civic responsibility |  |  |
| Demonstrate social responsibility |  |  |
| Conduct yourself according to the APEGA Code of Ethics |  |  |
| *Write your own* |  |  |

### **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 |  |  |
| Collaborate with people of different educational backgrounds |  |  |
| Collaborate in a multicultural environment |  |  |
| Provide constructive feedback |  |  |
| Receive and act upon constructive feedback |  |  |
| Compromise and balance competing needs |  |  |
| Build and maintain meaningful relationships |  |  |
| Establish definitions and agreement on the role of partners in collaborative work or a team environment |  |  |
| Facilitate discussion in a collaborative or team setting |  |  |
| Recognize and respect the contribution of collaborators |  |  |
| Respect the time of others |  |  |
| Have difficult conversations |  |  |
| Share necessary information with collaborators/team to carry out tasks |  |  |
| Identify obstacles and address problems when working collaboratively or in a team setting |  |  |
| Take responsibility for mistakes/errors |  |  |
| Ability to identify my role (positive and negative) on the outcomes of collaborative projects |  |  |
| *Write your own* |  |  |

### **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 |  |  |
| Advocate for the needs of others |  |  |
| Recognize and understand my own unconscious biases |  |  |
| Communicate provisions within the Alberta Human Rights, Citizenship and Multiculturalism Act |  |  |
| Demonstrate workplace behaviours that support the work of Truth and Reconciliation |  |  |
| Demonstrate workplace behaviours that highlight the value of equity, diversity and inclusion (EDI) |  |  |
| *Write your own* |  |  |

### **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 |  |  |
| Work independently, self-manage and be self- aware |  |  |
| Take initiative |  |  |
| Think and act decisively, and initiate a course of action |  |  |
| Demonstrate perseverance and resilience following challenges/failures |  |  |
| Advocate for others |  |  |
| Advocate for yourself |  |  |
| Act as a role model for others |  |  |
| Lead from where you are |  |  |
| Identify personal strengths and weaknesses |  |  |
| Link your skills, competencies, and interests to emerging opportunities |  |  |
| Take initiative to bring about positive change in academic, professional, and personal contexts. |  |  |
| *Write your own* |  |  |

### **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** |
| Demonstrate discipline-specific proficiency in advanced mathematics |  |  |
| Demonstrate discipline-specific proficiency in applied multi-physics concepts (i.e. combining physics, chemistry, biology, etc.) for broader applications |  |  |
| Demonstrate discipline-specific proficiency in advanced engineering design |  |  |
| Demonstrate discipline-specific proficiency in economic sciences |  |  |
| Demonstrate discipline-specific knowledge of the specific working environment (office, mine, plant, field, etc.) |  |  |
| Use field specific engineering tools (e.g. computer programming, software, AI, etc.) to solve discipline-specific problems |  |  |
| *Write your own* |  |  |
| *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](https://www.ualberta.ca/engineering/student-services/employment/student-and-alumni-services) 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

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| --- |
| **Short Term Career Goal (0-5 years)** |
| Describe your career goal: |
| Reasons this career goal interests you: |
| Skills, competencies, and experiences required in this career: |
| Identify the strategies you would use to develop these skills, competencies, and experiences: |
|  |

|  |
| --- |
| **Mid Term Career Goal (5-10 years)** |
| Describe your career goal: |
| Reasons this career goal interests you: |
| Identify the skills, competencies, and experiences from your early career goal that will be necessary to achieve this mid career goal: |
| New skills, competencies, and experiences required in this career: |
| Identify the strategies you would use to develop these new skills, competencies, and experiences: |

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| **Long Term Career Goal (15+ years)** |
| Describe your career goal: |
| Reasons this career goal interests you: |
| Identify the skills, competencies, and experiences from your mid-career goal that will be necessary to achieve this long-term career goal: |
| New skills, competencies, and experiences required in this career: |
| Identify the strategies you would use to develop these new skills, competencies, and experiences: |

# **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.*