

Graduate Attributes Self-Assessment and Inventory Tool

The objectives of this exercise are to:

- understand what engineering attributes are and why they are important to your education and your job search
- understand how to create your personal Attributes Inventory
- complete a self-assessment of your attributes
- develop ‘prove it’ statements that demonstrate your attributes
- create a skills section for your resume using your ‘prove it’ statements

What are Engineering Attributes?

All engineering students across Canada are expected to graduate with a set of engineering attributes that have been defined by the Canadian Engineering Accreditation Board (CEAB). Each attribute represents a set of complex skills and knowledge that you are developing through your studies, life and work experiences, and extracurricular activities. By the time you graduate you will be expected to be able to demonstrate some degree of competency with each attribute but you are also expected to continue developing them throughout your career.

But it is important to begin tracking your development of these attributes now so that you may work on them during your study and work terms and, so that you can demonstrate them to employers during your job search.

This unit will introduce you to the 12 attributes, give you the opportunity to assess your level of development for each one and then show you how to use your attributes to write powerful statements for your resume and cover letters and to use in your interviews.

How do I develop Attributes?

One way to manage your development of these attributes is to view them as an inventory that you are building as you work toward graduation and beyond. Because these attributes represent complex skills and knowledge, they have been broken down into key behaviours so that you can build your inventory of multiple behaviours one at a time rather than trying to master the entire attribute at once. This unit provides a self-assessment tool that will enable you to identify and record the behaviours you have already developed through your life experiences, courses, extra-curricular activities, volunteer and paid work experiences. And then it will show you how to use these behaviours to demonstrate your skills to employers during your job search.

Self-Assessing Engineering Attributes

Students often do not realize how many engineering attributes they already possess. This exercise will help you to identify, define and demonstrate behaviours that you can transfer from one job to another, also referred to as transferable skills. Knowing what you

have to offer an employer is the starting point for any job search and the key to applying to jobs and interviewing with confidence.

Besides creating self-awareness of your skills, the purpose of this exercise is to help you discover and articulate your strengths so that you can promote yourself through your resume and cover letters to potential employers.

STEP 1:

Complete the comprehensive *Attributes self-assessment*. Doing so will help you to identify your strengths which are attributes you already have developed and attributes that you need to develop further.

STEP 2:

Use your assessment to develop your overall *Attributes Inventory* (see last page) to create a quick reference list of the attributes that you want to focus on and apply during your study and work terms and the ones you will highlight in your resume, cover letters and interviews.

STEP 3:

At the end of your work term, update your inventory and review it with your supervisor. This step will help to ensure that you have used reliable criteria in your self-assessment.

Completing the Self Assessment Tool

For each attribute use the following scale to track extent to which you have demonstrated each of the behaviours.

Not applicable	I have not been in a situation where I could demonstrate this behaviour.
Rarely	I have rarely been able to demonstrate this behaviour.
Sometimes	I have demonstrated this behaviour a few times but is not habitual yet
Usually	I usually demonstrate this behaviour and I regularly behave this way.
Always	I always demonstrate this behaviour with confidence.

Tally up your responses in each column to determine your overall assessment for each attribute. Then record three examples of times when you demonstrated the behaviours that you consider strengths.

1. A Knowledge Base for Engineering: Demonstrated competence in university level mathematics, natural sciences, engineering fundamentals, and specialized engineering knowledge appropriate to the program.					
<i>Indicators</i>	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category					
Check whether this skill is a development consideration or strength:		Development Area		Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

2. Problem Analysis: An ability to use appropriate knowledge and principles to identify, formulate, analyze, and solve complex engineering problems in order to reach substantiated conclusions.					
<i>Indicators</i>	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category					
Check whether this skill is a development consideration or strength:		Development Area		Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

3. Investigation: An ability to conduct investigations of complex problems by methods that include appropriate experiments, analysis and interpretation of data and synthesis of information in order to reach valid conclusions.					
Indicators	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category:					
Check whether this skill is a development consideration or strength:		Development Area		Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

4. Design: An ability to design solutions for complex, open-ended engineering problems and to design systems, components or processes that meet specified needs with appropriate attention to health and safety risks, applicable standards, economic, environmental, cultural and societal considerations.					
Indicators	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category:					
Check whether this skill is a development consideration or strength:		Development Consideration		Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

5. Use of Engineering Tools: An ability to create, select, apply, adapt, and extend appropriate techniques resources, and modern engineering tools to a range of engineering activities, from simple to complex, with an understanding of the associated limitations.					
Indicators	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category					
Check whether this skill is a development consideration or strength:	Development Area			Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

6. Individual and Team Work: An ability to work independently and as a member and leader in diverse teams and in multi-disciplinary settings.					
Indicators	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category					
Check whether this skill is a development consideration or strength:	Development Area			Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

7. Communication Skills: An ability to communicate complex engineering concepts within the profession and with society at large. Such abilities include reading, writing, speaking and listening, and the ability to comprehend and write effective reports and design documentation, and to give and effectively respond to clear instructions. Key behaviours enable you to:					
Indicators	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category					
Check whether this skill is a development consideration or strength:		Development Area		Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths

8. Professionalism: An understanding of the roles and responsibilities of the professional engineer in society, especially the primary role of protection of the public and the public interest. Key behaviours enable you to:					
Indicators	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category					
Check whether this skill is a development consideration or strength:		Development Area		Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

9. Impact of Engineering on Society and the Environment: An understanding of the interactions that engineering has with the economic, social, health, safety, legal, and cultural aspects of society; of the uncertainties in the prediction of such interactions and of the concepts of sustainable development and environmental stewardship. Key behaviours enable you to:					
Indicators	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category					
Check whether this skill is a development consideration or strength:	Development Area			Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

10. Ethics and Equity: An understanding of professional ethics, accountability, and equity. Key behaviours enable you to:					
Indicators	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category:					
Check whether this skill is a development consideration or strength:	Development Area			Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

11. Economics and Project Management: An ability to appropriately incorporate economics and business practices including project, risk and change management into the practice of engineering, and to understand their limitations. Key behaviours enable you to:					
Indicators	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category					
Check whether this skill is a development consideration or strength:	Development Area			Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

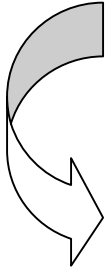
12. Life Long Learning: An ability to engage in independent and life-long learning. Key behaviours enable you to:					
Indicators	N/A	Rarely	Some-times	Usually	Always
Total and record the checks in each category					
Check whether this skill is a development consideration or strength:	Development Area			Strength	

Record three examples of times when you demonstrated the behaviours that you consider strengths:

Continue with the next steps...Completing Your Attributes Inventory

Step 2:

Look back over the results of your self-assessment results and record your development considerations and strengths below:



Transferable Skill Assessment Summary	Strength	Development consideration
1. A Knowledge Base for Engineering		
2. Problem Analysis		
3. Investigation		
4. Design		
5. Use of Engineering Tools		
6. Individual and Team Work		
7. Communication Skills		
8. Professionalism		
9. Impact of Engineering on Society and the Environment:		
10. Ethics and Equity		
11. Economics and Project Management		
12. Life Long Learning		

This summary is a snap shot of your strengths — attributes you believe you already fully demonstrate and those you might want to develop further. Most of the attributes in this assessment are relevant to most jobs. However, a few are more specific to some jobs than others.

Step 3: At the end of each work term finalize your inventory with your supervisor (Optional)

Step 4: Identify opportunities and activities that will enable you to further develop each attribute

Self-awareness begins with three basic components: knowing your strengths, knowing your weaknesses, and recognizing undeveloped areas that need to be developed if you are to achieve your goals. However, you cannot always be an unbiased observer of yourself.

A simple test of your objectivity is whether you can accurately predict what other people would say if they were asked to describe your strengths and weaknesses. Finding objective sources of feedback can contribute significantly to your development. You might find it very useful and insightful to discuss your results with your supervisor or co-workers — people who have observed you in situations where you have had an opportunity to demonstrate these skills. They may see strengths and opportunities for development that you missed. And the more you talk about your attributes and describe situations in which you have demonstrated them — the more comfortable and prepared you will be in any interview situation.

At any time during your work term you might want to share your profile with your supervisor. Tell him/her which ones you think are your strengths and how you demonstrated them during the work term. Tell him/her which ones you hope to further develop at school. Ask for feedback on your self-assessment.

Adapted from material contributed by Engineering and Computer Science, Dalhousie University