Engineering - Co-operative Education Student Handbook

Prepared by:
Engineering Co-operative Education Office

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Dear Students,
Welcome to the Undergraduate Co-operative Education Engineering Program at Memorial University! Our Faculty of Engineering and Applied Science has a long, proud tradition and reputation of excellence in co-operative engineering education. Launched in the late 1960’s, our undergraduate co-op programs were among the first in Canada. They provide our graduates with the skills needed to succeed and become leaders of tomorrow.

Our Faculty’s vision is to be one of the most distinguished engineering faculties in Canada and beyond, and to fulfill our special obligation to the people of Newfoundland and Labrador. Our faculty colleagues are dedicated to the highest quality of teaching and learning, research, service, and external engagement, in order to make a significant positive impact on society. We’re pleased to provide our students a vibrant learning environment and valuable experiential learning through co-op education work terms.

Memorial’s engineering co-operative education model provides up to 6 work terms for all students. It provides an exceptional opportunity for student learning where students become valuable resources to employers locally, nationally, and internationally by contributing their technical knowledge and problem-solving skills acquired through applications of the academic curriculum to the workplace.

Our program is among the highest calibre and has received a “dual stamp of excellence” through accreditation from both the Canadian Engineering Accreditation Board (CEAB) and Co-operative Education and Work Integrated Learning Canada (CEWIL Canada). CEWIL commended MUN for its leadership, quality and standards and accredited the program for the maximum available period of six years ending in December 2021. CEAB noted that our co-op programs are world-class and highly respected, with students who are first rate and well prepared to be productive engineers upon graduation.

Our co-op students gain valuable work term experiences in industry and other organizations, both within the province, across Canada and internationally.

We are confident that your co-op work terms will bring some of the most enjoyable and memorable experiences of your university education. You will gain confidence in your abilities, build your leadership and communications skills, learn about the practical realities of companies in a globally competitive environment, gain new friendships, and much more. We personally welcome you to visit us anytime as we would be glad to discuss your work terms. Best wishes for a wonderful co-op educational experience!

Anil Raheja
Director and ASM
Engineering Co-operative Education Office
Faculty of Engineering and Applied Science
Memorial University of Newfoundland

Dr. Greg F. Naterer
Dean and Professor
Faculty of Engineering and Applied Science
Memorial University of Newfoundland
Memorial University of Newfoundland’s Engineering Co-operative Education Program

Welcome to Memorial University of Newfoundland’s Co-operative Education Program in Engineering. The next five years will be some of the most challenging and exciting in your life. Co-op work terms allow you to put knowledge learned in your academic terms into action, to ‘try out’ different types of companies and tasks, and to help you make decisions about your future career. They show you what the ‘real world’ looks like, where all the information you need to solve the equation isn’t available and ideal conditions never govern. They allow you to explore the province, the country and the world, and to form professional networks and friendships that will last a lifetime.

This handbook aims to help you maximize your learning from your co-op experiences. While much of the handbook deals with preparing you for your first work term, its purpose is to provide answers and support for your entire program.

To enhance your chances of successfully completing the co-op program and obtaining valuable work experience, you must:
1. Consider your long-term goals and apply to work term placements that will give you suitable experience.
2. Prepare for and attend all interviews you are offered.
3. Use all of your resources and initiative in looking for work term opportunities both within and outside of the work term competition.
4. Use professional judgment in your dealings with the Engineering Cooperative Education Office (ECEO) and employers.
5. Discuss all work term issues with an Academic Staff Member in Cooperative Education (ASM-CE).

The ECEO solicits employers and develops many positions. There is no guarantee, however, that you will be offered a work term position through the work term competition. Since the co-op work term is an integral part of your undergraduate engineering education at Memorial, missing an important component of that education through missed work terms can delay your graduation from our programs.

While you are on a work term, you are a full time student at Memorial and you are considered an ambassador of the co-op program. Your interaction with employers, the university, co-workers and the wider community will determine your success in the program. It will also reflect poorly on everyone else who is involved in Co-op if you behave inappropriately. Please refer to the regulations in the University Calendar as well as this handbook on specific issues.

If you need assistance on work term issues, please contact the ECEO:

**Director, Co-operative Education Office – Faculty of Engineering and Applied Science**
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**Administrative Staff**
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Sandra Penney sandra.penney@mun.ca 864-8816 (Administrative Staff)
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1 CO-OPERATIVE EDUCATION

1.1 Purpose of Co-operative Education

The skilled professional engineer has always been recognized as that person who can combine a sound theoretical knowledge of the principles of engineering with the practical skills of applying those principles to the task at hand. The co-operative program in the Faculty of Engineering and Applied Science (the Faculty) at the Memorial University of Newfoundland (Memorial) allows the undergraduate to develop knowledge and practical skills by providing a completely integrated pattern of academic study and applied experience in various phases of engineering. Graduation requires satisfactory performance in both areas.

The degree program covers almost five calendar years, comprising eight academic terms and the opportunity for six work terms (during which time students must do a minimum of four). The work terms bring the student into direct contact with industry and the engineering profession, and provide practical exposure to problems typical of those encountered in practice. Through personal experience in industry, the student’s educational environment is extended and the total education advanced. The maturing prospective engineer, provided with an opportunity for self-discipline and direction, gains an early appreciation of the social and personal aspects of engineering.

1.2 Partners in the Co-operative Program

The co-operative program has three partners - the employer, the student and the university. All three co-operate towards a common education goal and all three benefit from the program.

Figure 1. Co-op Partners

Student Benefits
One of the most important benefits to students is the opportunity to better evaluate their career choices. Career choice and the choice of final discipline are often based on exposure during the early years of the program.

Students also have the opportunity to gain experience in a variety of industries and types of engineering work as well as to evaluate specific companies. This makes for a mature graduate who is more informed and therefore able to make better choices on graduation.
University Benefits
The University benefits from the co-op programs in a tangible way as they provide a pipeline into the industrial world, which enables the University to evaluate the effectiveness of course material and to keep up with current practice.

The University and faculties can maintain contact with industry through the Co-operative Education Office in each participating faculty.

Because of the scheduling of alternative academic and work terms throughout the year, the University facilities, laboratories and equipment are used year-round, resulting in more economical operating cost per student.

Employer Benefits
One of the most important benefits to the employer is the opportunity to see students in the working environment for several terms during their careers. This clearly makes for more reliable graduate recruiting, since both employer and student make their choices based on actual experience. The employer benefits in other ways:

- co-op students can relieve and assist other employees in many duties,
- Memorial co-op students are available on a year-round basis, assistance is not restricted to the summer months,
- students may be aware of new technologies or processes that the employer might take advantage of,
- students may be employed at other times of the year; so many ‘summer’ duties can be rescheduled to take advantage of the available talent.

Often, the technical expertise of work term students is of a high order, for two reasons: firstly, the level of commitment to perform effectively is high, and secondly, students tend to develop a high level of personal and professional skills early in their careers.

1.3 Work Term Opportunities

Work terms in a co-operative education program, by definition, have the following characteristics\(^1\).

- “Each work term situation is developed and/or approved by the co-operative educational institution as a suitable learning situation.
- The co-operative student is engaged in productive, authentic and full-time work rather than merely observing.
- The co-operative student receives remuneration for the work performed.
- The co-operative student’s progress on the job is monitored by the co-operative educational institution.
- The co-operative student’s performance on the job is supervised and evaluated by the student’s co-operative employer.
- The total cooperative work experience is at least thirty percent of the time spent in academic study.”

Work terms are a great way to ‘try on’ different career paths. Even if a student knows what discipline they want to pursue, there are still many choices to make, including: location, company/organization size, office or field work, and design or management. Students are encouraged to actively plan their work terms and to make choices to expose themselves to a variety of experiences:

- Private industry and public service,
- Not-for-profit organizations,
- Small companies and large,
- Owners and consulting firms,
- Office work and field work,
- Local employers and employers in other parts of Canada, the US, or abroad; or,
- Design, manufacturing/construction, and project management.

While students are encouraged to explore a variety of work term employers, they are also encouraged to return to an employer for a second work term – either in the next work term opportunity or later in their program. Students are usually given significantly more responsibility when they return to an employer; their learning curve is much reduced, and the employer feels more confident in the student’s abilities.

Students are not normally recommended to do more than two work terms with the same employer as that would reduce the opportunities for obtaining a variety of experiences; exceptions do occur, if students are very focused on what they want to do, or are getting particularly good and varied experience with an employer. Students considering returning to a firm for a third or fourth work term should discuss the pros and cons with an ASM-CE before committing to the employer.

1.4 The Engineering Co-Operative Education Office

The Engineering Co-operative Education Office (ECEO), reporting to the Dean, Engineering and Applied Science, is responsible for managing the work term aspect of the engineering program. These responsibilities include:

- promoting the co-op program to prospective employers,
- providing career related work term opportunities to students,
- providing professional development lectures and workshops to students,
- monitoring students during work terms,
- giving professional feedback and guidance to students,
- providing professional advice on employment trends to Faculty, and
- evaluation and making recommendations to the Executive of the Committee on Undergraduate Studies on the promotion of each student to the next work term.

The ECEO has ASMs-CE covering all of the engineering disciplines available at Memorial. The ASMs-CE are integrated within the Engineering Faculty and serve on Faculty Council, undergraduate studies, continuing engineering education, admissions, promotions, and appeals committees.

ASMs-CE are responsible for monitoring students’ progress and learning during a work term, evaluating the student’s performance and communications component, and mentoring students in aspects relating to their work terms and career among other duties. ASMs-CE will be assigned students to monitor and evaluate approximately 3-4 weeks into the work term. Students may always
seek assistance and mentoring from their previous ASMs-CE during the academic semester. Students are always free to seek assistance from any ASM-CE in the ECEO if they have questions.

The office also has a Student Placement Administrator who coordinates the work term competition and provides support services. Administrative staff are also available to answer any questions and direct students to the appropriate ASM-CE.

The Co-operative Education Services Centre, located in UC4000, provides support to the Co-operative Education Offices in all faculties.

The ASMs-CE are also members of Co-operative Education and Work Integrated Learning Canada (CEWIL Canada), a national organization established to promote high standards of co-op in Canada. CEWIL Canada has developed codes of ethics for the employers, the students and the university. These codes ensure that all three parties will be treated in a professional manner. Students should be aware of these guidelines and report violations to the Co-op Office. This code of ethics can be found in APPENDIX A.

Memorial also offers co-operative education options in Business, Human Kinetics and Recreation, Economics, Applied Social Psychology, Computer Science, and others. These programs are managed by Co-operative Education Offices in the appropriate faculties.

1.5 Accommodations for Students with Disabilities

Students with disabilities requiring accommodations relating to elements of their professional development training (ENGI 200W), work term competitions, or during their work term placements should contact the Blundon Centre. The Blundon Centre will work in conjunction with the student and ECEO to provide suitable accommodations per University Policy.

2 WORK TERM REGULATIONS

2.1 Minimum Number of Work Terms

The engineering program requires students to complete a minimum of four work terms to graduate. Due to the significant benefits of the co-op work experience, the ECEO strongly encourages students to complete all six work terms.

The ECEO recognizes and endorses the educative and professional growth opportunities of the work term, and therefore highly encourages students to complete as many work terms as they can. The ECEO shall provide full support for the completion of all six work terms. Section 2.5 later in this document describes the procedure for opting out of a work term opportunity.

The ECEO also recognizes the benefits to students in completing their first work term as early as they can. Students who complete their first work term in the first available semester (i.e. in the Spring of their first year) will be more competitive in future work term competitions, and obtain more relevant work sooner. While the ECEO recognizes that not all students are eligible for a work term in the first available semester, it encourages those who are eligible to actively participate in the competition.

2.2 Work Term Eligibility

Calendar regulations require students to complete at least four work terms prior to Academic Term 8. In order to continue in the program there is a minimum number of work terms that students must complete prior to each academic term starting with Academic Term 5. Students are also not permitted to complete more than six work terms, so they may not complete them early. The following grid indicates the minimum and maximum number of work terms a student may have completed prior to each academic term.

<table>
<thead>
<tr>
<th>Academic Term</th>
<th>Minimum Number of Work Terms</th>
<th>Maximum Number of Work Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Term 3</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Academic Term 4</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Academic Term 5</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Academic Term 6</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Academic Term 7</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Academic Term 8</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

For the 2019-20 to 2021-2022 academic years only students who are unable to complete the required four work terms prior to Academic Term 8 may request a waiver of regulations through CUGS. This will allow them to complete a work term after Term 8. This permission will be extended to students who are otherwise in good standing and who have demonstrated an appropriate level of effort during the job competition.

2.3 Work Term Length

A standard work term is 16 or 17 weeks of full time employment. Occasionally students may be offered a position less than that amount. Students should continue looking for work opportunities until the ECEO indicates that there is no longer sufficient time to complete a suitable work
Students who find a work position of less than 14 weeks should contact the ECEO prior to accepting the position.

Students completing the alternative, $1500 stipend based work experiences designated as Research (see section 2.5), must complete the equivalent of 10 weeks of full time work to count as a suitable work term.

Students are expected to work until the last day of the work term, as specified in the University Calendar. If mutually agreed to with their employer, they may work beyond this day. Students who for some reason wish to finish before the last day of the work term must get approval in writing in advance from their assigned ASM-CE.

Students may occasionally be offered work terms of length longer than the standard four months. This may require a student to leave the program and later apply for re-entry. Students in this situation should speak with an ASM-CE for more advice.

2.4 Work Term Remuneration

To be a valid work term, the student must be paid for their work. No minimum wages are imposed, and the ECEO can provide guidance to an employer on average salaries.

2.5 Alternative Work Terms

ECEO and the Faculty of Engineering and Applied Sciences understand that from time to time the demand for work terms make it difficult to place all students in appropriate co-operative education work terms. For the 2019-20 to 2021-2022 academic years only, a small number of Research Experiences may be made available.

Students can only complete one Research experience during their engineering program and would be permitted to complete at most one research learning opportunity with stipend or one community service learning work term/experience during their time in the program. These experiences will be designated as such on the student’s transcript. They may be for any of the four mandatory work terms. All other work term deliverables are required including objectives, communications component, and final evaluation.

As with all other work terms, alternative work experiences must be approved by the ECEO. Students will receive a stipend for the experience. Research experiences will be paid $1500. Remuneration is an accreditation requirement. Students would be expected to complete not less than the equivalent of 10 weeks full time work. This may be completed as part time to allow the student to work in a non-co-op experience at the same time. These positions will not be posted before the last week of the academic semester corresponding to the student’s work term.

Research Work Term

Students complete self-directed research under the guidance of an Engineering Researcher. This is not meant to directly support the researcher, nor to provide employment type duties in their lab.
2.6 Opting Out of a Work Term

Students have the opportunity to complete up to six work terms, and the ECEO shall provide full support for all six work terms.

Although it is mandatory for students to complete four work terms prior to graduation, due to the significant benefits of the co-op work experience, the ECEO strongly encourages students to complete all six work terms if possible.

For each work term, students must notify the ECEO within one week of the beginning of classes in the preceding academic term if they intend to opt out from the next work term. The ECEO will issue a form to all students who wish to opt out with clear instructions, including:

- The deadline for the return of the form.
- A binding undertaking by the student that the student will not work for any engineering employer if the student is opting out of the work term.
- An undertaking that should the student find work with a non-co-op employer, that they will indicate in writing to the employer that they are not a co-op student.
- A reminder that failure to follow the undertakings will constitute an academic offence of submitting false information and may result in a significant academic penalty.

Students who do not complete the Opt-Out Form by the deadline must successfully complete the work term. Students who do not successfully complete a work term will be required to repeat it, even if it is Work Term 5 or 6. Students are required to successfully complete at least one work term prior to entry into Academic Term 5. See the table in Section 2.2 for more information.

If a student initially intends to complete a work term and then decides for some good reason prior to securing a position that they would like to opt out, they may be permitted at the discretion of the ECEO. The student will be expected to complete an Opt Out form, and abide by its regulations. If a student initially opts out of a work term, and then decides for some good reason they would like to complete the work term, they may be permitted to, at the discretion of the ECEO. In each instance, the student is required to discuss their plans with an ASM-CE.

2.7 Deferred Work Term Report or Presentation

Due dates for work term communication component deliverables, including document submission and oral presentations, are posted on the MUN Engineering website prior to the beginning of the work term. The hard copies of communication components, as described in Section 7.4.2, must be submitted to the ECEO by the date specified, which is typically the last official day of the work term, as indicated in the University Calendar. Oral presentations must be presented by the student during the specified time which is typically scheduled for the first or second week of the next academic term.

A student who is unable to meet the posted deadlines for document delivery or oral presentation participation may apply for a deferral. When a student knows in advance that they will be unavailable to meet document submission deadlines or presentation dates, as a result of an acceptable cause duly authenticated in writing, the deadline for deferral applications is the last day of classes for the current work term semester as defined in the University Calendar.
An acceptable cause for deferral would typically **not** include vacations or other elective travel for non-academic reasons. Thus, any student planning to complete a presentation and considering travel after their work term is strongly advised to confirm presentation dates **before** booking travel to ensure availability to present on scheduled dates. Any student considering an optional oral presentation in Work Term 5 or 6 who is considering travel after a work term which conflicts with the scheduled presentation dates is strongly encouraged to prepare a written report as their communication deliverable and submit it by the due date.

The regulations stated in the University Calendar for deferred final examinations shall apply to deferral requests and approvals when a student is unexpectedly prevented from meeting a document submission deadline or presenting on the scheduled date, due to “illness, bereavement or other acceptable cause, duly authenticated in writing”. In this case, the application for deferral should be made in advance of the deadline wherever possible, but no later than 48 hours after the original deadline.

To apply for a deferral, the form titled “Application for Deferred Examination(s) / Work Term Report(s) / Presentation(s)” must be completed and submitted with the required supporting documentation. This form is maintained by the Faculty of Engineering and Applied Science, Undergraduate Studies and can be found on the MUN Engineering website.
3 MARKETING, EMPLOYER DEVELOPMENT, WORK TERM SEARCH

3.1 Work Term Development and Search

Staff members in the ECEO are actively involved in marketing the engineering co-op program and in continuing development of new employers. All ASMs-CE, when doing on-site monitoring, maintain and service relationships with long-standing employer-clients and, through referrals and networking, regularly add new and potential employers to the existing list.

The ECEO provides professional development seminars to students on job search and professional skills that will make students nationally and internationally competitive. Professionals from the University and engineering communities are often invited as guest speakers.

Students are encouraged to seek their own work term opportunities from the start of their academic programs; there is no requirement to wait for the work term competition operated by the ECEO. Full placement can only occur if all students are pro-active in their own placement searches. Students who take an active search role are developing lifetime employment skills. If a student finds their own work term, they must get a written job description from the employer and bring it to the Co-op Office to be approved by an ASM-CE before accepting the work term, to ensure that the position is suitable.

ASMs-CE are available at any time to help students identify their own individual and unique contacts, write effective résumés and cover letters, and develop techniques for increasing the likelihood of being interviewed.

3.2 Work Related Skills

Students are encouraged to develop and strengthen work skills before and during their work terms. They should review skills and tools listed in job postings and look for opportunities to further develop their industry related skills.

Some work term positions require that the student has a driver’s licence so that they can use a company or rental vehicle to travel to field sites or other company offices. Students without valid licences are encouraged to get them as soon as they are able. A few work terms may require that the student has their own vehicle.

Students with interest in field or plant work should consider taking first aid and other related safety training. Students should ensure their first aid training is current or indicate to the supervisor when it expires.

3.3 Finding a Work Term Outside of the Competition

The ECEO will do as much as possible to develop work term opportunities for students; however, the University does NOT guarantee placement, and securing a work term position is the student’s responsibility. Students need to take appropriate ownership of their work term search. More information can be found in APPENDIX B.
3.3.1 Organizing Your Own Search

All students are strongly encouraged to contact employers on their own. Some regular work term employers prefer students who have the initiative to contact them directly. General letters of application will most likely be discarded so students should:

- select companies that are of interest to them and that will offer good experience,
- research the organization,
- identify, through on-line research or by phoning the organization, the name of the manager, human resource director, or other appropriate person and address the letter to them,
- send or hand deliver the application, asking if it is possible to speak to the person to whom the letter is addressed to introduce themselves (but this will not likely be possible),
- follow up in a few days with a phone call inquiring if the application was received and whether an interview can be expected.

When time does not permit this approach, another technique is to phone and attempt to speak to the individuals identified in the job search process. Should this be possible, there will only be a few minutes to get a clear message across as to the purpose of the call. Students should emphasize:

- name, program and discipline,
- reason for interest in obtaining employment with this organization,
- request for an interview,
- appreciation to the employer for their time.

If an interview is granted and a co-op placement is offered, the student should notify the ECEO as soon as possible. A short description from the employer must be submitted to the ECEO for approval before the work term is accepted as a co-op position. The description should include:

- organization’s name, address and telephone number,
- organization’s basic line of business,
- duties and responsibilities of the position,
- contact person’s name, title and telephone number,
- anticipated duration of work,
- an indication of remuneration for the position.

Many jobs are advertised outside the ECEO that may be appropriate for a work term. Some areas to check are listed below.

3.3.2 Career Development (Student Life)

Jobs may be posted at the Career Development (Student Life) Centre and not be forwarded to the ECEO (e.g., certain jobs in Physics, Mathematics, Computer Science, etc.) but could be appropriate work terms. Students should check “MyMUNLife” and apply for any positions that interest them and that appear suitable, but should remember that an ASM-CE must approve the work description before a student can accept the position.
3.4 Funding or Award Programs

When searching for co-op placements, students should make eligible employers aware of some of the funding options that may be available to them. Note that not all funding vehicles described below may be available each semester, and occasionally there may be other opportunities. Students or employers should contact the ECEO or check the website if they require more information including eligibility requirements.

3.4.1 SECPAP

The Small Enterprise Co-operative Placement Assistance Program (SECPAP) funding program will support 50% of a student’s salary up to $6.00 per hour. This fund is provided by the Newfoundland and Labrador government and is available to Newfoundland and Labrador based companies who have 50 employees or less. More information is available at http://www.mun.ca/coop/employers/funding/

3.4.2 Chevron Award

This scholarship is funded by Chevron Canada and has been set up to assist students taking international work terms. Further information about eligibility is available from the ECEO.

3.4.3 Mitacs Globalink Research Award

The Mitacs Globalink Research Award funds research joint collaborations between senior undergraduate and graduate students and faculty members at a university overseas. The partnering countries are Brazil, China, France, India, Israel, Korea, Mexico and Tunisia. A minimum of $6,000 is awarded to the Canadian supervisor for the student’s travel expenses and the award is open to all disciplines for joint projects with academic collaborators for 12-24 weeks in duration. More information concerning the award can be found at: https://www.mitacs.ca/en/programs/globalink/globalink-research-award

3.4.4 Employment and Social Development Canada’s (ESDC) Student Work Placement Program (SWPP)

SWPP supports the creation of work integrated learning opportunities for students enrolled in universities, colleges and polytechnics across Canada. ESDC works with Employer Consortia Partners to deliver this program across all industrial sectors. ESDC’s SWPP supports employers by offsetting the costs associated with the student’s wages through the provision of wage subsidies in the amount of:

- Up to 50% of the cost of wages, up to a maximum of $5,000 for a standard placement; or
- Up to 70% of the cost of wages, up to a maximum of $7,000 for a placement created for students in under-represented groups and first year students.

More information concerning the SWPP can be found here: https://www.canada.ca/en/employment-social-development/services/student-work-placements-wage-subsidies.html
3.4.5 Federal Government Summer Employment Programs

In the spring semester, the federal government offers positions under the Federal Student Work Experience Program (FSWEP) program. Many of these, although paid out of a non-co-op budget, are considered appropriate as co-op positions.

FSWEP gives full-time secondary school, CEGEP, college, technical institute and university students:
  • fair and equal access to student jobs offered by the Public Service of Canada (PSC),
  • opportunities to learn about federal government and gain valuable experience while developing and improving their employability skills.

More information can be found at https://www.canada.ca/en/public-service-commission/jobs/services/recruitment/students/federal-student-work-program.html

Students should also check Service Canada’s web site at www.jobbank.gc.ca for jobs posted there. Student Employment Centres (operated by Service Canada) are set up each summer in key centres around the province; many summer jobs placed through these centres may be suitable work term positions.

3.5 Entrepreneurial Work Terms

Entrepreneurial Work Terms (EWT) are designed for creative students who want to solve problems and make an impact. They provide students a relatively low risk yet demanding environment in which they explore a business idea or take their business to the next level. Selected students work from the Memorial Centre for Entrepreneurship’s co-working space, receive direct mentorship from an experienced entrepreneur, meet and learn from other student entrepreneurs, participate in entrepreneurial workshops, and in an entrepreneurship course and/or a validation program at Genesis Centre. Each selected first time participant (or team) automatically receives the Early Bird fund ($500) to validate the market potential of their idea.

A ‘posting’ seeking interest will be sent to students early in the academic semester. Students meeting eligibility requirements should apply to the MCE by the deadline and meet the outlined requirements. After a selection process, students may receive an offer of a financed EWT with a bursary of $4,500 for the full-semester, or an unfinanced EWT offer.

Any student interested in entrepreneurship should discuss their plans with an ASM-CE early during the academic term to receive guidance. An EWT is not meant as a fallback for those with difficulty finding a position. They should also contact the MCE for information on processes and timelines and to develop these plans, and business ideas. More information is available at http://mce.mun.ca

Eligibility criteria are as follow:
  • Any student at Memorial undertaking a co-op work term and who has successfully completed at least one, and preferably all required, work terms.
  • Students require an idea to be eligible for an EWT. MCE can help explore business ideas,
  • ECEO must approve the project scope and description including technical merit.
  • Students will be allowed to complete an EWT in a group with a maximum group size of two, only if they are able to show that there is enough substance to put the two group members full time to work.
Students must seek approval from the Engineering Co-op Education Office prior to accepting an EWT. The ECEO will confirm through a meeting and supporting documentation both the student’s likelihood for success, as well as the technical merit of the proposal. This approval process is separate from MCE approval.

An Engineering EWT is expected to have a significant Engineering/technical component. ECEO is aware that as a student investigates/develops an idea the merit of the project may change. If there is significant change the student should meet with their coordinator to discuss intended changes – the new product/project is still expected to have a significant engineering/technical component.

Engineering EWT students should plan to meet with their coordinators at least twice during the semester, up to monthly.

Students will be required to submit their cover letter written for MCE, along with the business model canvass. ECEO also requires:

- One paragraph description of the product/project.
- Clear indication of the job duties.
- Planned month-by-month activities – for the student, and for others involved in the project for the work term
- Planned activities for the couple of quarters after the work term.

### 3.6 Guidelines for International Students

Many international students attend the co-op engineering program at Memorial on special educational visas. All requirements of the co-op program apply to international students with a few additions.

International students should make an appointment and visit the Internationalization Office to discuss student work permits, health insurance options, and Canadian taxation issues prior to the work term.

Some co-op opportunities advertised by the ECEO will be clearly marked “Must be a Canadian citizen and/or permanent resident.” These positions are advertised as such at the request of the employers. Co-op placements requiring a high level of security clearance are usually not available to international students because of the length of time it takes to do security checks internationally. Students should check with the ECEO if they are unsure of their eligibility for a particular position.

**Immigration Regulations**

International students have to obtain a Co-op Work Permit from Citizenship and Immigration Canada before going on a work term and may be prevented from applying to co-op placements via MyMUNLifе if they do not have one. Application forms are available on-line at [www.cic.gc.ca](http://www.cic.gc.ca). It is the student’s responsibility to obtain this work authorization as early as possible. Students should seek additional assistance from the Internationalization Office for more information. The ECEO will provide a letter to support the application.
Tax
International students who have an address in Canada and who are working in Canada are considered "Canadian residents" for Canadian income tax purposes – students should indicate this on salary and benefit forms they fill out when starting jobs.

Health Insurance
MCP does not cover international students while they are on work term outside of Newfoundland and Labrador ([http://www.health.gov.nl.ca/health/mcp/international.html](http://www.health.gov.nl.ca/health/mcp/international.html)). International students whose work terms are outside of the province are required to purchase the foreign health insurance. Please visit the Internationalization Office (Corte Real 1000A) and see the Health Insurance Coordinator for details.

Professional Skills Development Program for International Students (PSDP)
This program helps to prepare international students for professional employment in NL and throughout Canada. The program will take place once a week and will cover themes of communication, culture, volunteering and interactive professional skill development. The goal is to instill a level of Canadian job search knowledge and preparation to assist students throughout their academic study and after graduation. For details, please visit [http://www.mun.ca/isa/employment/psdp.php](http://www.mun.ca/isa/employment/psdp.php)
4 CO-OP PLACEMENT COMPETITION

The figure below provides a high level example of the timelines for the continuous offer co-op competition. Students should check with the ECEO, or the co-op web page for specific dates each semester.

Figure 2. Competition Timeline

4.1 Co-op Postings

The co-op competition starts early in the academic term and students should check their MUN email at least daily for messages about work term postings.

The co-op competition is managed via the my.mun.ca web portal. Students should log in through this web portal and search for the link to MyMUNLife. In their first year, all students will be required to confirm that the ECEO may send applications to employers on behalf of the student via the Co-op Consent Form. MyMUNLife will be used by students throughout their time in the engineering faculty to view and apply for co-op placements and manage their interview schedules.

Prior to the start of the co-op competition, students must notify the ECEO whether or not they intend to pursue a work term during the following semester using the “Intentions Form” within MyMUNLife. This indicates if the student is returning to their previous placement, or wants to join the job competition. Work Term Competition postings typically take place on a weekly basis (usually Thursdays); however, towards the last part of the semester postings may be more frequent, and for shorter periods of time. Students should check with the ECEO for the posting dates for each semester. All co-op opportunities are posted electronically via MyMUNLife.
4.2 Applications to Co-op Positions

Students should make sure that their résumés are updated and available in MyMUNLife in advance of the start of the competition and should ensure that their personal information is always current and accurate. Note that some data, such as address and phone number, is pulled directly from the MUN primary student database. If that data is inaccurate, the student should update it in that tool.

Students should review all posted co-op opportunities and prepare cover letters and résumés according to the guidance provided during Professional Development seminars and in Section 5 of this Handbook. Most applications also require copies of students’ transcripts which are uploaded to the database by the ECEO.

Students should only apply for opportunities in which they have an interest and which they would be willing to accept if offered. See the section on Co-op Offers for more details.

Students should be as flexible as possible about the type of work terms they apply for, and about work location and work environment (office, field, plant, etc.).

To ensure that the competition runs smoothly, all postings will have a deadline for applications. Application deadlines are rigid, and late applications will not be accepted.

The ECEO forwards all applications to the employers, who will send back lists of students they wish to interview. In some instances employers may interview all applicants, but in most cases they will screen and interview only a portion of the applicants.

4.3 Interviews

Students invited to an interview should research the jobs prior to the interview; this research, together with information learned at the interviews, should allow for an informed acceptance or rejection decision should the student be offered the co-op placement. Interviews will normally take place on campus or via electronic communications, occasionally they may be held at a local employer’s place of business.

Students will be notified that they have been invited to an interview, and the date of the interview, through MyMUNLife. Students are then required to select a time slot and sign in for an interview in MyMUNLife on a first come/first served basis. In some circumstances, interview schedules will be made available in the ECEO in which case students will be notified via e-mail.

If, for any reason, a student determines that they are unable to attend a scheduled interview, they must inform the ECEO immediately. Students cancelling or failing to attend interviews for other than justifiable reasons will be prohibited from participating in the rest of the work term competition. Such information is documented and kept in students’ files and can influence performance grades for the work term. Missing an interview is disrespectful, and can damage the relationship between Memorial and the employer.

Occasionally employers may conduct interviews directly without first contacting the ECEO. Students are encouraged to attend these interviews, but should not feel pressured to complete an interview without advanced notice. Students should work with the employer to select a mutually agreeable time for the interview. They are also encouraged to let the ECEO know the interview has taken place.
Students who feel they have been pressured to conduct an interview without preparation should let the ECEO know.

If students apply for co-op placements during the competition, but find their own work term before a scheduled interview, they should inform the ECEO as soon as possible so that the employer can be notified. Students should also send a note of explanation and thanks to the interviewers, to leave a positive impression in case they want to work for that organization sometime in the future.

If, following an interview, a student decides they are no longer interested in being considered for that position, they should notify the Student Placement Administrator in the Co-op Office immediately (within 30 minutes of completing the interview). This must be in writing, and must include a reason for withdrawing from consideration for this position. The ECEO will then notify the employer who will adjust their student rankings accordingly.

Students who have applied to a number of postings, but are not securing many interviews, should schedule an appointment with an ASM-CE who may be able to review their applications to help make improvements.

4.4 Offers

When interviews have been completed, employers submit their rankings and sometimes also provide feedback on how well students performed. This feedback can be used to counsel students in areas where weaknesses may exist. If students are concerned, they are encouraged to seek the advice of an ASM-CE on matters related to their interviews.

Students who have had an interview directly with an employer (that was scheduled without ECEO involvement) should not feel pressured to accept an offer if it is made at the end of the interview. They may request up to 24 hours in which to make a final decision. Once a student has made a final decision they should inform the employer and the ECEO immediately. ECEO will then place the student, and they will no longer see job postings, or be able to attend interviews. When a work term placement has been accepted, the student is committed to that position for the work term.

A student has the right to decline one offered job during each work term competition. This must be done in writing to the ECEO prior to the deadline as indicated below. This right to decline expires on the first day to register for the upcoming work term as noted in the University Calendar, and cannot be carried over to the next competition.

Employers will provide to the co-op office student rankings after they have completed the interview process. This could be immediately after the interview, or up to several weeks later. Once the ECEO receives a list of rankings they will contact students via email to pick up their offer. Student offers will be made at 3:00pm and must be accepted or declined by 10:00am the next morning. Students who do not respond by the deadline will forfeit their offers to the next available student on the employer’s list. A student who fails to respond by the noted deadline will be considered to have declined the position, if they have already exercised their decline will be assumed to have refused the offer and will be penalized as per below.

Once a student has exercised their right to decline, or after registration has begun for the work term they will be expected to accept offers made. If a student in this situation wishes to refuse an offer, they must speak with an ASM-CE before making their final decision. The penalty for
refusing offers may vary from immediate removal from the work term competition, up to being assessed a grade of Fail for the work term.

When a work term placement has been accepted, the student is committed to that position for the work term. Failure to honour an agreement to work with an employer, such as rescinding (withdrawing) an acceptance of an offer, will result in failure of the work term.

In the case of a student declining a position, the position will be offered to the next ranked student following the same rules as indicated above.

Students are not to contact an employer to discuss ranking or anything else associated with the competition without consulting an ASM-CE.

By the beginning of the third month of the academic semester unplaced students should consider discussing their work term search strategy with an ASM-CE who may be able to offer suggestions to help the student be more successful.

Work Term postings will continue as long as employers submit positions to the ECEO. Interviews rarely take place during exams; however, positions may be posted during this time period, and it is the student’s responsibility to be aware of this. The work term competition will typically continue through at least the first month of the work term, or until the ECEO determines there is insufficient time left to constitute a viable work term.

Late in the competition an employer may request that ECEO staff forward résumés of students who have the interest and background for a proposed co-op position without a specific job description being posted. Staff will attempt to consult students prior to sending their résumés, and students not interested in specific positions may advise ECEO staff without penalty.

Unplaced students should check with the ECEO on a regular basis to keep up to date on current events. Students should also check MyMUNLife and their e-mail accounts at least daily.

4.5 Placements outside of Canada

Typically employers from outside of Canada will follow the normal posting/interviewing process. Sometimes ECEO will post a generic job description early in the work term competition to collect a pool of ready résumés, from which employers can choose to interview.

Students wishing to work internationally (including the USA) should ensure they understand the rules that apply around working internationally. If they are unsure, they should seek direction from an ASM-CE. They should also review and follow the information under Working Internationally section 6.5

4.6 Student Conduct

Students should be aware that their conduct during the work term competition is monitored, and may be recorded in their files. Disregarding the regulations during the work term competition can result in a student being removed from the competition for that semester.
5 GETTING HIRED

Students should be aware that "[The one] who gets hired is not necessarily the one who can do the job best but the one who knows the most about how to get hired."\(^3\) This means developing proficiency in researching employers, preparing a résumé, submitting a job application and conducting an interview.

5.1 Researching the Employer

Students should research employers to help decide which jobs to apply for in the work term competition, or outside it, and then to prepare an application. This research is essential since job descriptions are generally brief. Employers expect students to have a basic knowledge of what the organization does.

Information on potential employers can be found on-line, in news media or from students who have already worked with that organization. Students may also learn more about organizations from career fairs, industry fairs, or information sessions at the University.

Employers will know how much research a student has done from their job application and their performance in an interview, if granted. Feedback from employers indicates that when the students know very little about the organization or the job it is interpreted as a lack of interest and it will be counted against the student.

5.2 Résumé Writing

A résumé is a synopsis of an individual’s educational background, employment record, extra-curricular activities, achievements and skills. A résumé should be accurate, factual and concise and should demonstrate good written and organizational abilities. In most cases, a résumé should not exceed two pages.

The cover letter and résumé are the first contact that a student has with a prospective employer and both should make a positive first impression. Their purpose is to secure an interview by providing the employer a background of the writer’s background, skills, and interest in the job. They are the first impression made on an employer. The purpose of the cover letter is to introduce the applicant and their résumé. It provides a summary of the skills and experiences listed on the résumé that are relevant to the advertised position. The résumé is a written summary of the applicant’s education, work experience, achievements, skills, and interests. It introduces the applicant as a potential employee and demonstrates their suitability for a particular job. The résumé should be designed to stimulate interest and result in an interview.

Numerous books and web sites are available to help job seekers prepare a résumé; students are encouraged to consult several references before selecting a format appropriate for them.

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The format favored by many co-op employers is the modified chronological résumé, with sections described below. The order of the various sections should be chosen to present the most important information early in the résumé. A sample résumé is included in APPENDIX C.

Students should remember that a résumé is a dynamic document and will be edited regularly throughout not only their academic career, but their whole life. Some individuals will even create different résumés to highlight different skill sets for different industries. It is essential that students update their résumés shortly before, or just after finishing a work term to ensure it is updated while the tasks completed, and skills achieved are fresh in their minds. It is important to always have an updated résumé since one never knows when a job opportunity may arise.

**Personal**
This section includes:
- student name,
- address, both local and home (if different),
- telephone number, local, home, and cell (include area codes),
- email address.

Students should only include their @mun email address and ensure that they check it regularly. This is the official address for university correspondence, and helps maintain a level of professionalism.

Human rights legislation prohibits discrimination on the basis of marital status, height, weight, age, sex, and religious or political belief. This type of information should not be included on a student’s résumé.

**Education**
The student should indicate their discipline and current academic term (Engineering One if applicable). Including the expected year of graduation helps employers not familiar with Memorial’s program.

The student should list other post-secondary schools attended and degrees or diplomas obtained prior to starting engineering. The student should state what high school was attended, but not junior high or elementary schools.

**Awards and Scholarships**
This section should list any scholarships the student has earned, noting what they are for (e.g. academic excellence, community involvement, sports). If academic marks are worthy of note, they should be listed in this area.

**Work Experience**
Junior students should list all work experiences but, as students proceed through the co-op program, non-technical jobs should be given less emphasis, or removed. Jobs should be listed in reverse chronological order, beginning with the most recent. For each position, major duties and achievements/accomplishments should be listed in point form. For non-technical jobs in particular, the descriptions should focus on skills developed rather than the tasks undertaken, and action verbs should be used to start each point: supervised, constructed, analyzed, researched, prepared, evaluated, planned, etc. A sample list of Engineering related action words is included in APPENDIX D.
The following three sections are very important, especially for students with little work experience. These items give the employer information on leadership abilities, organizational and communications skills, and interests.

**Extra-Curricular Activities**
This section includes memberships in societies, professional organizations, clubs or sporting organizations and should emphasize any leadership roles that the student may have had (for instance, coaching, event planning or chairing committees). Volunteer work may be included here, or in a separate section.

**Skills**
This section lists knowledge of computer languages and software, any mechanical or trade skills, drafting and surveying skills, driver’s license, additional languages, etc. APPENDIX E includes a list of personal skills that can be used to generate the skills section of a student’s résumé.

**Interests**
Students can list any other interests including sports, reading, travel, etc.

**References**
The ECEO recommends against including references on a résumé. Students, however, should have a list of references available to provide to employers during an interview.

### 5.3 Preparing the Cover Letter

Each application submitted for a work term position should have a unique cover letter, linking the student’s unique skills and experience to the job description and qualifications requested, and include information found during the student’s research into the organization. “Form letters” are strongly discouraged as they may indicate to the employer that the student is not interested enough in the position to complete an individualized letter.

The cover letter provides the first opportunity to express personal interest and to highlight to the employer what the student can offer. The letter should not exceed one page and should contain all of the items outlined below and included in the example.

- student contact address, phone number and email address, as on the résumé,
- organization/company contact information,
- what job is being applied for and where was it advertised (during the competition it will generally be …as advertised through the ECEO at Memorial University of Newfoundland…). Students should remember not to mention MyMUNLife in their cover letters,
- brief summary of information about the organization, not quoted verbatim from the job description or the company/organization website,
- description of what the student has to offer the organization, specifically what skills they have that address the requirements of the position and how they were obtained (this is the most important section of the letter), and
- a thank-you and request for an interview.

A sample cover letter with instructions can be found in APPENDIX C.
Students applying to work term placements posted through MyMUNLife should pay close attention to the instructions provided by the employer in the work term posting. Job posts may specifically ask for a student’s driving record, references, or other information. Failure to provide these may result in the student being overlooked. Some employers ask that the student apply directly on the employer’s web site. Students who apply to these positions are also asked to apply on the MyMUNLife site in order for the ECEO to track applications, and make interviewing easier.

5.4 Interviewing

Students should be pleased to receive an invitation to an interview – it means the employer has reviewed the job applications and résumés and feels that the student may have the background and interest to meet the organization’s needs.

The next step is generally a formal interview when the student has the opportunity to discuss their qualifications and interest in the position with a representative from the organization. This interview may be face to face, via video conference, Skype, one-way video interview (the interviewee records responses with no interviewer present), or telephone. The employer will elaborate on the job and will ask many questions to determine if the student is suitable and has sufficient skills, interest and enthusiasm for the job. Some employers will use more than one round of interviewing to select candidates.

There are different types and formats of an interview and the type chosen is based on the preference of the employer. Some typical types of interviews are:

- Informational
- Behavioural/Situational
- Competency/Technical
- Informal

A job applicant who has thoroughly researched the organization and who asks informed questions at the interview has the best prospect for employment. It is expected that a student will become familiar with the different types of interviews that may be conducted. Students who are interested in gaining more experience in interviewing can request a Mock Interview with Career Development https://www.mun.ca/student/student-success/work-experience/interview-skills.php. To make the most of an interview opportunity, students should observe the guidelines discussed in the following sections.

5.4.1 Preparing for the Interview

When preparing for their interviews students should be aware of some common mistakes to avoid4:

- Not preparing properly for the interview
-Arriving late
-Stumbling over interview answers
-Failing to ask questions
-Talking too much

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• Not displaying a positive attitude
• Allowing distractions

Students should use the following checklist when preparing for and attending an interview.
• Dress appropriately. Attire should be suitable for both the position and the work environment. Dress plays a significant role in first impressions, and research concludes that a significant percent of one’s lasting impressions are based on visual perceptions.
• Leave cell phone outside, or turn off ringer. Never answer a call or text during an interview.
• Arrive on time or even a little early for the interview.
• Walk into the interview with a positive mental attitude.
• Take a list of references and/or reference letters, as well as extra copies of their résumé and transcript.
• Bring copies of any safety training or other relevant certificates to the interview.
• Use a firm handshake.
• Sit upright, facing the interviewer and always maintain eye contact.
• Ask questions about the organization and the job.
• Show interest in the job and the employer.
• Speak clearly and with confidence.
• Ask well-thought-out questions.
• Project a positive image even when discussing situations that have had a negative impact; this indicates maturity.
• Thank the interviewer(s) when leaving and shake hands.

Note that cultural or religious differences exist and that some students or employers may not shake hands or maintain eye contact. Students should be aware of this and adjust their actions accordingly.

The student should not:
• Fidget with objects, chew gum or stare around the room during an interview. Note that shuffling papers during phone or video conferences can be very distracting to the interviewer.
• Try to become overly friendly,
• Speak in a negative manner about past employers, schools attended, or home town.
• Answer questions with a yes or no or interrupt to ask or answer a question.
• Offer information non-essential to the interview.
• Ask unrelated questions or provide flippant remarks.
• Smoke during, or immediately before the interview.
• Speak too quickly or too slowly.

Students may wish to bring personal portfolios, containing items that they have personally created or produced, to interviews to showcase their abilities. Guidelines for preparing a portfolio are included in APPENDIX I.

5.4.2 Questions to Expect

It is a good idea to consider, in advance, questions that might be asked in an interview and to have formulated some possible answers. The objective is not to appear rehearsed, but well organized and motivated.
Typical Questions
A list of possible questions is provided below. Job search websites will have other lists. Students should strive to keep answers positive and always bring the conversation back to their specific achievements.

- Tell me about yourself.
- Give me an example of a time you reached a desired result by setting priorities.
- What skills can you bring to this job?
- Why should we hire you?
- What was your biggest accomplishment in high school or university?
- Tell me about a technical skill you learned, either in university or during a job, something that you later used with good results.
- What are your strengths and weaknesses?
- Tell me about a creative idea you contributed to a project or activity. How did it make a difference?
- How does your work experience relate to the job we have available?
- How would a previous employer describe you?
- Describe a situation in which you worked well with other people to reach an important goal.
- What do you know about our organization? Why do you want to work here?
- Describe a situation where you had to use critical thinking to solve a problem.
- Was there ever a time you had difficulty working with others, and how did you solve that?

The first question is usually a warm up question, but it can be difficult to answer because it is so broad. Students should consider this a good opportunity to tell the interviewer some good things which are not on the application. This valuable opportunity should not be wasted with flippant remarks or unrelated information.

Other types of questions pose a hypothetical situation and ask for an analysis. This may be a conflict situation with staff or a problem with a client. This gives the employer the opportunity to assess the candidate’s ability to think on their feet.

Prohibited Questions
An interviewer should not ask questions relating to areas of discrimination as defined under the Human Rights Code, and candidates are not required to answer these questions if they are asked. Subjects that should not be questioned include:

- national origin,
- credit rating,
- specific age,
- mother tongue,
- religious beliefs,
- sexual orientation,
- gender identity,
- birth place,
- political beliefs,
- marital status, spouse, number of children, pregnancy, family plans, and
- health issues.
If a question has no bearing on the interview or the job being applied for, the candidate should politely inform the interviewer. The response should be "I am sorry, but I feel that such information is not necessary to evaluate my qualifications for this position." Students should report such questions to the ECEO.

5.4.3 During the Interview

During the interview, candidates will normally have an opportunity to ask questions. These questions could relate to information the employer has offered, but students should also include other questions. It is a good idea for candidates to develop some default questions that can be asked at any interview, in case no others come to mind. Questions may be written down and brought to the interview, and notes may be taken during the interview. A rule of thumb says that in a good interview the applicant and the employer should each do about one half of the speaking.

The employer usually closes the interview by asking if there are any further questions. This should be a clue to ask any final questions and thank the employer for the interview. In most cases a handshake will be offered.

5.4.4 After the Interview

If, as a result of the interview, a student decides they would not want to be considered for the position, they should inform the ECEO immediately after the interview. If a student without a placement wishes to refuse all offers they must speak with an ASM-CE before making their final decision. The penalty for refusing all work term offers may vary from immediate removal from the work term competition up to being assessed a grade of fail for the work term.

The following written comments have been received by the ECEO from employers and are presented to illustrate what employers observe.

Negative
- "appears somewhat nervous and lacked confidence",
- "should be more talkative",
- "does not appear to be very interested",
- "abrupt style of speech",
- "concerned about having to do work not done before",
- "student did not do homework to learn about our organization; I think this is essential for the interview process",
- "not very communicative, nervous",
- "very few questions, difficult to tell how interested the student was in the job",
- "student was late and I considered not interviewing him", and
- "needs help in structuring application and résumé ".

Positive
- "confident, experienced and will gain a good deal from this work term",
- "good interview, very mature",
- "well-spoken in the interview",
- "excellent presentation",
- "express themselves well",
- "communicates well",
• "very personable",
• "honest and frank discussion".
6 PREPARING FOR THE WORK TERM

There are several steps that must be followed to ensure that the student is prepared for the work term.
ASMs-CE are always available to answer questions that students may have when getting ready for their work terms.

6.1 Contacting the Employer

Students will be notified when to contact their employers and should come to the Co-op Office to pick up the contact details that contain the employer’s name and phone number. Students can then confirm to the employer that they have accepted the co-op placement offer and begin to arrange for starting work, including travel to the job site, if required. Items for discussion include:

• start date and time,
• dress code,
• housing (if applicable – note that employers typically subsidize housing only in more remote locations),
• if relevant, how transportation will be paid, what method to use, etc. (note that not all employers pay travel),
• where to go upon arrival at the office or job site,
• who to contact on arriving at the office or job site,
• required accommodations for disabilities,
• any other questions that will make the first day less confusing.

6.2 Additional Work Requirements

Students should be aware of any added clearance requirements from their employer. Some employers may require a student to get security clearance prior to starting work. This may take from several weeks to several months to obtain, and will be initiated by the employer. Some employers, especially those in industrial settings, may also require the passing of additional medically based screening tests for the purposes of ensuring health and safety at work. This might include tests such as hearing, lung capacity, or drug testing. Students should be aware of these tests and prepare accordingly.

6.3 International Students

International students require a Co-op Work Permit to work in Canada. Students should seek assistance from the Internationalization Office for more information.

6.4 Student Insurance

Students should consider their needs for medical insurance before going on a work term. A student accident and sickness plan is available at the Student Union, or there are other plans that offer protection in the event of an illness or accident. Students working outside of Newfoundland and Labrador should check with MCP to ensure they have coverage while working out of province. Out of Province coverage may be required. Students working in Canada must opt-in to the MUNSU health plan should they wish to use it. Some employers will offer some medical
coverage to students. Students who will be working outside of Canada are advised to contact a third party supplier if they wish to acquire secondary health insurance.

6.5 Working Internationally

Students working outside Canada will require a passport; application forms can be obtained on-line and at most post offices. Applications can take several weeks to process at the local passport office of Passport Canada, so students actively looking for an overseas work term are encouraged to apply for their passports early in the academic term. Students are reminded to keep their passports up-to-date – some countries require that passports be valid for six months following the departure date from that country in order to allow entry.

Students accepting co-op placements outside Canada must meet with an ASM-CE as soon as possible after acceptance of the position for a briefing interview and to be directed to the appropriate group to determine the requirements for Visas and other supporting documents. Students should also be aware of any regulations of their work permits or visas and may only stay in the host country as long as indicated on their permits.

After meeting with an ASM-CE, students accepting work terms outside of Canada (including the US) should immediately contact the Co-operative Education Services Coordinator to complete the mandatory pre-departure process and documentation. This process is required by all students accepting a work term outside of Canada regardless of co-op location, citizenship, visa/work permit requirements, returning to a previous work term, etc. More information for placements outside of Canada is available on the MUN co-op page under the Students tab. Failure to complete this required process will result in the work term not being approved.

Even if a student’s primary work location is in Canada, sometimes their employer may decide to send them to work abroad, or they may be sent to another country even if they are already working outside of Canada. Students should notify their ASM-CE immediately if this should occur – with locations and dates – so that Memorial University knows where they are should an unforeseen event require Memorial’s assistance.

6.6 Student Packages

Course outlines for each of the Work Terms, as well as all required forms are available on-line, or students may pick them up from the ECEO before going out to work. The work term forms include:

- a list of important dates for the work term,
- a work term confirmation form,
- a work term objectives form,
- a communications component outline form,
- the work term evaluation form (to be completed by student and employer), and
- other forms and documents as necessary.

It is the student’s responsibility to complete (or have completed by the supervisor) all of the necessary documents for the work term and to return them at the assigned times. All forms are available on-line at www.mun.ca/coop/programs/engineering/docs_forms.php.
6.7 Daily Diary

A work term diary is an evaluation requirement in Work Term 1, and students are required to complete one during Work Term 2 to be presented during the monitoring meeting. Students are also encouraged to keep a hand written daily diary on all work terms. These diaries are fundamental to good time management and legal or personal recourse, and may be useful during future job searches. More information on maintaining a diary, including samples from actual students can be found in APPENDIX H.

6.8 PEG-NL Log Book

Engineering students completing work terms after Academic Term 4, are encouraged to begin making entries in the log book available through the Professional Engineers and Geoscientists of Newfoundland and Labrador (PEG-NL) as part of the application for a Professional Engineer (P.Eng.) designation. Up to one year maximum of pre-graduate experience (i.e. three of the four available work term slots) may be accepted towards PEng. work experience requirements. Further information is available at www.pegnl.ca. Students who purchase a log book through PEG-NL can arrange to pick it up at the ECEO.

Engineering experience across Canadian provinces and some international countries is often accepted towards EIT requirements. Students should contact the Professional Engineering association in the province they intend to practice for more information.

6.9 Registering for the Work Term

Students must register for the work term and pay a work term fee regardless of their initial employment status. In order to be registered for the upcoming work term a student must not have a financial hold on their account. It is important for students to check their accounts prior to the first day of registration for the upcoming work term to ensure they do not have any holds. Students who anticipate that they may have a hold should consult with the Cashier’s Office to understand their options prior to the last day to register for the academic semester prior to that work term.

On the first day of registration for the upcoming work term all students in Academic Terms 3-7 who have not opted-out will be automatically registered for that work term. Students who have re-entered the Engineering degree program after time away from the program, (or are otherwise out of synch with their original sequence) should ensure they have access to MyMUNLife and are registered once registration for the work term has opened. If they are not registered they should speak with the ECEO.

On the first day of registration for the upcoming spring work term any student in Engineering One who:
- has successfully completed ENGI 200W; and
- is eligible to be in the job competition; and
- has the permission of the Committee on Undergraduate Studies to undertake a work term in the Spring Semester
will be automatically registered for that work term.
Following the date of auto-registration any student who has a hold on their account which prevents registration will be removed from the competition until they have cleared the hold. This means that access to MyMUNLife will be removed, and any interviews cancelled. The ECEO will also contact the employer of any student who has secured a work term but is not registered to indicate that the student is not currently eligible to go on a work term.

Students who are not registered will not be permitted to go on a work term.

### 6.10 Registration to Take Courses During a Work Term

Employers have the right to assign work term hours to meet the needs of the job. Students must therefore obtain prior approval from an employer before registering for an academic course during the work term. If the job commitment makes it inappropriate, then the employer has the right to refuse such permission. Failure to obtain appropriate employer authorization for such courses will be noted and considered in the student’s performance evaluation.

Students should also consider that they have communications requirements from the ECEO during each work term. Employers do not have to allow students to complete these requirements during work hours, so students must not undertake courses if the workload will interfere with timely completion of their co-op requirements.

Students should be aware that a work term is considered as a full course load. The ECEO recognizes the work term as a significant effort, and a student’s primary focus should be on the requirements of their position. The ECEO discourages students from taking an additional course during their work term, and students should consider the expected work load before registering for even one additional course. In order to take an additional course a student must first get written permission from their employer, and seek written permission from the ECEO.

The ECEO strongly discourages students from taking more than one additional course during their work term due to the extra work load. In order to take more than one course a student must first get written permission from their employer, and seek written permission from the ECEO. This permission will only be granted upon discussion with an ASM-CE who will review the student’s past performance and discuss why the student wishes to register for the additional courses. Once the student has received permission they must then submit a course load waiver as found at [www.mun.ca/engineering/undergrad/forms/](http://www.mun.ca/engineering/undergrad/forms/) to the office of the Associate Dean for Undergraduate Studies. This request must be received prior to the add/drop date, otherwise permission may be withheld.

Students should consider the information above throughout their program and ensure they are taking necessary courses and electives as appropriate. The ECEO may refuse a student’s request to take additional courses during the work term, even if that prevents the student from graduating on time.

### 6.11 Academic Standing – Engineering One

In order to be eligible for the spring semester work term at the end of Engineering One students must have successfully completed ENGI 200W, they must have also successfully completed all courses for Engineering One, and have met the promotion requirements for Engineering One by the end of the Winter Semester.
To be eligible to enter the Work Term Competition during the Winter Semester of Engineering One students must have achieved a cumulative average of 70% in all Engineering One courses attempted to date and should have taken ENGI200W in the Fall semester. Students who are not expected to complete a work term in the Spring Semester after Engineering One should complete ENGI 200W in the Winter Semester of Engineering One.

Students in Academic Term 3 will not normally be permitted to take ENGI200W.

Any student who was not eligible to enter the Work Term Competition during the Winter Semester of EO, but who successfully meets the EO promotion requirements may join the competition for the Spring Work term by requesting permission from the ECEO.

Any student who has not met the EO promotion requirements or not successfully completed ENGI200W by the end of the Winter Semester is not eligible for the subsequent Spring Semester work term and their employer will be notified if they had previously found a placement. If they have not yet secured a work term, they will be immediately removed from the job competition and any scheduled interviews will be cancelled.

No student will be permitted to complete more than one work term prior to entering Academic Term 3.

6.12 Academic Standing – Academic Terms 3-7

Students failing an academic term should speak with the Director of the ECEO, or the Student Placement Administrator in the ECEO as soon as possible after they receive their marks.

In general, a student must have been promoted from the previous academic term in order to do a work term. However, if a student who has a confirmed work term fails the preceding academic semester, but is not required to withdraw, they may make a request to the ECEO to continue in the subsequent work term. The request may be granted if the following conditions are all true at the start of the work term:

- The student is registered for the work term;
- The student has a confirmed work term position; and
- The employer is willing to retain the student despite the academic failure.

However, after the student has successfully completed the work term, the student will not be permitted to attempt that work term a second time and will not be permitted to attempt a subsequent work term ahead of schedule.

A student who fails to be promoted from the previous academic term, and has not yet secured a confirmed work term will be immediately removed from the competition, and will have any scheduled interviews cancelled.

6.13 Work Term Ethics

Students should consider that positions acquired through the ECEO’s work term competition have been developed by the ECEO and are effectively on loan to the student to enhance their co-op
experience. Students are thus expected to treat these positions appropriately, so that other students may gain similar benefit in later terms.

While on a work term every student is an ambassador of Memorial’s Engineering Co-op Program. Students’ actions will create in the mind of the employers a positive or a negative impression of Memorial’s program and co-op students in general. This impression determines whether that employer will continue to participate in the program at Memorial or look to other institutions.

Co-op students on their way to becoming professional engineers are expected to act in a manner that will leave a positive impression, no matter what the circumstances. Students should:

- abide by organization rules and regulations with respect to safety, work habits and work hours.
- respect company/organization property.
- maintain good relations with fellow employees, management, clients and the general public, even when confronted with stressful situations.
- follow regulations as set out by the University regarding work term deadlines, registration, work reports and presentations, and on-site interviews.
- maintain professional behaviour consistent with the Code of Professional Ethics of PEGNL (included in APPENDIX F).

Students who behave inappropriately risk losing their work term position and may face academic penalties, including receiving a failing grade for the work term.
7 WORK TERM PROCEDURES

The work term component of the engineering program requires the same level of commitment as the academic component. Work terms must be completed in sequence, and successful completion of each work term undertaken is a prerequisite to registering for the following work term.

This section elaborates on aspects of the work term requirements and will give the student adequate knowledge to deal with situations as they arise. Students should also refer to the regulations in the University Calendar which govern the work term requirements.

A high level sample of the work term timelines is provided in the figure below. Students should check the co-op web page and student guides to determine specific dates each semester.

Figure 3. Work Term Timeline

7.1 Expectations for the Work Term

A summary description of the work term expectations for each of the work terms has been developed by the ECEO and is listed below. These expectations reflect a progression towards becoming a professional engineer.

The guidelines have been developed so that:
- students can better assess their progress in relation to their peers,
- the employer can determine students’ capabilities and potential, and
- the University has a method of measuring the amount of learning that occurs in the workplace.

ASMs-CE use these descriptions when making assessments at the end of the term. The assessment of the work term is made on two components: student performance; and the quality of the communications requirement.

7.1.1 Work Term 1

Work Term 1 provides opportunity for an introductory experience in an engineering work environment. Students are expected to learn, develop and practise the basic standards of
behaviour, discipline and performance normally found in a professional work environment. They are expected to learn the basics of technical writing and to become familiar with the various communications tools used in an engineering work environment.

7.1.2 Work Term 2
Work Term 2 requires students, under supervision, to contribute positively to the engineering and problem solving processes practised in the work environment. They are expected to set objectives, take direction, work independently as required, learn professional behaviours, and function as effective team members. An ability to investigate work-related concepts should be demonstrated. Students should become better familiarized with the use of engineering tools, data analysis, prioritization of assignments, and effective communication of technical information.

7.1.3 Work Term 3
Work Term 3 requires greater participation in the students’ engineering discipline. They become more experienced and proficient in problem solving and use of appropriate design processes. They should demonstrate speed and accuracy in their work, accept greater responsibility and be able to function with less direct supervision. Good judgement, increased initiative and improved analytical skills are expected to develop at this stage. Students should better appreciate the attitudes, responsibilities, and ethics expected of engineers.

7.1.4 Work Term 4
Work Term 4 requires students to engage in complex facets of engineering. Participation in their selected engineering discipline is expected. Students should be able to contribute independently to design and/or problem solving processes, understand their responsibility to society and the environment, understand project management strategies, think critically, and use engineering tools appropriately. The level of responsibility should reflect their academic background and experience. Good teamwork skills are expected and leadership skills may be developed.

Note that while Work Terms 5 and 6 are electives, once a student has opted in to these work terms, they are expected to complete all components of the work term.

7.1.5 Work Term 5
Work Term 5 requires students to continue to engage in advanced facets of engineering. Participation in their selected engineering discipline is expected. Students should apply skills independently in engineering analysis, contribute to a safe work environment, and utilize engineering tools while understanding their limitations. They will contribute significantly to design and/or problem solving processes, and demonstrate project management and leadership abilities. The level of responsibility should be commensurate with their academic background and experience.

7.1.6 Work Term 6
Work Term 6 requires students to further engage in various advanced facets of engineering. Participation in their selected engineering discipline is expected. Students should gain further appreciation of the use and importance of acquired analytical skills in engineering analysis, and significantly contribute to design and/or problem solving processes. The level of responsibility should be commensurate with their academic background and experience. Work scope should be mostly independent, with longer timelines, and with the possibility of leadership opportunities.
7.2 The First Week on the Work Term

Students can expect that the first week on the job will include some contact with their employer’s Human Resources representative or office to set up contracts and salary payment. Students will also receive some form of orientation, which can be formal or informal, depending on the employer; training in company policies and procedures or safety practices is also likely.

Most employers will provide students with a written offer of employment which should be kept for the student’s records. If an employer does not provide an employment offer, the student should request one, especially if it is a co-op placement they found themselves, outside the work term competition.

During the first week, all work term students must complete the Work Term Confirmation Form in the work term record section of MyMUNLife. If they do not have access they may also complete the form as found in the employment package and either fax, mail or e-mail it to the Co-op Office. If some of the information is not known, the form should be sent anyway and students can follow up later with the rest of the information. This form is required whether the student is in a new position, or is returning to a previous employer. If information changes during the work term, students should inform the ECEO.

The form confirms to the ECEO that the student has started work, and provides the required information for the ECEO to communicate with the students and supervisor. Specific location information is important as it helps the ASMs-CE arrange site interviews and follow up on any aspects of the work term. If a student’s office is hard to locate, they are requested to include a map, or driving directions, with the Confirmation Form. The office building name, as well as its street name and number should be included. Do not provide only a P.O. Box address.

The section on the salary survey helps the ECEO advise employers of typical work term salaries.

7.3 Work Term Objectives

During the first three-four weeks on the work term, a student will also likely discuss with the employer the duties and responsibilities they will have during the term. At this time, the supervisor and the student should complete the Work Term Objectives form and return a copy to the ECEO prior to the due date indicated. They should keep a copy to refer to during the end of term evaluation.

This form gives both the supervisor and the student the opportunity to set formal learning objectives for the term. By clarifying objectives early in the term, both parties can better plan and derive the maximum benefits from the work term. Objectives help to focus the learning of the work term towards specific goals, what the student and employer want to get out of the work term. An ASM-CE can also evaluate whether the objectives are realistic based on the student’s academic record and prior experience.

Two types of objectives should be set: performance objectives, which describe tasks to be completed or technical skills to be learned; and personal/professional objectives, which describe work or people skills to be developed or improved.
An objective should include:
- a statement of the task that the student will be able to perform at the end of the learning process,
- the conditions under which the task will be performed, and
- the standard which will be used to measure the success of the student’s performance.

Students should attempt to write SMART objectives which through being specific and measurable make it easier for the employer to evaluate the student’s performance during the work term. **SMART** objectives are:
- **s**pecific (statement),
- **m**easurable (standard),
- **a**ttainable (condition, standard),
- **r**ealistic (condition), and
- **t**ime limited (condition).

The work term objectives, and how well they are being met, should be discussed with the supervisor about midway through the term. The objectives should also be used in the final performance evaluation at the end of the work term. APPENDIX G contains some examples of how to write SMART objectives.

### 7.4 Work Term Oral and Written Communications Requirements

#### 7.4.1 Purpose of the Communication Requirement

The communications requirements are intended to illustrate the understanding and experience students have acquired during their work terms. The technical reports provide the opportunity to develop good writing skills, an important element in becoming a professional engineer; the presentation provides practice in organizing and presenting material orally. Both provide the forum to complete critical analysis, and to develop organizational, presentation, evaluation and prediction skills. The career development report requires a reflective self-assessment of the skills and qualities developed during the work terms and an understanding of the job market and factors influencing employment. Work term documents are sometimes used by the employer to maintain a record of the past term’s work, and are used by the University to measure the amount of learning that has taken place. Without the communications requirement, the work term might be “just another job” instead of the educational experience it is meant to be.

#### 7.4.2 Communications Requirement

Each work term, students are required to submit a communication component, based on some aspect of their job or industry, to the ECEO for evaluation. This may take the form of a written report, oral presentation, diary, or some other format as determined by the ECEO for the specific work term. Additional information will be provided in this handbook and the Work Term Guide as required. Please note that the written documents must be submitted in hard copy and bound. **No electronic or faxed versions will be accepted.**

The student’s employer may have additional requirements for a presentation or report. Only the University’s requirements are listed above.

The communication component must be submitted to the ECEO by the deadline date specified, which is typically the last official day of the work term, as indicated in the University Calendar.
In case of unexpected or unanticipated circumstances that would prevent compliance, students should contact their ASM-CE as soon as possible before the deadline. See section 2.7 for regulations associated with requests for deferrals of communication component submissions or oral presentations.

Employers are under no obligation to provide students with time to prepare their presentations or reports during working hours. Students should be selective about other courses they may choose to do or extra-curricular activities they plan during the work term, to leave themselves enough time to work on their report or presentation.

Students should have their reports completed about two weeks prior to the due date to give their supervisor time to read, provide feedback, and prepare comments for the work term evaluation form. Some employers may require the report to be submitted much earlier for confidentiality screening purposes, so students should check with their supervisors early in the work term to determine when they need to have it completed. The timely submission of all work term documents is taken into consideration in the performance evaluation.

Students will not be considered for Pass with Distinction unless all of the work term requirements are submitted in a timely manner. All reports, diaries, etc., submitted (or postmarked) after the published date, without prior approval, are considered late and marks may be adjusted accordingly. Circumstances for the delay, if authorized in advance, and explained in the letter of transmittal, will be taken into consideration by an ASM-CE.

7.4.2.1 Work Term Communication Component requirements for the graduating Class of 2023 and earlier

The communications requirement varies for each work term but can include the following:
- Personal work term diary and one of a short technical report (APPENDIX J), work term journal, or portfolio APPENDIX I,
- Technical report, see APPENDIX J,
- Oral presentation, see APPENDIX A,
- Alternate submissions, see APPENDIX O.

**Work Term 1**
- Diary, plus
- one of Journal, Portfolio, or Short Technical Report

**Work Term 2**
- Descriptive Technical Report (a student may be permitted to submit a Comprehensive Technical Report with permission from their ASM-CE)

**Work Term 3**
- Comprehensive Technical Report

**Work Term 4**
- Oral Presentation, including presentation summary package
**Work Term 5 and 6**
In consultation with, and with the consent of, their ASM-CE, one of:

- Any report covered by the Work Term 3 requirements for a comprehensive technical report,
- Oral presentation, including presentation summary package,
- Other submission types as described in APPENDIX O.

This larger list of possible communication component deliverables for Work Terms 5 and 6 provides the student flexibility in these senior work terms and allows the student to self-direct and align their chosen deliverable with the work conducted on the work term.

### 7.4.2.2 Work Term Communication Component requirements for the graduating Class of 2024 and later

The communications requirement varies for each work term but can include the following:

- Personal work term diary, and a short descriptive technical report (APPENDIX J),
- Oral presentation, see APPENDIX L
- Career development report, see APPENDIX M
- Comprehensive technical report, see APPENDIX M

**Work Term 1**
- Diary, plus
- Short Descriptive Technical Report (a student may be permitted to submit a more analytical type of short technical report with permission from their ASM-CE).

Students are required to write a short descriptive technical report in Work Term 1 to illustrate the technical understanding and experience that they have acquired during their work term. The short nature of the report is intended as an introduction to technical report writing and to prepare students to write short technical reports in their future careers. The student will develop an understanding of the basic structure of a technical report and practise effective writing skills, an important element in becoming a professional engineer. The completion of a daily diary during the work term allows students to learn the best practice of daily record keeping in a professional workplace.

**Work Term 2**
- Oral Presentation, including Presentation Summary Package

Students are required to prepare an oral presentation summary and slides package and present on a work related technical topic in Work Term 2. This allows students the opportunity to learn and practice presentation skills early in their academic program. These presentation skills will be valuable for students as they complete their subsequent work terms and academic terms.

**Work Term 3**
- Career Development Report

Students are required to write a career development report in Work Term 3. Students have experienced personal and professional development through the completion of their first two work terms and now have the opportunity to self-assess and reflect on these past experiences and the current work term experience. The placement of this communications requirement before the last
mandatory work term provides students a reflective exercise that can assist their professional
development in future work term(s) and/or work after graduation.

**Work Term 4**
- Comprehensive Technical Report

Students are required to write a comprehensive technical report in Work Term 4 to illustrate the advanced technical understanding and experience that they have acquired during their work term. The substantive and analytical nature of the report is intended to prepare students to write detailed and evaluative technical reports in their future careers. The student will develop an understanding of the full structure of a technical report and continue to practise effective writing skills. Students are further along in their program and are typically taking on more advanced roles in their work terms, making the timing suitable for a comprehensive technical report in Work Term 4.

**Work Term 5 and 6**
In consultation with, and with the consent of, their ASM-CE, one of:
- Any report covered by the Work Term 4 requirements for a comprehensive technical report,
- Oral presentation, including presentation summary package,
- Other submission types as described in APPENDIX O.

This larger list of possible communication component deliverables for Work Terms 5 and 6 provides the student flexibility in these senior work terms and allows the student to self-direct and align their chosen deliverable with the work conducted on the work term.

**7.4.3 Work Report/Oral Presentation Topic and Outline Form**

The Work Report/Oral Presentation Outline is a “roadmap” for the development of a document. It is meant to help the student organize their ideas and also to communicate these ideas to their audience. Outlines provide a framework and a means of organizing the information in a logical order. A work report or oral presentation outline can help the student keep track of large amounts of information and structure their document. This can help the student organize and manage information as they draft their report or oral presentation.

Using the form provided, the Work Report/Oral Presentation Outline shall be sent to the ECEO for review and topic approval by the stipulated deadline date (typically by the end of the second month of the work term). By that time, students are expected to have developed an appreciation and insight into the operations of their job to identify a potential topic and have it agreed to by the supervisor. The student should select a topic that is relevant, manageable, doable, and commensurate with their level in the engineering program. The ASM-CE will review the proposed Work Report/Oral Presentation Outline with the student during the mid-term monitoring visit.

The work report or oral presentation topic should be relevant to the student’s work term, but it does not always need to be based on the tasks that the student is actually performing or the project(s) that the student has been assigned. The topic could be based on engineering-related activities and procedures that are occurring in the students’ work place in which they are not directly involved, or the topic could be a special unrelated task assigned by the student’s supervisor. Many employers will require a report for a student’s main project or will have some suggestions for a report or presentation topic. Ideally, the supervisor may suggest a topic that meets the requirements of the work term, however, this may not be the case. In some instances, students may have to rely on their
own initiative to develop an appropriate topic. Students are encouraged to start thinking about a potential work report or oral presentation topic as soon as they start their work term.

The contents and topic specified in the Work Report/Oral Presentation Outline shall be chosen in discussions with the supervisor and with their approval, with consideration given to the confidentiality of the subject matter. If the student is having difficulties finding a topic because of confidentiality or other constraints, the student should discuss this matter with their supervisor and ASM-CE. If, after the second month, students do not have a suitable topic, they should contact their ASM-CE for assistance.

The final layout of the report or oral presentation may sometimes be different from what the student originally proposed in their Work Report or Oral Presentation Outline. Major deviations from the submitted outline should be discussed with both supervisor and ASM-CE before proceeding any further with the report or presentation.

7.4.3.1 For the graduating Class of 2023 and earlier

Work Report/Presentation Outline

The Work Report/Presentation Outline shall include the title, the purpose of the report and a brief description of the major topics to be covered. The outline should be as detailed as possible. This will give the student’s ASM-CE the necessary information to review and offer assistance if needed. A tentative table of contents would also be useful.

7.4.3.2 For graduating Class of 2024 and later

WT1 Work Report Outline

The WT1 Work Report Outline shall consist of a title, an overview of the topic, a preliminary Table of Contents, and the Introduction section of the report (in order to for the assigned ASM-CE to review a writing sample). Students must discuss their proposed work term report topic with their supervisor early in the term and determine if any of the written material in the Work Report Outline may be confidential. If so, the Introduction shall be written in such a way that it is not deemed “confidential” and is able to be submitted to the ECEO. The assigned ASM-CE will provide formative feedback to the student after review of the Work Report Outline.

WT2, and WT4 - WT6 Work Report/Presentation Outline

The WT2 and WT4 - WT6 Work Report/Presentation Outline shall include the title, the purpose of the report and a brief description of the major topics to be covered. The outline should be as detailed as possible. This will give the student’s ASM-CE the necessary information to review and offer assistance if needed. A tentative table of contents would also be useful.

A Report Outline is not required for the WT3 Career Development Report.

7.4.4 Confidential Materials

Students should discuss their work term communication component with their supervisors early in the term and determine if any material may be confidential. Confidential or proprietary information should not be included in any of the communications requirements unless permission has been received from the employer to submit the confidential material. If the student’s diary, report, or presentation summary package is likely to contain confidential material, the student and
employer should complete a Non-Disclosure Request Form, available from the ECEO website. This form must be submitted to the ECEO prior to submission of the communications component.

If permission is obtained from the employer to submit a confidential diary, report, or presentation summary package, the cover and each page of the document should be stamped or watermarked confidential. The submission will be marked by a designated ASM-CE or member of Faculty and the marker will provide assurance that no other person will see the material and that no information will be transmitted to any other person. Following a review with the student, the diary, report, or presentation summary package will be returned to the student or employer directly, or shredded, depending on the instructions from the employer.

Confidential material that may not be removed from the workplace for marking is not acceptable to the University. If such a diary, report, or presentation summary package is prepared and is designated as such by an employer, the student is required to prepare another diary, report, or presentation summary package that can be submitted to the ECEO for evaluation.

7.4.5 Joint Submissions

The communication requirement of the work term is meant to give students a forum to do critical thinking, research and analysis and to enhance their written communication skills. It is used by the University to determine the amount of learning that has taken place. Joint reports are not acceptable to the University.

7.4.6 Writing Technical Reports

Learning good technical writing skills is a very important aspect of work terms. Employers frequently comment on the importance of good written skills and some request to see prior work reports during interviews.

It is wise for students to refer to one of numerous available references to assist in preparation of their outline, research and report.

Students should note that a project does not have to be complete for a student to make it the subject of a report. A well written report with evidence of good research is usually sufficient for evaluation.

Students should strive for text that is clear, concise, complete, accurate and objective. Students must bear in mind the technical knowledge of their readers (their supervisors and the ASM-CE, faculty member or PEGNL volunteer) and prepare the text accordingly. Students should use language and describe concepts in a way that allows the reader to easily follow the report.

7.4.7 Engineering Technical Communications Centre

FEAS has an Undergraduate Technical Communications Co-ordinator to assist engineering students with their technical communications including referencing, technical reports, résumés, and emails. Students having issues with their technical writing should seek assistance from the centre at EN3076A, or see their website http://www.Engr.mun.ca/~techcomm/.

An ASM-CE, after reading written submissions, may require students to seek help from the Technical Communications Co-ordinator before they can be promoted to the next work term, or may direct a student to the Technical Communications Co-ordinator for further help.
The ECEO acknowledges the FEAS Undergraduate Technical Communications Coordinator as a contributor to the communication skills and referencing content located in several of the appendices.

7.4.8 University Writing Centre

Students with weaknesses in written communications are encouraged to seek assistance at the University Writing Centre. Professionals are available to assist students correct any deficiencies that they may have in this area. Writing Centre tutors will work online to help students working outside St. John’s on their work terms. The Writing Centre has many resources on good writing styles and report writing. These can be found at www.mun.ca/writingcentre/resources/.

7.4.9 Co-operative Engineering Associates Program

Most report evaluations are completed by the ASM-CE who is assigned to the student, however, the Faculty of Engineering and Applied Science in conjunction with the PEGNL has developed a program, known as the Co-operative Engineering Associates Program, to use the expertise of retired professional engineers in the feedback of the communications components of the co-operative work terms. Under this program, professional engineers become familiar with the various written and oral communications required for the work terms and participate in their commentary. The student’s assigned ASM-CE will still provide final evaluation and grading of the report.

Faculty members may also assist in report evaluations, when students are working in placements relevant to the professor’s field of expertise.

7.5 Employer Policies and Regulations

In the course of the work term students will be informed of a variety of employer policies, procedures and regulations. These are the product of experience in the operation of the particular organization, and govern its activities. Students are expected to follow all policies, procedures and regulations, and should consult their supervisors if they are unsure about appropriate activities.

Most organizations have specific policies governing internet usage, especially with respect to access for personal use and employees may be required to sign statements in which they agree to follow the organization’s policy in this area.

Students are often required to meet the requirements of quality management systems, occupational health and safety programs and confidentiality guidelines.

Any anticipated time away from work should be pre-approved by the employer who should also be informed of any medical appointments or time missed when sick.
7.6 Problems on the Work Term

The experience of the ECEO is that few students encounter serious problems while at work. If, however, any student has a situation that they feel is a problem, the student should first try to resolve it through open dialogue with the employer, if this can be accomplished professionally and safely. If the difficulty is not resolved, the student should immediately contact the ECEO for further advice.

Over the years, relations with virtually all employers regarding pay, benefits and conditions of work have been very professional. For example, most employers treat students as regular full time employees and follow the employment standards for the province or country in which they are located.

From time to time students may have a need to seek help in areas such as wellness, academic support, or personal counselling in areas which may include mental health services. APPENDIX Q provides more information for students seeking these kinds of assistance.

7.6.1 Health and Safety

Maintaining students’ health and safety and that of their colleagues is paramount. APPENDIX R provides some information on the Occupational Health and Safety Regulations and students’ rights under this act.

If anything in a student’s job site or duties is a matter of concern, the student should discuss the matter with their supervisor or the safety officials for the employer or job site. If the matter is not resolved, the student should speak to an ASM-CE.

Ultimately, a worker has the right to refuse to do work that they believe is unsafe, however it is rare that refusal is required; most situations can be made safe through modification, proper training and protective equipment.

7.6.2 Labour Disputes

Some students will work in a unionized environment, and many are required to join unions. Students in unions should follow the normal course of action as laid out by that union. If a strike is called, students are expected to follow their co-workers in any strike duties as deemed necessary by the union. Students in this situation should contact the ECEO immediately.

If a strike is called in the workplace, but the students are not part of the union, they should report to work in a normal manner. If they are prevented from entering the workplace, they should leave and call the employer, advising of the situation and asking advice. This course of action should continue for the duration of the strike. Again, the student should advise the ECEO of the situation.

7.6.3 Sexual Harassment

Sexual harassment is a violation of human rights. Memorial University does not tolerate harassment in any form. All members of the University have the right to study and work in an environment that is free from sexual harassment.

Sexual harassment is comments or conduct of a sexual nature and/or abusive conduct based on gender, gender identity, sex (including pregnancy and breast feeding) or sexual orientation, directed at an individual or group of individuals by a person or persons of the same or opposite
Sex, who knows or ought reasonably to know that such attention is unwelcome and/or unwanted. Sexual harassment detrimentally affects the work or learning environment or leads to adverse job-related or academic consequences for victims of harassment.

Sexual harassment is any sexually oriented behaviour that:

- negatively affects an individual’s work performance or creates an intimidating, hostile or offensive environment for learning or working, or,
- explicitly or implicitly endangers an individual’s continued employment or impacts upon the conditions of employment or performance evaluation, or,
- undermines an individual’s personal dignity or self-worth.

APPENDIX S outlines the ECEO’s policy on sexual harassment. It applies to all students of Memorial’s co-operative programs who are employed at Memorial and outside of Memorial during work terms.

7.6.4 Difficult Co-workers

Occasionally students find that they have problems working with particular co-workers. Some co-workers may feel a student is trying to take their job, or feel that someone else should have been hired instead of the student. It is the student’s responsibility to defuse any situations which may arise and to help develop mutual respect. If problems persist, students should speak to their supervisors and to the ECEO.

7.6.5 Resigning from a Co-op placement or Being Terminated

University regulations state that if a student resigns from a work term without permission from the ECEO, the student will be given a grade of Fail for that work term. Any student who is considering this course of action should seek the advice of an ASM-CE as soon as possible.

University regulations state that if a student conducts themselves in such a manner that they are terminated from a work term, the student will normally be given a grade of Fail for that work term. Engineering co-op students have been terminated for various infringements of employer regulations, including safety, internet and travel policies.

7.6.6 Sickness, Injury or Accident

Students who become ill for an extended period of time or are involved in an accident (on or off the work term) are advised to contact the ECEO as soon as possible. The ECEO may be able to offer assistance, especially if they are working away from home.

If the illness or injury is severe, students may be given a medical exemption from the work term if they obtain a doctor’s letter outlining the nature of the illness or injury. Students should refer to the University Calendar on this matter.

7.7 Work Term Evaluation

The evaluation for each work term consists of a mark given for the communication component, a mark given for performance and then a final grade. Details of the evaluation scheme are provided in APPENDIX T. The final assessment is completed by an ASM-CE, who will take into account
factors as outlined below.

**Deadlines**

One of the responsibilities of becoming a professional engineer is being able to meet deadlines. All deadlines will either be published in the University Calendar or will be available at the ECEO and it is the student’s responsibility to be aware of these dates. Meeting the various university deadlines will be taken into account in the performance and communication component marks.

The communications component must be submitted or post-marked by the deadline date specified. On each work term supervisors are requested to complete performance and communications component evaluations during the last two weeks of work. Students are responsible for giving the required form to their supervisors and for returning the completed form to the ECEO by the date specified.

Students who submit documents late may receive a fail for the work term. Students should apply to the Associate Dean of Undergraduate Studies via the ECEO for an extension if one is required for special circumstances.

**Monitoring**

ASMs-CE monitor the performance of students while on their work terms. Most students can expect to receive an on-site visit. If an on-site meeting is not possible, telephone interviews, skype, or an email exchange might be held with the student and supervisor.

The purpose of the work term monitoring meeting is to verify that the work term is progressing in a positive manner. More specifically, the objectives of the visit are to:

- activate the reflective learning process,
- monitor the learning that is taking place, and help students and employers to maximize the learning opportunities,
- discuss career plans with the student and provide advice on an as needed basis,
- discuss general academic objectives.

During monitoring interviews students should be prepared to answer questions on duties and responsibilities and to show some of their work to the ASM-CE or Faculty member. The communications deliverable will be discussed and the student will be given an opportunity to ask questions on any aspect of the work term. The interviewer will also wish to speak with the supervisor to assess the performance to date. Students should prepare for the meeting by booking an appropriate space, confirming their supervisor will be available, checking with security if there are requirements needed, and reviewing their objectives and work report outline. If a student’s work location has changed after the initial confirmation form was completed, they should remind their ASM-CE of this change.

The information acquired in this interview will be used to counsel the student if a weakness is observed and will be used along with the employer’s evaluation at the end of the work term to arrive at a performance grade.

Students are also encouraged to meet with their supervisors near the mid-point of their work term (just before the monitoring meeting is a suitable time) to discuss their performance to date. The final evaluation form may be used to help direct this meeting. This is an opportunity for the student to understand how they are performing, review progress towards work term objectives, and discuss
where they could focus development for the second half of the work term.

On-site interviews are combined with a program of marketing co-operative education to potential employers. The objectives are to:

- review prospects for the employer’s continued participation in the Engineering Co-operative Education Program,
- obtain referrals to other potential employers,
- obtain an improved understanding of the co-op work and environment,
- engage in work term opportunity development with potential employers in the area,
- provide feedback to Faculty on the academic components of the engineering curriculum.

**Reflective Learning**

Reflective learning is the process by which an individual identifies what has been learned from a prior experience. In a co-op term opportunity, some of the learning may have been consciously undertaken based upon objectives set by the student, the employer or both. Equally important is the learning that may have taken place subconsciously as a result of a specific experience.

For example, learning the skill of how to use and apply a software applications package may have been identified as an objective. The reflective learning process would involve the student in evaluating how effectively they have learned this skill and subsequently, how this skill can be applied to future experiences.

With respect to an assigned project, the objective may be stated in terms of solving a specific problem. There could be considerable reflective learning when the student identifies how much was learned about time and project management. Further reflective learning may be realized when the student identifies what has been learned about a particular company, organization or industry. This process can be thought of as a continuous feedback loop accelerating learning and performance.

### 7.8 Exit Interview

Near the end of the work term, students should arrange to have an exit interview with their supervisors. This interview should be used to do the following.

- Discuss how well the objectives set out early in the work term were met,
- Have the employer fill out the "Employer Evaluation" form, if they have not already done so, and discuss it with the student. This will help to point out strengths and weaknesses and areas for improvement.
- Discuss work term placement prospects for the next work term (at the same firm, if the work term is the student’s first with the organization, or to request suggestions for other employment).

### 7.9 Promotions

The promotion from the work term to the next work term follows a similar procedure as the promotion from the academic term to the next academic term. Promotion recommendations are made by the ECEO at a meeting of the Executive of the Committee on Undergraduate Studies for the Faculty of Engineering and Applied Science early in the next academic term. The ECEO may make a recommendation of *Pass with Distinction, Pass, Incomplete* or *Fail*.
A **Pass with Distinction** or **Pass** means that the student is promoted to the next work term. An **Incomplete** indicates that some information is not available to permit a recommendation of a clear pass; it usually means that the employer’s evaluation has not been received. If this occurs, these students are requested to contact their employer to obtain the necessary documents.

Students who fail a work term may attempt to repeat that work term only once and no more than two work terms may be repeated during a student’s program.

### 7.10 Appeals

Students who fail a work term may appeal the decision by submitting, in writing, a letter of appeal, to the Chair of the Appeals Committee, Faculty of Engineering and Applied Science, within one month of the issue of the marks by the Registrar’s Office.

### 7.11 Work Term Awards

Awards are available to students who excel in various components of the work terms. For students to be eligible for some of the awards, their supervisors must complete the nomination forms included in the work term package or on-line.

**The W.W. Cossitt Award**

This award is intended for the Senior Engineering Student (Work Term 4, 5, & 6) who has made the most important contribution to an employer and therefore to the Co-operative Engineering Program. The award is made available by the Professional Engineers and Geoscientists Newfoundland and Labrador (PEG-NL) once per semester and has a monetary value of $1000. PEG-NL issues the final award on recommendation by the Dean, Faculty of Engineering & Applied Science and the Engineering Co-operative Education Office. The recommendation is based upon: a) Supervisor nomination b) Student work performance; c) Student work report, or oral presentation and written summary; d) Student academic standing (must be scholarship standing).

**The PEG-NL Connections East Award**

This award is intended for the Junior Engineering Student (completing work terms 1, 2, or 3 prior to Academic Term 5) who has made the most important contribution to an employer and therefore to the Co-operative Engineering Program. The award is made available by PEG-NL Connections East once per semester and has a monetary value of $500. PEG-NL Connections East issues the final award on recommendation by the Dean, Faculty of Engineering & Applied Science and the Engineering Co-operative Education Office. The recommendation is based upon: a) Supervisor nomination; b) Student work performance; c) Student work report; d) Student academic standing (must be scholarship standing).

**Paul S. Batstone Scholarship**

This scholarship was established in memory of Paul S. Batstone who spent 20 years promoting co-operative education at Memorial University and was an ASM-CE in the Faculty of Engineering and Applied Science until his death in 2003. Valued at a portion of the income on the investment, it will be awarded to a senior student completing Work Term 3 or 4 during the spring work term who has demonstrated a high level of commitment to Engineering Co-operative Education and has made a significant contribution to their employer in the past work term. The
recipient must meet the minimum academic requirements for a scholarship as defined by Memorial University. This scholarship is awarded by the Senate Committee on Undergraduate Scholarships, Bursaries and Awards on the recommendation of the Dean, Faculty of Engineering and Applied Science with a nomination from the student’s employer and input from the ECEO.

S.P. Raheja Memorial Scholarship
This scholarship, valued at a portion of the income from the endowment, was established through generous gifts from the friends and family members of S. P. Raheja. It is to be presented during National Co-operative Education Week and will rotate annually between the Faculty of Engineering and Applied Science and the Faculty of Business Administration. To be eligible, students must be in scholarship standing, and be enrolled in the co-operative program, having successfully completed work term four in Engineering or work term two in Business in the previous scholarship year. The scholarship will be awarded by the Senate Committee on Undergraduate Scholarships, Bursaries and Awards, upon the recommendation of the Dean and Co-operative Education Office of the Faculty of Engineering and Applied Science or the Faculty of Business Administration as appropriate.

Director’s Award for Exemplary Work Terms
The Director’s Award for Exemplary Work Terms is normally available to senior engineering students completing the final academic semester, who have reached the pinnacle in both the performance and communications components, by achieving a grade of “Outstanding” for both components, and hence an overall work term grade of “Pass with Distinction” for all work terms successfully completed. It is awarded during the National Co-operative Education week by the Director, Engineering Co-operative Education Office, Faculty of Engineering and Applied Science. The recommendation is based on a nomination from the Academic Staff Members – Co-operative Education, with feedback from the work term employers.

Director’s Award for Outstanding Work Terms
The Director’s Award for Outstanding Work Terms is normally available to one senior engineering student in each major/discipline, completing the final academic semester, who has demonstrated excellence in both the performance and communications components by achieving an overall work term grade of “Pass with Distinction” for a significant number of work terms successfully completed. The awards will be presented during the National Co-operative Education week by the Director, Engineering Co-operative Education Office, Faculty of Engineering and Applied Science. The recommendation is based on a nomination from the Academic Staff Members – Co-operative Education with feedback from the work term employers. Consideration may be given to the academic average.

Dean’s Certificate for Best Presentation
The communications component requirement for Work Term 4 is an oral presentation. One student in each session of the presentations will be awarded the Dean’s Certificate for Best Presentation. The award is made by the Dean of the Engineering and Applied Science on recommendation of the ECEO.

Gosine Family Scholarship in Technical Communications
This scholarship was established by a generous donation from the Gosine Family to reflect their long association with the University, and particularly with Memorial University of Newfoundland’s Faculty of Engineering and Applied Science. Raymond F. Gosine completed the Diploma in Engineering at Memorial prior to completing his engineering degree at McGill University. As of the creation of this scholarship, Raymond G. Gosine (Raymond F. and Teresa’s...
son) had completed his B. Eng. degree in 1986, and is Memorial’s vice-president (research), pro tempore and a professor and former dean of Memorial’s Faculty of Engineering and Applied Science; Philippa Gosine, their older granddaughter, completed her B. Eng. in 2015; Anna, their other granddaughter, is an Engineering student at Memorial; and their daughter-in-law, Jane Gosine, is a professor of Music at the University. Valued at a portion of the income on the endowment, one or more scholarships will be awarded annually to students in the Faculty of Engineering and Applied Science whose written work, including co-op work term reports has shown significant improvement. The recipient(s) must meet the minimum academic requirements for a scholarship as defined by the University. This scholarship will be awarded by the Senate Committee on Undergraduate Scholarships, Bursaries and Awards on the recommendation of the Dean, Faculty of Engineering and Applied Science.
APPENDIX A

CEWIL Canada RECRUITING ETHICS

Canadian Association for Co-operative Education

Recruiting Ethics

The successful recruitment of co-operative education students depends upon the collective activities of three parties - the interested employer, the co-op student, and the associated educational institution. All participants must adhere to Provincial and Federal legislation in their recruitment and employment practices. However, the Canadian Association for Co-operative Education supports additional guidelines concerning recruiting ethics that support the development of a mutually beneficial and fair process for all concerned.

A. Employer Ethics
• Provide accurate job posting information including salary and location
• Provide reasonable notice of candidates to be interviewed and of interview cancellations
• Respect an institution's schedule regarding job postings, interview arrangements, job offers, etc., and heed the co-operative education policies and procedures of an institution
• Not discuss job offers or rankings with candidates before, during, or following an interview
• Not seek a candidate's assessment of another candidate
• Not make multiple job rankings or offers unless prepared to accept multiple candidates
• Honor all matches, and not rescind offers of employment
• Confirm all job offers in writing
• Not translate a co-op assignment into a full-time position encouraging a student to settle for less education

B. Student Ethics
• Abide by the co-op policies of their institution
• Ensure that employers have accurate information regarding their qualifications
• Notify the co-op office, well in advance, if interviews must be rescheduled or cancelled
• Not discuss or mislead employers about their ranking or job acceptance intentions, and not provide information to employers on other students or employers
• Honor their acceptance of employment as a contractual agreement with the employer

C. Institution’s Ethics
• Inform students, employers, and other interested parties of institutional policies and procedures
• Provide equal services to all students and employers
• Accommodate employers’ reasonable requests for job postings, interview space, and presentation facilities
• Provide students with accurate information on all recruiting employers
• Notify the employer of any hiring limitations prior to them conducting interviews
• Notify employers of any students who, after being hired, are not academically eligible to continue in their program
APPENDIX B  HOW TO FIND YOUR OWN WORK TERM POSITION

The following information lists tips which students can use in order to assist in finding successful work term opportunities outside of the co-op competition.

Search the Industry

In order to begin a job search outside of the co-op competition, students must focus on choosing industries and employers that are of interest to them. This can be done through research of specific company websites and becoming educated in the developments and business accomplishments of companies and industries.

   Company Websites
Companies publish a wealth of information concerning their past/future projects, company profiles, career information and media centre which involves a wealth of important information to students actively seeking work terms. Taking time to research and become educated in what companies publish on their websites is a very valuable approach in obtaining work term opportunities.

   Local, National and International News
Keeping informed on industry related news either locally, nationally and internationally will give students advantages on where and when to search for future opportunities.

Online Career Databases

Searching online career databases is an effective method in which students can view postings and career opportunities for either engineers or co-op placements world-wide. Results of searches can often indicate which employers are seeking to increase their work force, which in turn, may indicate that the possibility of hiring a student is feasible. International databases often post positions for co-op/internship opportunities which if pursued, may often lead to securing successful work term positions.

   Career Websites
Some examples of career database websites of interest are listed below. These represent only a small portion of available websites of career databases used in potential employment searches.

http://www.workopolis.com
https://www.careerbeacon.com/
http://www.monster.ca/
http://www.indeed.ca/
http://www.simplyhired.ca/
https://www.glassdoor.ca/
http://www.jobinnl.ca/

   LinkedIn
LinkedIn is a powerful networking tool used by many potential employers. Students can create current online profiles which can be used to network and connect with employers. Once a profile is created, students can connect with others, follow companies of interest and keep informed of current activities of the company. For more information, please visit https://www.linkedin.com.

   JobFinder@MUN
ECS has developed for ECEO JobFinder@MUN, a tool which collects jobs daily posted on a number of popular job websites and displays them for our Engineering students.
The primary search criteria of the tool attempts to limit the selected positions to Engineering Co-op positions in Canada, and effort is made to remove inappropriate opportunities, but note that the jobs listed on the site have not been screened/approved by ECEO and may not be acceptable work terms. ECEO does not necessarily endorse any of the linked employers and students should exercise due diligence. Before accepting any job as a co-op position students must first have them approved by ECEO. JobFinder@MUN can be found at https://www.engr.mun.ca/ecsapps/coopjs/

Web sites searched by JobFinder@MUN are:

- Monster.ca
- Simplyhired.ca
- Careerbeacon.com
- Indeed.ca
- Glassdoor.ca
- Workopolis.com
- Wowjobs.ca
- Linkedin.com
- Eluta.ca
- Talentegg.ca

ECEO

The ECEO can be a beneficial source for students seeking work terms outside of the job competition. ASMs-CE and office staff have the knowledge and tools in order to provide students with input concerning past and present employers, industry related information, cover letter and résumé feedback, as well as advice in all areas of developing employment opportunities.

**Talk with an ASM-CE**

Students can book an appointment with an ASM-CE to discuss a large array of topics including:
- Employer history
- Past and present co-op opportunities
- Region specific employer information
- New and growing industries/markets
- MUN Alumni connections
- Résumé and cover letter review
- General advice
- Funding options

**Personal Contacts**

An effective tool in obtaining a work term outside of the co-op competition is reaching out to a student’s personal connections. This involves touching base with relatives, becoming active in industry related, societies, organizations, functions and events and connecting with potential employers through online media sources.
Personal Connections – Relatives, Friends, Secondary Contacts, etc.
Reaching out to relatives, friends, secondary contacts, etc. that work in the industry is a successful method in securing a work term. These contacts can provide students with “inside” information concerning employer contact information, project status and future working information, as well as educate employers concerning MUN’s co-operative program while recommending students for positions on their behalf. The chances of securing an interview with an employer could increase dramatically if you were referred by someone they know.

Join a Learned Engineering Society/Organization associated with your Discipline
Students can develop valuable network connections and avail of professional development opportunities through active membership and participation in learned Engineering Societies and Organizations. Often, these societies and organizations host various local events throughout the year where students can attend and meet peers within their chosen discipline. Some examples include:

- Newfoundland and Labrador Oil and Gas Industries Association (NOIA)
- Professional Engineers and Geoscientists of Newfoundland and Labrador (PEGNL)
- Women in Science and Engineering (WISE)
- The Society of Naval Architects and Marine Engineers (SNAME)
- Canadian Society for Civil Engineering (CSCE)
- Canadian Society for Mechanical Engineering (CSME)
- Institute of Electrical and Electronics Engineers (IEEE)
- Canadian Society for Chemical Engineering (CSChE)
- Mining Industry NL (MINL)
- Newfoundland Association of Technological Industries (NATI)
- Newfoundland Environmental Industries Association (NEIA)
- NACE International (professional organization focused on corrosion engineering)

Attend the Annual Career and Graduate School Fair
The Memorial University annual career fair is usually offered on the last Wednesday of September from 10:00 am to 4:00 pm in the Field House on campus. A majority of employers that participate in this career fair are local and national engineering companies that are targeting Co-op work term students and potential engineering graduates. Students are recommended to dress appropriately and produce hard and soft copies of their résumés for distribution when meeting with representatives of career fair participants and possibly future employers.

Attend Information Sessions Offered During the Academic Term
During the academic term, various local, national and international engineering companies visit campus to offer Information Sessions open to students in which they introduce the company and the services that they offer, as well as potential recruitment opportunities. At times companies focus the session on valuable graduate attribute skills or résumé, interview or employment search techniques. Students can source out valuable information relating to the companies’ hiring policies and take the opportunity to meet and make contact with engineering and human resource personnel for future employment purposes.

Online Media Sources
Following company websites, receiving newsletters through online sources and connecting with potential employers through online sources are beneficial ways in which students can grow their list of personal contacts.
Potential Employers

If a student is interested in pursuing an employer or company, here are some techniques and tips to follow in order to potentially be successful in securing a co-op work term.

Résumé/Cover Letter Modifications
Edit your package to suit the potential employer. Visit a coordinator at the co-op office if assistance is required.

Make Contact
If possible, visit the company in person and ask to speak with a contact; a human resource personnel, personal connection, Alumni or potential supervisor to discuss co-op opportunities and ask if you could submit your résumé/cover letter. If a contact is not known, visit the company, introduce yourself and ask to speak to someone who may be able to help.

Follow up 3-5 Business Days
Call or email the contact to follow up with the company and ask if they have had the opportunity to look at your package and possibly consider hiring a student.

Be Polite, Considerate and Professional
Be professional while presenting yourself to potential employers. Dress properly, be kind and considerate and keep in mind that you are representing the university and the Faculty of Engineering and Applied Science and professionalism is expected of you.

If, after contacting an employer, you are told they are not hiring then do not stop there. Ask for an “information meeting”. You might get a chance to meet with an employer in an industry you are interested in to ask questions about the industry which could help you in your search (or future interview) or to obtain other contacts. You may also learn things which may change your mind with respect to the areas or focus of your job search.

Employer Funding Availability

Please refer to Section 3.4 or visit the Co-op office for more information.
APPENDIX C   SAMPLE COVER LETTERS AND RÉSUMÉS
The first sample is provided by the ECEO. The other samples are based on actual students’ work. Also included are the work term descriptions for the students’ résumés.

Student Name
Current Address
St. John’s, NL A1X 2Y6
(709) 555-5555
studentemail@mun.ca

Date

Company Name
Address/Location

Dear Mr./Ms. Doe:

Introduce your term, discipline, work term and duration, and expected year of graduation. The letter should also state fully the job or jobs applied for, location and where the position was advertised.

State why you are applying for the job. In doing this, you can emphasize that you have an interest in the company/organization and the industry and indicate what you know about the organization. Use information from the job description to indicate why you are interested in the position. This is important because it indicates to the employer that you took the time to do some research and are genuinely interested in this job and the organization. This section should not quote vague statements or repeat information from the organization web site. Try to speak with students who have worked for the company, to get inside information about current projects, future plans etc. Keep files on companies for future reference.

Describe to the employer what you have to offer and why they should read your résumé. This is a good time to read the job advertisement again. This section of the letter should summarize previous experience and skills that meet the requirements of the advertisement. A good way to start this paragraph is with the statement: “You will see from my enclosed résumé…”. The sentence would then tell the employer something about your career that will immediately gain their interest. These paragraphs should focus only on information related to the required experience or skills identified in the job description.

The letter should close with a request for an interview, where further elaboration will be made on the interest and qualifications outlined above.

Yours truly,

(Letters should be signed by hand, if possible)

Sandy Smith

Encl.: Résumé, Transcript
Student Name
1 Any Road, Suite 302
St. John’s, NL A1A 1A1
studentname@mun.ca  (709) 123-4567
linkedin/studentname

EDUCATION
Memorial University of Newfoundland, St. John’s, NL 2014 - Present
Bachelor of Engineering Co-op Program
Completing first year, expected graduation 2021

Any Town High School, Any Town, NL 2014
Graduated with Honors

AWARDS
Memorial University Entrance Scholarship ($2000) 2014
Governor General Award for Academic Excellence 2014
John Doe Memorial Arts Award 2014
Student of the Year Award 2014

EMPLOYMENT
Bob’s Warehouse, Any Town, NL June – August 2014
Summer Student
- Developed the company website using PHP to display stock and company information
- Maintained stock database, ensuring sales were tracked on a weekly basis
- Presented guidelines to educate staff on using and maintaining website

Any Town Development Association, Any Town, NL June – August 2012
Student Project
- Maintained landscaping of cemeteries, tourist attractions and public buildings
- Communicated with tourists and provided local knowledge in answering queries
- Performed repairs and scheduled maintenance on the association’s lawnmowers and power tools

Tutoring for Help, Any Town, NL September – June 2012 - 2014
Tutor
- Aided students with difficulties with school courses in mathematics and science following set curriculum
- Regularly arranged and scheduled one hour tutoring sessions
- Maintained accurate records of tutoring hours and provided written feedback for each student
PERSONAL PROJECTS

Graphics and Design Course, MUN, St. John’s, NL  Sept –Dec 2018
• Developed and assessed multiple design options to modify walker for client

Website Development, St. John’s, NL  2017
• Created website for SoapWorks Inc.
• Developed front end user interface, tested and trouble-shot code

VOLUNTEER

Student Council, Any Town High School, Any Town, NL  2010 – 2014
Treasurer
• Organized and managed annual school events such as car washes, theme days, graduation and ski trips
• Managed and tracked finances using Excel for student council activities

SPCA, Any Town, NL  2010 – 2012
Shelter Volunteer
• Cared for shelter cats and dogs by cleaning cages, creating safe play spaces and aiding in the overall health and well-being of animals
• Monitored public visits, answered questions pertaining to adoption policies and overall care and maintenance of animals
• Attended and participated in local charity events to raise funds and awareness for the shelter

SKILLS

Software Skills
• C++, Java, PHP and JavaScript programming languages
• HTML, XHTML and CSS
• MySQL database language
• Solidworks, Microsoft Office

Interpersonal Skills
• Able to quickly adapt and learn in fast paced environments
• Problem solving
• Teamwork

Training/Certificates
• Completed Introduction to C++ Training Seminar (2014)
• Driver’s License (Valid until 2020)
• Emergency First Aid/CPR A/AED (Valid until 2020)

INTERESTS

• Drawing, learning new technologies, skiing, travelling, and basketball
STRATOS

Contact: Mr. Stratos

Location: Mount Pearl

PRIMARY FUNCTION:

The Customer Solutions Engineering Group is responsible for engineering and implementation of edge core systems including terrestrial networking and value added services platforms, as well as customized solutions to meet specific customer requirements. Stratos integrates leading edge technologies over IP satellite networks.

You will be tasked with product evaluations, application and performance testing, and implementation of customized solutions where possible. The position will require you to develop and maintain technical documents and produce periodic reports.

COMPETENCIES:

The incumbent must be enrolled in undergraduate engineering program or related discipline. Other skills include;
- Understanding of voice & data communication technologies.
- TCP/IP networking protocols, LAN/WAN technologies – Cisco router experience is a definite asset.
- Knowledge of mobile and fixed satellite technology would be an asset, but is not required
- Computer skills including MS Office, MS Project, MS Visio applications
- Excellent troubleshooting and analytical ability
- Strong written and oral communication skills
- Excellent interpersonal skills contributing team participant
- Independent worker that requires minimal supervision
- Ability to manage multiple tasks and maintain a balance of priorities
- Good customer communication ability
Stratos Global
Mount Pearl, NL

Dear Mr. Stratos

I am applying for the position with the Customer Solutions Engineering Group at Stratos Global as advertised through the Co-op Office at Memorial University of Newfoundland. I am a first year engineering student, with expected graduation in 2023, seeking my first four month work term in September 2020.

I am very interested in applying my computer skills to a fast pace, high technology environment which has current applications and benefits in the marine industry. Stratos Global, being a relatively small company, would provide me with the opportunity to see a variety of work related issues thus the learning environment could be open ended. Stratos Global is thus poised to offer a challenging work term where I can demonstrate that I have the skills and attributes as well as the ability to adapt to meet these challenges.

As you can see from my résumé, I have Microsoft applications and have used PHP to develop a website at Bob’s Warehouse thus expanding my computer abilities. This position also required a high level of interaction with company personal, independent work requiring strong interpersonal skills and organizational ability. My experience tutoring students has developed my oral presentation skills and has allowed me to strengthen skills in multitasking and prioritization. Through academic achievements and my volunteer work at the SPCA, I am highly motivated, enjoy independently working and problem solving in a fast pace environment.

I look forward to an interview where I can elaborate in more detail on my interest and qualifications for this exciting position. Thank you for your time and consideration.

Sincerely

Name
Student Name  
Mechanical Engineering Student  
40 Arctic Avenue, St. John’s, NL, A1B 3X5  
studentname@mun.ca • (709) 123-4567 • linkedin/studentname

Education

2016 – Present  
Memorial University of Newfoundland, St. John’s, NL  
Faculty of Engineering and Applied Science  
Academic Term III, Mechanical Engineering Class of 2021  
Cumulative GPA of 4.0/4.0

2016  
Holy Heart High School, St. John’s, NL  
Graduated with honours from Grade 12

Scholarship and Awards

- 2016 MUN Endowment Fund ($1275)  
- 2016 Mary B. Whalen Memorial Scholarship Program ($1000)  
- 2015 Holy Heart Basketball Team Most Spirited Player

Work Experience

2014 - 2016  
Sales Representative/Cashier  
Canadian Tire, Hebron Way, St. John’s, NL

- Handled cash, cheque and card transactions using in house software  
- Provided training and assistance to new team members adhering to store policies and procedures  
- Educated customers on product specific information  
- Maintained a clean, welcoming and engaging environment for customers and coworkers

2013 - 2014  
Basketball Coach/Trainer  
Court College Basketball, St. John’s, NL

- Taught players aged 10-15 and created development plans based on skill and experience level  
- Provided instruction and guidance during training sessions  
- Formed strong interpersonal and trusting relationships with coaches and players
Community Engagement/Extra Curricular

- Holy Heart High School Science Fair Judge 2017
- Memorial University's Engineering without Borders Chapter Member 2016 – 2017
- Shave for the Brave for Young Adult Cancer Canada 2010 – 2012

Volunteer Experience

2014 - 2015  Assistant Basketball Coach
St. Paul's Junior High School, St. John's, NL

- Developed and led lesson plans for practices
- Motivated players, encouraged teamwork and provided feedback
- Developed personal relationships with referees, athletes and coaches

2014  Assistant Basketball Coach
Max Athletics Grade 6 Boys All Star Team, St. John’s, NL

- Assisted in creation of skill development plans
- Motivated players, encouraged teamwork and provided feedback

Skills

- SolidWorks and AutoCAD software, C++ computer programming language
- Microsoft Office applications (Excel, Microsoft, PowerPoint)
- Google applications, docs, sheets and slides
- WHMIS training
- Valid Driver’s License

Interests

- Basketball, golfing, downhill skiing, fishing, hiking, rock climbing and guitar

References

- Available upon request.
Contact: Mr. Works
Location: Corner Brook

Primary Function: The Works Division of the Department of Transportation and Works provides management and maintenance of over 600,000 square metres of floor space at nearly 400 sites across the province; Construction of new building and management of other capital projects for government departments and government-funded bodies; Provision of space for government departments in government-owned buildings and leased accommodations; Acquisition of land on behalf of government departments and agencies for various projects and public works; Disposition of surplus provincial assets and real property with property sales; Provision of environmental services for government buildings; Provision of centralized mail and messenger services for government; Provision of telecommunications services to all government departments.

You will work closely with project managers and engineering staff to provide assistance and support in the management of building construction, renovation and maintenance projects in government buildings. Duties may include initial investigations, researching mechanical design solutions, preparing cost estimates and working on tender packages. You will be expected to perform work as part of a team as well as work independently when required. You must also possess effective organizational, analytical and communication skills and will be detail oriented. Please submit a copy of your transcript with your application.
Date

Department of Transportation and Works
Corner Brook, NL

Dear Mr. Works:

I am applying for the coop engineering position with the Department of Transportation and Works in Corner Brook as advertised at the Engineering Co-operative Education Office, Memorial University of Newfoundland. I am an Academic Term 3, mechanical engineering student with expected graduation in 2021.

I am interested in this position because I would like to learn and contribute to the management and maintenance projects ongoing in our province. Supporting the team at the Department of Transportation and Works would allow me to gain experience in areas such as mechanical design and project management which will provide me with skills to expand my knowledge in infrastructure and public works and grow as an engineering student. Gaining hands on experience in the fields of investigation and problem solving is valuable to my education and I am keen on using my strong skillset to positively contribute to your team.

From my academics I have strong written communication skills from completing design and laboratory reports. I am familiar with working within the constraints of a budget from organizing fundraising events through Engineers without Borders. As a coach, I have gained valuable organizational skills and interpersonal skills from planning and running basketball practices. I have completed a number of engineering design projects in my academic courses, which have showcased my ability to create innovative design solutions as well as highlighted my analytical skills. From my years of playing basketball along with my experience providing high quality customer service as a sale representative at Canadian Tire, I am a strong team player.

Thank you for your time and consideration. I look forward to an interview, where I can elaborate in detail on my interest and qualifications for this position.

Yours Truly,

Name

Encl: Resume and Transcript
## APPENDIX D  ENGINEERING RELATED ACTION WORDS

These words can be used to start the tasks/accomplishments bullets used to describe a student’s past jobs and volunteer experiences. For each accomplishment/task in the employment history, start with a strong action verb such as those below. State what was done, the outcome, and quantify it if possible (how many, how big…). Providing specific details will allow the reader to gain a good understanding of the student’s work.

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Appendix D
Rev 29-Jul-19
APPENDIX E PERSONAL SKILLS CHECKLIST

Engineering students often have more skills than they believe they possess. Students may or may not have relevant engineering related skills to showcase on a résumé, but students definitely have many general technical and soft skills that have been gained through various life and/or work experiences over the years that they can highlight on a résumé, in a cover letter, or during an interview.

In fact, engineering students already possess many of the nine skills identified by Human Resources and Skills Development Canada as needed for success in the workplace, as they are used in almost every job.

Reading
Comprehending, critiquing, or analysing notes, letters, memos, manuals, specifications, regulations, books, reports or journals

Writing
Writing text in order to record, explain, inform or persuade, writing in forms

Document Use
Reading, interpreting, producing graphs, lists, tables, blueprints, schematics, drawings, signs and labels

Numeracy
Ability to use/manipulate numbers, thinking quantitatively

Computer Use/Digital Skills
Knowledge of computer hardware, operating systems and other software (e.g., word processing, spreadsheets, and email)

Thinking
Problem solving, making decisions, reasoning, critical analysis, planning, organizing, finding information and researching

Oral Communication
Exchanging thoughts, feelings and information in order to share information, reassure or resolve conflict through conversations or public speaking, ability to converse in multiple languages

Working With Others
Working independently and coordinating with others, working as part of a team, managing people, responding well to supervision

Continuous Learning
Ability and enthusiasm to acquire skills and knowledge on an on-going basis

Human Resources and Skills Development Canada: Key Literacy and Essential Skills (http://www.hrsdc.gc.ca/eng/workplaceskills/LES/definitions/definitions.shtml) retrieved Dec 2013
In addition, the following are more specific skills, drawn from some of the general skill sets above, that are also identified by employers as being highly valuable in the workplace depending on the job being performed:

**Machine or Mechanical Skills**
Ability to use equipment, make repairs

**Flexibility and Adaptability**
Ability to manage multiple work tasks, re-prioritize, and quickly adapt to changing work conditions and assignments

**Time Management Skills**
Ability to create schedules, set priorities and meet deadlines

**Leadership Skills**
Leading others, problem solving in a group, showing initiative

**Instructional Skills**
Ability to impart ideas and information to others clearly and convincingly

**Persuasive Skills**
Ability to sell your ideas, getting people to work together, negotiating

**Observation Skills**
Listen carefully, perceive and observe, appraise and learn by looking

**Creativity**
Ability to envision new and innovative answers to problems, inventive, imaginative

Using the essential and sought after skills listed above, students should make a list of the skills and abilities they possess to use when preparing their cover letters, résumé and interview answers.
APPENDIX F    CODE OF PROFESSIONAL ETHICS

The following information comes from the PEGNL Code of Ethics Bylaw. Further information about the bylaw including professional misconduct and advertising rules can be found at http://www.pegnl.ca/documents/bylaw3_final%20Code%20of%20Ethics%20May%202013%202010.pdf

1. Code of Ethics for Professional Engineers and Geoscientists

1.1 Professional engineers and geoscientists shall recognize that professional ethics are founded upon integrity, competence and devotion to service and to the advancement of human welfare. This concept shall guide professional engineers and geoscientists at all times.

1.2 Professional engineers and geoscientists shall conduct themselves in an honourable and ethical manner. Professional engineers and geoscientists shall uphold the values of truth, honesty and trustworthiness and safeguard human life and welfare and the environment. In keeping with these basic tenets, professional engineers and geoscientists shall:
   (a) hold paramount the safety, health and welfare of the public and the protection of the environment and promote health and safety within the workplace;
   (b) offer services or advise on or undertake assignments only in areas of their competence and practice in a careful and diligent manner;
   (c) act as faithful agents of their clients or employers, maintain confidentiality and avoid conflicts of interest;
   (d) keep themselves informed in order to maintain their competence, strive to advance the body of knowledge within which they practice and provide opportunities for the professional development of their subordinates;
   (e) conduct themselves with equity, fairness, courtesy and good faith towards clients, colleagues and others, give credit where it is due, and accept, as well as give, honest and fair professional criticism;
   (f) present clearly to employers and clients the possible consequences if their professional decisions or judgments are overruled or disregarded;
   (g) report to their association or other appropriate agencies any illegal or unethical engineering or geoscience decisions or practices by engineers, geoscientists or others; and
   (h) endeavour to interpret engineering and geoscience issues to the public in an objective and truthful manner.
APPENDIX G  S.M.A.R.T. OBJECTIVE WRITING

Below are samples of weak objectives, then using the template, SMART objectives

Weak – I hope to develop skills in project planning

S – learn and be able to use Microsoft Project to develop a project schedule for the construction of a new concrete bridge structure on Route 210 (Burin Peninsula).
M – schedule will be complete, and will not exceed 250 days
A – an experienced engineer can complete this task in 2 weeks
R – with assistance I am confident I can complete the task in 22 days
T – I will present the schedule to the design team in 4 weeks.

Stronger - Working with the design staff, I will learn and be able to use Microsoft Project to develop a project schedule for the construction of a new concrete bridge structure on Route 210 (Burin Peninsula). The schedule should not exceed 250 days. I will present the schedule to the design team for feedback in 4 weeks.

Weak – I wish to learn the manufacturing process in producing paper

S - I will understand the process and protocols involve in the manufacture of paper and what is involved in making different grades of paper / cardboard.
M – provide a presentation to co-workers
A – while complex, this process can be understood in this time period
R – will achieve this by reading process manuals and working alongside my supervisor during plant inspections
T – completed in one month

Stronger – By the end of the first month, I will understand the process and protocols involve in the manufacture of paper and what is involved in making different grades of paper / cardboard. I will achieve this by reading process manuals and working alongside my supervisor during plant inspections and successfully giving a presentation on the topic to co-workers.

Weak – I wish to learn about the company and the industry

S - use company brochures, web page, and personal contacts to develop a company profile to understand how the company functions, the industry, my role, policies, standards, etc.,
M – a short summary
A – I can contact a number of people, and there is sufficient information on the web
R – this can be accomplished, and will be done during a slow time in the office.
T – will be complete in two weeks

Stronger – During the first two weeks, I will use company brochures, web page, and personal contacts to develop a company profile. The goal is to understand how the company functions, the industry, my role, policies, standards, etc., in order to maximize learning outcomes. I will complete a two page summary of my findings.
APPENDIX H  DIARY (All class years)

One of the communications components for Work Term 1 is the Work Term Diary. Students should review section 7.4 to determine the other required communications component. In Work Term 1, students will be asked to show their Work Term Diary to their assigned ASM-CE during the monitoring meeting, and it is required to be submitted for evaluation at the end of the work term.

In Work Term 2, the Work Term Diary must be presented to the ASM-CE during the monitoring meeting for review, but it is not required to be submitted for evaluation. Beyond work term two, all students are highly encouraged to keep a daily diary during each of their remaining work terms, as a best practice.

Personal Work Term Diary

The legal community urges all professionals to record daily events as they pertain to employment. A daily diary is an important document for an engineer to maintain. If properly maintained, an engineer’s work diary can be used to determine the time and substance of work-related activities and events. It may be used to reconstruct events that occurred in the past if the need arises. Therefore, it must be accurate.

The Work Term Diary serves a similar role for the student during engineering work terms. Its content is often referred to later by the student and sometimes by the employer. Students should consider what information will be useful to them – students working for consulting firms should use the diary to record hours on projects, some students use their diaries for making to-do lists or for recording appointments. Names and contact information of people met or spoken to in the course of the student's work should be recorded – these contacts could be useful in future job searches. Students working on long projects or doing repetitive work should find some way to monitor and report progress each day, such as recording what specifically is different about any of the repetitive work being performed on a particular day. Students may perceive that events related to their own jobs are not important enough to record. Nonetheless, this is the area in which they must focus. They should remember that they are learning to keep a work diary properly.

Confidentiality

Depending on an employer’s confidentiality protocols, some supervisors may be required to conduct a review of any material to be submitted to the ECEO at the end of the work term. At the beginning of the work term, students should confirm with their work term supervisor whether the Work Term Diary may need to be reviewed for confidentiality purposes prior to submission. The content of the Work Term Diary must be such that it can be submitted and evaluated by the ECEO (i.e., removed from the workplace for marking).

General Work Term Diary Guidelines

In order for the work term diary to be accepted as an authentic record, the following guidelines should be observed:

- A date-stamped or numbered, hardcover bound notebook, not a loose-leaf binder or a spiral book should be used to record entries. A laboratory book or similar is preferred, spiral bound note books are not permitted. This removes the possibility of losing or replacing sheets, either of which causes doubt about its authenticity.
- Students should choose a diary of suitable size that will cover the work term time and provide adequate space for detailed entries.
- Entries should be recorded daily, and must be recorded on the job. If job diary entries are made afterwards based on notes or recollection, the diary loses much of its strength as an authentic record. The requirement applies whether the work takes place in the field or office.
- Cramming entries into confined spaces such as a full or part page can lead to the loss of important details and an overcrowded appearance. Use as many pages as required.
- Leaving blank lines between entries may make the diary neater in appearance, and easier to read.
- Students should start each day’s entry on a new page, take as much space as is needed, and write or print legibly.
- Point form is acceptable, but the meaning must be clear.
- Pages should be numbered in sequence; this helps establish authenticity.
- Entries shall be made in blue or black pen (never in pencil). If an error is made in recording an entry in the job diary, the entry should be corrected by drawing a line through the part in error and writing the correct version immediately above it.
- Erasing, using white-out, or removing parts of the diary is not permitted because it raises doubts about the authenticity of the content.
- Entries should be neatly handwritten or printed; not typed, nor maintained electronically.
- The diary should not be used as a lab book to record data from experiments, tests, etc. or other details that need to remain with the employer after the student leaves. These types of information should be recorded in a separate book.
- At the time of recording it is not known which items may turn out to be important. Therefore, straightforward, factual entries are preferred to opinion, interpretation or hearsay.
- At the end of each day’s entry, the student should sign their name or initial immediately below or should put a line through the rest of the page. This prevents adding material later and removes doubt concerning authenticity.
- Should a student miss a day for any reason, they should not go back and write an entry, nor should they leave a page blank so they can go back. At the beginning of the next entry, there should be a short explanation for the missing entry, before proceeding with recording the new day’s events.
- Entries should be related to the student’s work, or events taking place during work hours (not events that occur outside of work on a student’s personal time).
- Events should be recorded as they happen, including:
  - meetings attended, whether formal or informal, and a short description of what was discussed,
  - observations made during the day on matters connected with the job, staff or clients,
  - notes on items to follow up on at a later date,
  - phone calls made that had a direct bearing on the job,
  - hours of work and overtime,
  - project milestones met,
  - problems encountered and how they were resolved,
  - routine details, instructions, decisions, reminders and conditions,
  - drawn illustrations or freehand sketches included where appropriate, and
  - any other items that may prove useful at a later date.

**Examples of Work Term Diary Entries**

The following several pages include sample diary entries from two students at various points in their work terms. These are only samples of good practices, not exact ways to complete a diary.
Student 1 - Civil Student in a Municipal position, early work term

**August 13, 2015**

8:00 - 8:15
- Meet at Town Hall with Roger, Ansona, and Derrick. Discuss information needed to be gathered from Cranley Street.

8:15 - 10:45
- Go to Hardy Avenue with Janinne. Speak with Maren about current elevation of Main Street. Meet up with Elisa person. Check survey. Centralize on Cranley Avenue. Profile the ditch and pick up the most elevations of several pipes as well as the top of asphalts. Elevations for the proposed location of two new catch basins.

10:45 - 12:00
- Return to office to complete calculations from survey work.

12:00 - 12:30
- Lunch break.

12:30 - 1:45
- Go to Main Street properties with Janinne and Matthew. Cross sections.

**August 13, 2015 continued**

1:45 - 2:20
- Go to #307 Crawford Heights to view problem area. Identify problem. Inspect sewer sewer in order to install new lines.

2:20 - 2:40
- Go to Hardy Avenue with Janinne to re-check elevation. Join up Cranley and determine size of catch basins.

2:40 - 3:45
- Return to #307 Crawford Heights to take survey shots on clean cut. The water level of the pond. The catch basin as well as other miscellaneous information.

3:45 - 5:00
- Go to General Road with Janinne to do cross section from station 11.50 to 10.00 (15 hours remaining).
Evaluation

The section below is specifically written for the Class of 2024 and later. Students in earlier classes may review the information for illustrative purposes for the criteria being evaluated and the expected features.

The Work Term Diary will be evaluated in conjunction with the Short Technical Report to assign an overall evaluation for the combined work term communications components.

The Work Term Diary will be assessed according to the following:

Physical Features and Format

- Hardcover solid-spine, appropriately sized book is used
- Neat overall
- Entries are hand-written or printed
- Entries are easy to read (e.g., point or bulleted form used)
- White space is included between entries
- Writing is legible
Accuracy and Integrity
- Student’s contact information is included
- Entries are recorded on the job, not after the fact
- Entries are made in pen
- Errors are appropriately handled
- Events are recorded accurately (contact names, meeting notes, observations, follow-up notes, reminders, important communications, hours of work, illustrations, etc. are included if appropriate)
- Entries are factual, versus opinion or interpretation
- Diary is not used to record experiment or test data
- New entries begin on a new page
- Each page is dated
- Each page is numbered
- No days are missing days
- Frequency of entries is appropriate
- Entries are made consistently
- Sufficient detail is recorded in entries
- Each page is initialed
- Large blank spaces are crossed out

Communication Effectiveness
- Entries are clear and understandable
- Vague language is avoided; material is qualified and quantified
- Ambiguous pronouns are avoided
- Unnecessary wordiness and redundancy is avoided
- Figures of speech are avoided
- Entries are paraphrased
- Word choices are appropriate to describe work
- Acronyms are correctly defined
APPENDIX I PORTFOLIO AND JOURNAL (Class of 2023 and earlier only)

The communications component for Work Term 1 consists of preparing two separate documents which must be submitted for evaluation; additional communications requirements (e.g. technical report, manual) may be requested by the employer. The previous appendix specified requirements for a work term diary. This appendix covers the portfolio and work term journal.

The submitted documents should be sent along with a letter of transmittal and postmarked no later than the last official day of the work term as shown in the University Calendar.

Portfolio

A portfolio is a showcase of items that the students has personally created or produced. It is not a list of items in which the student has had limited or cursory input. In some job situations, a portfolio may not be appropriate and will therefore not satisfy the communication requirement for Work Term 1. In most cases a portfolio is not recommended. Students should discuss their job situations with their ASM-CE before starting a portfolio.

Purpose:
The purpose of the portfolio is to demonstrate skills, talents, abilities and accomplishments during the term. The portfolio is a tool that will help document relevant academic, work related and personal achievements.

Content:
The following is a list of items that should be included in a portfolio for Work Term 1:

- A letter of transmittal as outlined in APPENDIX J.
- A two to three page introduction and background on the material presented.
- Description of any training courses and lectures attended whether formal or informal.
- Commendations or written feedback received.
- List of any formal meeting attended and or chaired.
- Sample of original designs, sketches, drawings well indexed and organized.
- Copies of written documents or reports.
- If the student plans to continue the portfolio, they should add other items as deemed necessary from the list below.

Students are encouraged to add to their personal portfolios as they progress through the engineering program and into their careers; they can be useful during performance reviews, and job searches. Other items to include might be:

- Personal qualities and employability skills assessments (see skills checklist APPENDIX E).
- A résumé and transcript.
- Samples of work done.
- Samples of achievements in volunteer work, recreational activities, part time jobs, or other extracurricular involvement.
- A summary of work search including lists of contacts, industry research, employer research, etc.
- Job description for each position held.
- Copies of performance review forms.
A portfolio is a personal document; therefore, the contents will depend on the individual student’s objectives, goals and experience.

**Work Term Journal**

The work term diary provides a factual record of job events; the work term journal (WTJ) allows the student to reflect on and interpret job events. A journal is appropriate for students who do not have appropriate projects or documents to write up in a report or portfolio. The WTJ should be prepared with the general learning objectives of the work term in mind as well as specific objectives set by the student and their supervisor.

General objectives include the following:

- a clearer understanding and confirmation of career alternatives and choice.
- professional attitudes and behaviour.
- a recognition of workplace learning.
- interpersonal skills and maturity.
- an ability to work as a team person.
- an ability to be self-motivated.
- an understanding of professionalism.
- an understanding of the broader environment.
- an ability to manage a work related project.
- technical skills appropriate to the position.

Specific technical and professional work term objectives related to the job and established in conjunction with the supervisor, as submitted to the Co-op Office, must also be addressed in the WTJ.

The WTJ is not intended to be a repeat of the diary; the focus should be on what the student learned, not on what the student did from day to day, or how the student felt about the work term.

Dated, detailed entries should be made, at least on a weekly basis, and should be typed. The early journal entries should focus on job content, objectives and preliminary observations. Subsequent entries should deal with job progress, realization of work term objectives, feedback from the supervisor, new assignments and any other job elements which the student believes to be significant. The final entry should be reflective of the overall events of the work term including workplace learning, employer feedback, how well objectives were met, a personal assessment of the work term and identified needs to be met in future work terms. This should be a summary of the whole work term. A typical journal should be about 10 to 15 pages long double-spaced and can be bound in any acceptable fashion. Prior to submitting the journal, students should review all entries and remove any duplicate or irrelevant information. A letter of transmittal as outlined in Appendix K should also be included.

**The journal should not be written in the same booklet with the personal job diary, since they serve different purposes.**

Because entries are being made on a regular basis, the journal should be concluded at the end of the last week of work and submitted to the Co-op Office along with the diary on the last official day of the work term.
Evaluation of the work term journal will be based on the following:

- physical features, including format, structures, neatness, and readability,
- thoroughness of entries, ideas, and actions,
- reflection on the ideas and actions and how they relate to the learning objectives, workplace learning, career choice, and future areas for personal or professional development,
- communication effectiveness.
APPENDIX J  TECHNICAL REPORT (Class of 2023 and earlier only)

The technical report is an important document for engineers. Engineers will be expected to write reports throughout their careers. These documents may be written to analyze something, describe an existing process, or to document a decision. During their work terms, students are expected to complete a number of different types of reports. Specific instructions are given for the different work terms, followed by a detailed description of the technical report. Where there are differences between the report types, they will be noted.

Work Term 1
Students who work on the same project for a significant portion of their term are encouraged to prepare short technical reports on their projects for their communications component. Some employers require their students prepare internal reports for their files or draft reports for client; these are generally acceptable as work term reports. Where potential topics are not available, students should discuss this with their supervisor and ASM-CE.

Reports may be primarily descriptive, or could record a feasibility study, investigation, or design. A user’s manual for equipment the student built or used, or software they worked with would also be acceptable documentation. Follow the general guidelines below except where noted for WT1.

Work Term 2
The communications requirement for Work Term 2 is a descriptive technical report to be submitted to the Co-op Office for evaluation. Work Term 2 students are also required to complete a personal job diary. A Work Term 2 student may be given permission by their ASM-CE to submit a comprehensive technical report.

The Work Term 2 report usually describes some process, subject or project relevant to the student’s work place. Sometimes descriptive reports are used for training purposes or to upgrade information on some aspect of the job that the student is working in. The report should demonstrate organization and communication skills, and should have a good summary. Follow the general guidelines below except where noted for WT2.

Work Terms 3, 5, and 6
The Work Term 3 requirement is a comprehensive technical report. A student in Work Terms 5 or 6 who chooses to complete a technical report should also use this format. The report should be based on some aspect of the student’s job or the industry that they are working in. Ideally, the report should illustrate a substantial amount of research, design, or analysis to permit the drawing of detailed conclusions and recommendations; however, if the student’s placement does not allow such a study, some other form of report, such as an operating manual or software documentation, may be permissible.

Topic
Students should discuss their topic with their employer early in the term as the supervisor may have a particular topic or project that the organization would like documented. The topic and the report should reflect the student’s level in the engineering program. Sometimes a report may not be required by the employer, which allows the student the opportunity of exploring a topic of their own interest. If the student has difficulty selecting a topic, they should discuss it with their ASM-CE.
An outline of the proposed report should be sent to the Co-op Office on the form provided. This outline should include the title, the purpose of the report and a brief description of the major topics to be covered. A tentative table of contents would also be useful. An ASM-CE will review this outline and discuss it with the student, during the site interview.

There are many good reference books available either in a book store or library to assist in report writing. One good reference is a book Guidelines for Report Writing by Ron S. Blicq. Students are encouraged to select a good reference book and use it throughout their undergraduate career.

**Report Guidelines**

Please follow the guidelines listed below:

- Print the report single sided.
- Use 12 point font; Times New Roman and Arial are the two most common choices. The same font should be used throughout the report, including the letter of transmittal.
- Print double spaced, and leave a 1.5” margin on the left for binding, and 1” margin on the other three sides.
- Acronyms should not be used in the Summary, and must be introduced the first time they are used in the body of the report.
- Report should be 15-20 pages (excluding illustrative figures and tables), and 12-15 pages for Work Term 1. When determining report length, page count begins with the introduction and ends with the recommendations. They do not include appendices, or any front-matter.
  - Students are expected to write concisely but grades may be affected for reports that do not meet the required minimum.
  - Reports may be longer than the indicated maximum, but are encouraged to remain within a reasonable number.
- Pages should be numbered, beginning with page 1 for the introduction. Page numbers should be printed on each page.
- Sections and sub-sections should be numbered.
- References/bibliographies/etc. should be sections following the body of the report.
- References should be credited using in-text citations throughout the report.
- Bind the report using a suitable method, this does not include a three-ring binder, duo-tang, or stapling.
- Reports written as part of the communications requirements for work terms must be written in the formal style. This means that students should use formal wording, avoid colloquialisms and jargon, and write in the third person. Terms such as “I” and “We” should only be used in the letter of transmittal, and contractions are not permitted.

**The Formal Report**

The word ‘formal’ indicates that a certain formal structure is used for arranging the report. This structure distinguishes the formal report from other types. Formal technical reports usually address substantial subjects such as:

- the feasibility of a design or project,
- an evaluation of a new process or product,
- an environmental impact review.

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5 This guide is based on Guidelines for Report Writing by Ron S. Blicq., Prentice-Hall Inc., 1992, pp 8,11, 12
• project reports.

The structure of a formal report in the order that the main sections are found is as follows:

• Cover Page
• Letter of Transmittal
• Title Page
• Summary
• Table of Contents
• List of Illustrations@
• List of Acronyms@
• Statement of Scope@
• Introduction
• Discussion
• Results@
• Conclusions %
• Recommendations %
• References
• Bibliography @
• Appendices @
• Back Cover

* Items marked @ above are considered optional based on the report, other sections are required for most technical reports.
* Items marked % above are not required for descriptive reports, such as WT2.

Very often parts marked @ above are combined with one of the major parts; for example, the scope and foreword may become part of the introduction. They may also be combined with each other, or they may be eliminated entirely; for example, acknowledgements, list of illustrations, statement of scope, and bibliography are often not included. Whether these parts are included as separate items, combined with one of the major sections or with each other or left out entirely depends on the objectives of the writer, the complexity of the report and the needs of the reader. They should not be included unless there is a reason for doing so. The following treats each part in the order of appearance in the report:

**Detailed instructions for technical report sections**

**Cover Page and Report Title**
The cover page of the report may be plain, or specially designed for the project. It may be cardstock with the printing on it, or under a protective plastic page. The cover page of the report is analogous to the cover of a textbook, and limited information is provided. The cover page should include the title of the report, and the name of the author at a minimum.

The title is an important feature of the report. It should provide a window into the subject. Telling words like evaluation, feasibility, progress, status and impact are useful in the title. It should be specific enough to give the reader a good idea of what the report will be about but not so long as to become confusing. It is acceptable to take certain grammatical liberties in a title if it improves the result. For example the following title "The Design and Construction of Concrete Structures" may be written as "Concrete Structures: Design and Construction."
Letter of Transmittal
The letter of transmittal should be bound with the report inside its cover. The letter is addressed to the person for whom the report was prepared. It usually provides a reference to the reason the report was prepared, the scope of the report, and a brief digest. It may draw attention to specific aspects of interest to the intended reader. A letter of transmittal must accompany each work term communications deliverable. A typical letter is shown on the next page. If permitted, a student may choose to use company letterhead.

Title Page
The essential elements of the title page are as follows:

- the full title of the report,
- the name of the organization for which the report was prepared and sometimes the person for whom the report was prepared,
- the name of the originating organization and sometimes the name of the person preparing the report, and
- the date the report is presented or issued and any other identifying reference such as a report number.

The title page should be neat and simply laid out so that the four essential elements are clearly seen. Visual appeal and dignity of appearance should also be evident.

Summary
The summary is the most widely read section of the report. Many readers rely on it to decide if they need to read the full report.

The summary is placed after the title page and before the Table of Contents. It is the first numbered page of the report being given by the Roman numeral ‘i’. The summary should be on a page by itself and must not exceed one page. If the material does not require the full page it is centred top to bottom to give a neat appearance. The summary must be brief, but complete; it should present the essentials of the report, and not refer to it.

The summary should contain some or all of the following:

- a statement of what the report is about (purpose, scope, problem, background),
- a statement of the work that was undertaken,
- a statement of the results obtained,
- a statement of the main conclusion,
- a statement of the main recommendations and their costs.

Do not include information that was not covered in the report.

Although the summary is placed at the beginning of the report, it is not prepared until after the report is written. The summary must stand on its own; it is based on the report and should not give any information, conclusions or suggestions not stated in the report. The summary should not cite any references nor refer to any figures or tables.
Dear Mr./Ms. (ASM-CE’s last name):

During this work term (Engineering 004W), I was employed with Town of _______ as a construction inspector with the Works Department. This was my second work term with the town and this time I was supervised by _________ P.Eng., the town’s construction engineer.

Since the town currently has a higher capital budget than normal, the Works Department was required to manage an extensive range of projects. I was fortunate to gain exposure to many of these projects, and when the chief surveyor was on annual leave, I supervised the survey crew.

The enclosed work report titled __________ resulted from a request by __________, the town’s environmental officer concerning PCBs which were produced by the town’s own operation over the years. I was required to become familiar with the relevant provincial regulations and I designed a small enclosure for the municipal depot which is estimated to cost $17,800.

If there are any questions concerning this report, I would be pleased to discuss them with you.

Yours truly,

(signature, by hand)

Your Name
Table of Contents
A formal report must contain a Table of Contents which is located just after the summary as page ‘ii’ of the report. The Table of Contents provides a quick guide to the contents of the report and helps the reader locate specific information quickly. The headings of each main section and subsection are listed according to the page on which they begin. Appendices are usually separated from the other contents and are designated by numbers or letters, the appropriate title or heading and the page number. If the report contains many illustrations, the ‘List of Illustrations’ follows the Table of Contents. Infrequent illustrations dispersed throughout the report are not listed in the Table of Contents.

List of Acronyms
A report that contains a large number of acronyms may include a list of them at the beginning of the report. This list should be in alphabetical order in order to make the acronyms easier to locate. Acronyms must still be typed out in full the first time they are presented in the body of the report.

Statement of Scope
A separate statement of scope is sometimes included with reports prepared by consultants for a fee. This statement outlines the limitations or scope of the report. These may be imposed by the authority requesting the report or by the person preparing it, and can be related to cost, time, depth of study, methodology, equipment and any factors to be specifically included or omitted. The scope of the report may also be given in the letter of transmittal, introduction and the summary of the report. A separate statement of scope should not be included unless there is a specific need for it.

Introduction
The purpose of the introduction is to provide the reader with all the background necessary to properly read the report. It introduces the subject, describes the circumstances leading up to the decision to prepare a report on this subject and presents the reason(s) it was undertaken along with any important limitations.

There are three main components to the introduction.

- The background, which describes the events leading up to the existing situation, what work has been done on the subject previously and by whom, and why the study or project is necessary.
- The purpose defines what the study or project (or report) is to achieve, who authorized it and the specific terms of reference.
- The scope outlines any limitations imposed on the project and states who imposed them. Cost, time, depth and extent of study methods, equipment, factors to be included or omitted, are mentioned here.

Discussion Sections
One or more discussion sections may be required to address the subject. The first discussion section may be started on a new page or continue on after the introduction. Whatever method is chosen should be used consistently throughout. Within the report the title of this section should indicate the material to follow. The section should not be titled “Discussion” the section should be titled using a name that indicates the material included.

It is important to present the information in the discussion logically. The order of subsections and the order of information within each section will determine how easily the reader will follow the text. An author must decide what the reader is most interested in knowing, what else the reader needs to know and must answer any questions that arise.

Students must bear in mind the technical knowledge of their readers – their supervisors and the ASM-CE, faculty member or PEGNL volunteer, and prepare the text accordingly.
Charts, Tables and Photographs
Illustrations do not form a separate section of the formal report but rather are used as required throughout the report. If the report uses many illustrations, it’s a good idea to provide a List of Illustrations after the Table of Contents to help the reader find specific illustrations. In technical reports, illustrations often provide vital information they may be difficult to portray using text alone. Illustrations do not replace written text; they supplement it.

The writer must decide whether to use an illustration and, if so, what type of illustration to use and where to locate it. The following guidelines apply.

- Illustrations can include drawings, figures, tables, sketches, schematics, flow charts, diagrams, graphs and photographs.
- An illustration should be used if it will help the reader understand the material.
- Each illustration should be numbered sequentially and provided with an appropriate title or caption.
- The illustration should be simple, neat, clear and easily understood. Large complex illustrations such as folded drawings or charts belong in an appendix. Down-sized versions or schematics can be placed in the text.
- Illustrations meant to assist the reader in understanding the subject belong in the text as close as possible to the point of reference. The narrative at this point must refer to the illustration.
- Illustrations should be referenced using an in-text citation following the text in the caption of the image.

Conclusions
Students completing a descriptive report for WT1 or WT2 are not expected to write conclusions for their reports. A “Concluding Statements” section that permits a wrap up, or area for final comments is encouraged.

Conclusions and recommendations are sometimes inadvertently placed in the same section under the heading Conclusions and Recommendations. This practice is not recommended because there is a danger that a conclusion may be taken for a recommendation or that a recommendation may be stated loosely or weakly. Similarly conclusions and results should not be confused; results are obtained by applying a method or approach to the problem under consideration, conclusions are drawn from the results by applying the criteria or guidelines established in the discussion and the introduction. For example, a study of the condition of all concrete bridges in St. John’s might find that some were in poor condition with cracks, exposed reinforcement steel, spalling, etc. These are results, not conclusions. If criteria are applied such as safety, maintenance, life expectancy, a conclusion might be that certain bridges are in poor condition and have a limited life expectancy.

Everything presented in the conclusions must have been discussed in previous sections of the report. That is the function of the discussion section.

Conclusions should:

- be as brief as possible with their main points drawn from the concluding paragraph or statement of each section of the discussion,
- satisfy the requirements established in the introduction (background, purpose, scope),
- never advocate action, and
- be presented clearly and accurately in a neat format, for example, in point form and numbered.
**Recommendations**

Students completing a descriptive report for WT1 or WT2 are not expected to write recommendations for their reports. A “Concluding Statements” section that permits a wrap up, or area for final comments is instead encouraged.

The recommendations section presents the preferred plan of action. Normally several courses of action are open, each with attendant advantages, disadvantages, costs, limitations and ramifications. These should have been previously discussed and conclusions drawn based on the criteria being applied.

In the example of the bridge study previously referred to, the student may have concluded that it will cost $1.3 million to replace a badly deteriorated bridge. To repair the same bridge to an acceptable standard will cost $300,000 now and $20,000 a year in maintenance. The bridge will have to be replaced eventually. The recommendations should state which option is preferred and, briefly, why.

Recommendations should:

- be specific, definite and clearly stated,
- be strong and advocate action,
- satisfy the requirements established in the introduction,
- follow logically from the conclusions, and
- be presented in a logical order, e.g. by importance, chronologically, functionally.

**List of References**

References are common to all communication components. Please refer to APPENDIX P .

**Bibliography**

A bibliography may be included in a formal report. It may be thought of as an expanded reference catalogue for further reading. Bibliography entries are not numbered; they appear in alphabetic order of authors’ names. Generally a bibliography is used with professional journal articles, textbooks and academic theses; a list of references is used with technical and business reports. Both may be used if the report justifies it.

**Appendices**

Appendices contain large, complex drawings, source documents, data, specifications, test results, cost comparisons, etc. This information provides broad base support for what is said in the discussion but the report can be read intelligibly without it. The following criteria apply:

- appendices appear in the order in which they are first referred to in the report.
- appendices are considered to be individual documents; each may be paginated separately, starting at ‘i’.
- each appendix is given an identifying letter, e.g., "Appendix A", "Appendix B", etc.

All information provided in an appendix **must** be referred to in the report.
APPENDIX K  SHORT DESCRIPTIVE TECHNICAL REPORT (Class of 2024 and later)

Introduction

The technical report is an important document for engineers. Engineers will be expected to write reports throughout their careers. These documents may be written to analyse something, describe an existing process, or to document a decision. During their work terms, students may be expected to complete several different types of reports.

For the Work Term 1 communications component, students are required to prepare a Short Descriptive Technical Report. The report is typically based on one of the main projects that the student works on over the term. This section describes the general format for a Short Descriptive Technical Report. The format provides a helpful template for writing a Short Descriptive Technical Report, but clear thinking and careful planning are also required. Ideas need to be organized and expressed in a precise and concise manner.

Types of Short Technical Reports

Engineers are often required to prepare short technical reports. These may take the form of short proposals, project progress reports, trip reports, project completion reports, investigation reports, or feasibility studies. Each of these reports have different content and objectives. However, one common goal of all technical reports is to communicate technical information effectively to a reader.

The Work Term 1 Short Descriptive Technical Report usually describes some process, subject or project relevant to the student’s workplace. Sometimes descriptive reports are used for training purposes or to provide information on some aspect of the job in which the student is working. Students who work on the same project for a significant portion of their term are encouraged to select this project as the focus of their Short Descriptive Technical Report. Other significant projects may also be considered. The report should demonstrate organization and communication skills and should have a good summary.

Note that a Work Term 1 student may be permitted by their ASM-CE to submit a more analytical type of short technical report such as a feasibility study, investigation, or design if this type of report is more relevant to the work conducted on the work term. A user’s manual for equipment the student built or used or software they worked with may also be acceptable documentation. Some employers require their students to prepare internal reports for their files or draft reports for the client; these are generally acceptable as work term reports.

Topic

Students should discuss their topic with their employer early in the term as the supervisor may have a particular topic or project that the organization would like documented. Sometimes a report may not be required by the employer, which allows the student the opportunity of exploring a topic of their interest. If the student has difficulty selecting a topic, they should discuss it with their ASM-CE.

An outline of the proposed report should be sent to the Co-op Education Office using the Work Term 1 Report Outline form. This outline should include the title, the purpose of the report and a brief description of the major topics to be covered. A tentative table of contents and an initial draft of the introduction
section are also required components of the outline. Note that this outline is required and will comprise 5% of the total mark of the communications component for the work term. The assigned ASM-CE will review this outline and discuss it with the student during the work term monitoring visit. See more information on this submission in section 7.4.3.

There are many good reference books available either in a book store or library to assist in report writing. One example is “Writing in the Technical Fields: A Practical Guide”, by Thorsten Ewald, published in 2017. Students are encouraged to select a good reference book and use it throughout their undergraduate career.

**General Report Guidelines**

Please follow the guidelines listed below:

- Report should be **8-10 double-spaced pages** long (excluding illustrative figures and tables).
- When determining report length, page count begins with the introduction and ends with the concluding statement or recommendations (if included). It does not include the reference list, appendices, or any front-matter.
- Print the report single sided.
- Use 12 point font. Times New Roman and Arial are the two most common choices. The same font should be used throughout the report, including the letter of transmittal.
- Print double spaced, and leave a 1.5” margin on the left for binding, and 1” margin on the other three sides.
- Acronyms should not be used in the Summary and must be introduced the first time they are used in the body of the report even if a List of Acronyms is included.
- Students are expected to write concisely, but grades may be affected for reports that do not meet the required minimum.
- Reports may be longer than the indicated maximum but are encouraged to remain within a reasonable number of pages.
- Pages should be numbered, restarting with page 1 for the introduction. Page numbers should be printed on each page.
- Sections and sub-sections should be numbered.
- References/bibliographies/etc. should be sections following the body of the report.
- References should be credited using in-text citations throughout the report.
- Bind the report using a suitable method that protects the cover page and a back cover. This does not include a three-ring binder, duo-tang, or stapling.
- Technical reports (Work Terms 1 and 4) written as part of the communications requirements for work terms must be written in a formal technical language style. This means that students should use concise technical language, avoiding vague, meaningless words, redundant phrases, colloquialisms, and jargon, and write from the **third person** point of view.
- Terms such as “I” and “We” should only be used in the letter of transmittal, and contractions are not permitted.

**Structure**

The structure of a formal report, in the order that the main sections are found, is as follows:

- Cover Page
- Letter of Transmittal
• Title Page
• Summary
• Table of Contents
• List of Illustrations @
• List of Acronyms @
• Statement of Scope@
• Introduction
• Discussion
• Results@
• Conclusions %
• Recommendations %
• References
• Bibliography @
• Appendices @

Items marked @ above are considered optional based on the report; other sections are required for most technical reports.

Items marked % above are not expected for WT1 descriptive reports. If a student, in consultation with their assigned ASM-CE, decides to write a more analytical type of short technical report, these sections may be required, depending on the topic and nature of the report.

Very often parts marked @ above are combined with one of the major parts; for example, the scope and foreword may become part of the introduction. They may also be combined, or they may be eliminated entirely; for example, acknowledgments, statement of scope, and bibliography are often not included. Whether these parts are included as separate items, combined with one of the major sections or with each other or left out entirely depends on the objectives of the writer, the complexity of the report and the needs of the reader. They should not be included unless there is a reason for doing so.

**Detailed Description of Technical Report Sections**

**Cover Page (and Report Title)**
Provides a binding for the report, and identifies the report title and writer of the report.

Guidelines:
- The cover page of the report may be plain, or specially designed for the project.
- It may be cardstock with the printing on it, or under a protective plastic page.
- It is analogous to the cover of a text book, and limited information is provided.
- Should include the report title, the name of the author, and student number at a minimum.

**Report Title**
The title is an important feature of the report. Words like evaluation, feasibility, progress, status, and impact are useful in the title.

Guidelines:
- It should provide a window into the subject.
- It should be specific enough to give the reader a good idea of what the report is about but not so long that it is confusing.
• It is acceptable to take certain grammatical liberties in a title if it improves the result. For example, the following title "The Design and Construction of Concrete Structures" may be written as "Concrete Structures: Design and Construction."

**Letter of Transmittal**
A brief covering letter addressed to the first official reader (usually an ASM-CE).

Guidelines:
• Should be bound with the report inside its cover.
• Is addressed to the person for whom the report was prepared (ASM-CE).
• Provides a reference to the reason the report was prepared, the scope of the report, and a brief digest.
• It may draw attention to specific aspects of interest to the intended reader.
• A letter of transmittal must accompany each work term communications deliverable.
• If permitted, a student may choose to use company letterhead or should include the employment address as a return address.

A typical letter is shown on the next page.
Dear Mr./Ms. (ASM-CE’s last name):

During this work term (Engineering 004W), I was employed with Town of _______ as a construction inspector with the Works Department. This was my second work term with the town and this time I was supervised by _________ P.Eng., the town’s construction engineer.

Since the town currently has a higher capital budget than normal, the Works Department was required to manage an extensive range of projects. I was fortunate to gain exposure to many of these projects, and when the chief surveyor was on annual leave, I supervised the survey crew.

The enclosed work report titled __________ resulted from a request by __________, the town’s environmental officer concerning PCBs which were produced by the town’s own operation over the years. I was required to become familiar with the relevant provincial regulations and I designed a small enclosure for the municipal depot which is estimated to cost $17,800.

If there are any questions concerning this report, I would be pleased to discuss them with you.

Yours truly,

Signature (by hand)

Your Name
Title Page
Identifies the topic and ownership of the report.

Guidelines:
- The full title of the report should be centered and placed at the top of the page.
- The name of the person for whom the report was prepared and the name of the organization for which the report was prepared is placed under the title.
- The name of the originating organization and name of the person preparing the report is placed third on the page.
- The date the report is presented (or issued) and any other identifying reference, such as a report number, is placed on the bottom of the page.
- The title page should be neat and simply laid out so that the above four essential elements are clearly seen.
- The title page should have visual appeal and a professional appearance.

Summary
Provides a one-page summary of the entire report. No reference is made to any part of the report; a summary is complete unto itself and is the most widely read section of the report. Many readers rely on it to decide if they need to read the full report.

Guidelines:
- The summary must stand on its own; it is based on the report and should not include any information, conclusions or suggestions not stated in the report.
- The summary should not cite any references nor refer to any figures or tables.
- The summary is placed after the title page and before the Table of Contents.
- It is the first numbered page of the report being given by the Roman numeral ‘i’.
- The summary should be on a page by itself and must not exceed one double-spaced page.
- If the material does not require the full page, it is centered top to bottom to give a neat appearance.
- The summary must be brief, but complete; it should present the essentials of the report, and not refer to it.
- The summary should contain a statement of some or all of the following:
  - what the report is about (purpose, scope, problem, background),
  - the work that was undertaken,
  - the results obtained,
  - the main conclusion, and
  - the main recommendations and their costs.
- It is prepared after the report is written.

Table of Contents
Provides a quick guide to the contents and organization of the report and helps the reader locate specific information quickly.

Guidelines:
- A report must contain a Table of Contents.
- It is located just after the Summary as page ‘ii’ of the report.
- The headings of each main section and subsection are listed according to the page on which they begin.
• Appendices are usually separated from the other contents and are designated by numbers or letters, the appropriate title or heading and the page number.
• A ‘List of Illustrations’ follows the Table of Contents if the report contains many illustrations.

List of Illustrations
If the report uses many illustrations (charts, graphs, pictures, etc.), it is best practice to provide a List of Illustrations after the Table of Contents to help the reader find specific illustrations.

Guidelines:
• The List of Illustrations should include the titles of the illustrations along with the related page numbers.
• The list of Illustrations can also be divided into separate lists: a List of Figures and a List of Tables.
• Citations for the illustration do not need to be included in the List of Illustrations.

List of Acronyms
Easily identifies a large number of acronyms. A report that contains a large number of acronyms may include a list of them at the beginning of the report.

Guidelines:
• This list should be in alphabetical order of the acronym in order to make the acronyms easier to locate.
• Acronyms must still be typed out in full the first time they are presented in the body of the report.

Acknowledgments
Provides a statement of thanks or recognition to those who have assisted in the development of the report.

Guidelines:
• A separate section for acknowledgments can be justified only if there are a great many persons or organizations to be given credit. It is more typically used for books and publications than for reports. Acknowledgments, if given, should be specific.
• Statements like ‘I would like to thank everyone who assisted me with this report’ are meaningless.

Statement of Scope
Provides a statement outlining the limitations or scope of the report that may be imposed by the authority requesting the report or by the person preparing it.

This statement can be related to cost, time, depth of study, methodology, equipment, and any factors to be specifically included or omitted.

A separate statement of scope is sometimes included with reports prepared by consultants for a fee. The scope of the report may also be given in the letter of transmittal, introduction and the summary of the report. A separate statement of scope should not be included unless there is a specific need for it.

Introduction
Introduces the subject of the report, as the reader may be from a different branch of the discipline and may require some orientation to the subject of the report, providing the reader with all the background necessary to properly read the report.
Guidelines:

- The introduction should include general background information that describes the company, department or agency, introduces the subject, describes the circumstances leading up to the decision to prepare a report on this subject, what work has been done on the subject previously and by whom, why the study or project is necessary, and any important limitations of the report.
- A statement of purpose that defines what the study or project (or report) is to achieve, and who authorized it and the specific terms of reference should be included in the introduction.
- The introduction should also include a statement of scope that outlines any limitations imposed on the project and states who imposed them. Factors such as cost, time, depth and extent of study methods, equipment, factors to be included or omitted, should be noted here.
- Page numbering should be re-started with the introduction section as page 1.

Discussion Sections

Presents the evidence (facts, arguments, details, data, test results, etc.) necessary for the purpose of the report. There are no absolute rules regarding the content of the discussion and there is no prescribed organizational structure to follow. Its content and structure are dependent on the scope of the report and the writer’s choice in how logically to present the material.

Guidelines:

- One or more discussion sections may be required to address the subject.
- Information should be presented using a logical and purposeful section and subsection structure to ensure that main points are emphasized and the reader can follow the flow of information.
- The order of the main discussion sections and the order of information within each section (the sub-sections) will determine how easily the reader will follow the text.
- An author must decide what the reader is most interested in knowing, what else the reader needs to know, and must answer any questions that arise.
- The discussion should address the objectives of the report and thoroughly discuss each one.
- The discussion should summarise the results (if any) and explain how the results are important.
- The content should be designed with readability in mind. It is important to determine what content is best presented using a written paragraph, as a list, in a table, or as a figure. See also the Illustrations section below.
- Appropriate descriptive titles should be used for each discussion section/subsection; it/they should not be called “Discussion”.
- The first discussion section should be started on a new page.
- Further top tier sections may start at the top of a page, or follow on from the previous section. Whichever method is chosen should be used consistently throughout.
- Students must bear in mind the technical knowledge of their readers (their supervisors and the ASM-CE, faculty member or PEGNL volunteer) and prepare the text accordingly. Students should use language and describe concepts in a way that allows the reader to easily follow the report.

Illustrations (include as needed in the discussion)

In technical reports, illustrations are used as required throughout the report to provide vital information that may be difficult to portray using text alone (they do not form a separate section of the technical report). Illustrations do not replace written text; they supplement it. The writer must decide whether to use an illustration and, if so, what type of illustration to use and where to locate it.

They are often referred to in a report as “Tables” and “Figures”. Tables present text or numbers in the form of columns and rows. Figures are any illustration that presents data in a graphic form.
Guidelines:
- Illustrations can include drawings, figures, tables, sketches, schematics, flow charts, diagrams, graphs, and photographs.
- An illustration should be used if it will help the reader understand the material.
- Illustrations meant to assist the reader in understanding the subject belong in the text as close as possible to the point of reference. The narrative at this point must refer to the illustration.
- Each illustration should be numbered sequentially and provided with an appropriate title or caption. Titles should be kept short, and the figure explained in the text.
- The illustration should be simple, neat, clear, easy to read (large enough font size), and easily understood.
- If an illustration is relevant and helpful to the discussion can fit into the body of the report, place it in the body of the report rather than in an appendix.
- Large complex illustrations such as folded drawings or charts belong in an appendix. Down-sized versions or schematics can be placed in the text.
- Illustrations should be referenced using an in-text citation following the text in the caption of the image.
- Each illustration should be referred to in the text to provide context and a reason for inclusion.

Results
Presents the findings of the report based on the information gathered.

Guidelines:
- Should simply state the findings.
- Finding should be stated without bias or interpretation.
- Findings should be arranged in a logical sequence.

Conclusions
Provides a synthesis of the ideas discussed in the report, demonstrates the importance of the ideas discussed and propels the reader to a new or enlightened view of the subject matter.

Note that students completing a WT1 Short Descriptive Technical Report are not expected to write conclusions for their reports. A “Concluding Statements” section that permits a wrap-up, or area for final comments is encouraged. More analytical types of technical reports may require the inclusion of formal conclusions and recommendations, depending on the topic and nature of the report. If writing an analytical type of report, please see APPENDIX M for the Conclusions guidelines for a Comprehensive Technical Report.

Recommendations
The recommendations section presents the preferred plan of action.

Note that students completing a WT1 Short Descriptive Technical Report are not expected to write recommendations for their reports. More analytical types of technical reports may require the inclusion of formal conclusions and recommendations, depending on the topic and nature of the report. If writing a more analytical type of report, please see APPENDIX N for the Recommendations guidelines for a Comprehensive Technical Report.

List of References/Referencing
Common to all communication components. Please refer to APPENDIX P.
Bibliography
Provides an expanded reference catalogue for further reading, if applicable. A bibliography may be included in a formal report. Generally, a bibliography is used with professional journal articles, textbooks, and academic theses; a list of references is used with technical and business reports. Both may be used if the report justifies it.

Guidelines:
- Bibliography entries are not numbered.
- Entries appear in alphabetic order of authors’ names.

Appendices
Appendices contain large, complex drawings, source documents, data, specifications, test results, cost comparisons, etc. This information provides broad base support for what is said in the discussion, but the report can be read intelligibly without it.

Guidelines:
- Appendices appear in the order in which they are first referred to in the report.
- Appendices are considered to be individual documents; each may be paginated separately, starting at ‘i’.
- Each appendix is given an identifying letter, e.g., "Appendix A", "Appendix B", etc.
- All information provided in an appendix must be referred to in the report.

Evaluation
The Short Descriptive Technical Report will be evaluated in conjunction with the Work Term Diary (APPENDIX H) to assign an overall evaluation for the combined work term communications components.

The Short Descriptive Technical Report will be assessed according to the following:

Structure and Format

Structure
- Cover and Title Page are included
- Letter of Transmittal is included
- Table of Contents is included and appropriately formatted
- List of Figures / List of Tables is included (if sufficient number included in the report)
- List of Abbreviations is included (if the report contains sufficient number)
- If report is confidential, each page is stamped confidential

Format and Organization
- Report folder/binding is appropriate
- Appropriate font used
- Correct use of page numbering
- Length of the report is appropriate to topic and scope; not shorter than minimum requirements
- Layout is easy to read
- Section headings are used and are numbered and named appropriately
- Main sections and sub-sections have a logical order
- Appropriate sections are included
- Sections properly formatted and contain appropriate material
• Tables and figures are properly formatted
• Tables and figures are properly cross-referenced in the text

Technical Quality
• Topic is suitable
• Introduction is thorough (general background, purpose, and scope included)
• Main discussion sections cover the scope of report appropriately/thoroughly
  o sufficient technical discussion/content,
  o information and analysis (if included) is accurate,
  o content is consistent with stated purpose of the report,
  o tables and figures accurate and complete,
  o content of tables and figures is explained to the reader,
  o thorough,
  o original
• A Concluding Statement is included, or a formal Conclusions section is included; conclusions are drawn from the main discussion points (if required by the content/topic)
• Recommendations are included if required by the content/topic, and are based on conclusions; does not contain material that was not previously discussed
• Appendix/ices are included (if required by the content/topic) and introduced in the discussion

Summary
• Written as a stand-alone piece
• Neither too long or too short
• Key material is included
• No material is introduced that is not discussed in the report
• Includes conclusions and recommendations
• No acronyms are included

Referencing and Resources
• Consistent referencing style is used throughout (e.g., IEEE, APA)
• Number of references listed is sufficient
• Material is consistently/properly referenced
• In-text citations are included where required
• Use of direct quotes is avoided
• Variety of reference material is used
• Reference material is taken from a valid source; has authority

Communication Effectiveness
• Use of I, we, you, etc. is avoided
• Use of contractions is avoided
• Vague language is avoided; material is qualified and quantified
• Ambiguous pronouns are avoided
• Unnecessary wordiness and redundancy are avoided; writing is concise
• Figures of speech are avoided
• Run-on sentences are avoided
• Definitive language is supported with evidence
• Word choices are appropriate
• Formal writing style is used
• Acronyms are correctly defined
• Punctuation is correct
• Spelling is correct
• Grammar is correct
• Parallel construction is used in sentences and lists
• Sentence structure is correct
• Paragraph structure is appropriate (one main concept with supporting details)
• Writing is clear
• Content is written for the appropriate audience
• Tables and figures included where appropriate to support descriptions
APPENDIX L ORAL PRESENTATION (All class years)

General
The requirement for Work Term 4 (class of 2023 and earlier) or Work Term 2 (class of 2024 and later) is an oral presentation and a written presentation summary package. Engineers are expected to be able to give a variety of presentations throughout their careers. These may take many different formats based on the need and audience. Being able to express ideas to colleagues, senior management, or other non-technical individuals is an important skill that will improve with practice. There are three main reasons to give a presentation: to inform; to persuade, as with a sales presentation; or to entertain. The Work Term Oral Presentation is to inform. Requiring students to complete an oral presentation early in their program will provide valuable practice and feedback when it can impact the most.

Students in all graduating years in Work Terms 5 or 6 who choose to complete an oral presentation should follow the directions in this appendix. Permission to undertake an Oral Presentation in Work Terms 5 or 6 shall be at the discretion of the ASM-CE, upon review of previous report and presentation grades.

Presentations take place on campus usually during the first or second week of the following academic term. All students must present during the time specified. If for some specific reason a student is unable to present at that time, they must follow the guidelines established for a deferred exam as stated in the University Calendar. Regulations associated with a request for a deferred oral presentation are also provided in Section 2.7 of this handbook. Faculty members and students’ supervisors are encouraged to attend the presentations. Evaluation and feedback of the oral presentation will be carried out by ASMs-CE, Faculty, employers and other students attending the presentation, using the criteria attached. Note that the written presentation summary package must be submitted to the ECEO before a student completes the oral presentation.

The length of the presentation is 10 minutes with five minutes for questions. Presentations will be given a +/- one minute leeway. Outside of this time overall evaluation may be impacted. Material delivered in an oral presentation should differ from written material in its level of detail, organization and presentation. In a 10-minute presentation, excessive detail will confuse the audience. Students should concentrate on a couple of main points and keep reminding the audience what the central theme is by relating each major section of the presentation to the theme. It is also important that students customize their presentations to the audience – for instance, all industry related terms should be fully explained.

The topic of the presentation should relate to the student’s work term activities, but it is not a presentation on the work term duties; the presentation should focus on the project, not the student’s role in the project.

The strategy should be to: “tell the audience what you are going to say”, “say it”, and “tell them what you have said”. An oral presentation should create awareness and an interest in the topic that should generate questions at the end.

Presentation Summary Package
Students are required to submit a paper copy of the presentation slides, and a three to four page maximum summary of the presentation on the written communications due date. Writing succinctly is an important skill, so students should avoid going over the recommended 4 pages.
Presentation Summary Package Structure

The submitted package should contain the following sections, which are further described in APPENDIX K:

- Cover Page
- Letter of Transmittal
- Title Page
- Table of Contents @
- Summary (of the presentation), which contains:
  - Introduction
  - Discussion
  - Results @
  - Conclusions @
  - Recommendations @
- References
- Presentation slides
- Back Cover

* Items marked @ above are considered optional based on the submission.

Presentation Summary Package Guidelines

- Summary and presentation slides must be bound (together as one package) when submitted.
- Written summary should be a maximum of 3-4 pages of typewritten material.
- Should be written as a summary of the presentation, but not a slide by slide description.
- Summary shall be written in the formal style including using appropriate language, and be written in the 3rd person.
- Summary and presentation slides must be appropriately referenced and cited in the same manner as other academic reports.
- A one page summary of the 3-4 page summary is not required.
- The presentation slides may be printed in colour or black and white as appropriate.
- Limit printed presentation to no more than two slides per page.
- If printed as one slide per page, the landscape page should be bound at the top, not the bottom.

Oral Presentation

Presentation Structure

The general structure of the presentation slides should be as follows:

- Introduction – students should introduce themselves and give a brief overview on the company or department they worked with. The role of the student may be explicitly discussed here, or implicitly throughout the presentation
- Agenda – a ‘Table of Contents’ of what is being discussed
- Background / Problem Definition – an introduction to the topic, its purpose, objective, and scope
- Body – this section discusses some of the details of the topic, again bearing in mind the audience and not getting bogged down in detail.
- Summary and Conclusions – this section is usually a restatement of the central idea of the presentation
- Questions – the presenter sometimes has to encourage the audience to ask questions by posing one themselves, or asking the audience a question.
Presentation Guidelines

Note that all guidelines will be considered as part of the evaluation of the oral presentation.

- Students must use MS PowerPoint (2003 compatible) or an open-source equivalent (ex. Open Office)
- Limit slides to one idea per page.
- Limit slides to at most 4-5 bullets per page.
- Use consistent sentence styles on each page – ie. Actions starting with verbs, or descriptions starting with modifiers.
- Use a large enough font to be seen from the back of the room. 35+ point for titles and 18-35 point for bullets.
- Ensure tables and figures are legible from a distance.
- Use a letter style that is easily read by viewers at the back of the room, avoid script fonts.
- Use as few words as possible. Use graphs, charts, a picture or key words.
- As a general guide, use one slide per minute of presentation.
- Reference all material, i.e., pictures, graphs, etc.
- Slide transitions are permitted.
- Embedded videos or animations that are relevant to the presentation and are less than 15 seconds are permitted.
- Videos or animation should not include sound, as the presenter is expected to be able to speak over them.

Additional Guidelines and Areas for Evaluation

- Organization of Material/Logical Order – present the material in a way that walks the audience through the story logically or in a natural flow
- Internal Summaries/Transitions – ensure that the transition from one area or topic to the next logical
- Main Points Highlighted – provide a suitable explanation of the key presentation topics given the time provided; ensure that there is not too much material to cover it all suitably
- Well Defined Summary – the summary should bring together the key points and conclusions/recommendations as necessary
- Referencing of Sources – all material from other sources must be appropriately referenced
- Appropriate Subject – the selection of a topic that is related to the student’s work is important. The topic should also be appropriate for the audience.
- Knowledge of Subject – students will be evaluated on how well they appear to know the subject they are speaking about. This may show through appropriate word choice, being able to explain complex topics, and in response to questions.
- Level of Challenge – students should select a topic that contains an appropriate level of technical challenge depending on the employer and which work term the student has just completed.
- Idea(s) Clearly Explained - it is critical to understand the audience and explain topics at a level that can be understood. Using examples, figures, or short animations can help in this area.

- Delivery
  - Posture/Presence/Appearance – face the audience not the screen, avoid leaning on the podium, keep hands out of pockets, avoid playing with hair, etc..
  - Vocal Ability – speak clearly and enunciate words.
  - Speed of Delivery – maintain a moderate rate of speech.
  - Mannerisms / Gestures – avoid excessive hand movements or filler words (umms).
  - Eye Contact – maintain good eye contact with all of the audience.
  - Show confidence and enthusiasm by varying tone of voice.
• Use/Quality of AV Material – the slides should be well put together, look attractive, often using a template to improve cohesiveness.
• Time Management – the presentation is to be 10 minutes, +/- one minute. Completing the presentation outside of this time will impact the final evaluation.
• Response to Questions – display confidence and directly answer the questions asked, if possible.
• Audience Interest – this includes audience interaction and whether appropriate questions are posed.

• Students are required to be on time for the start of the session, and to attend the entire session on the day they are to present.
• Students will be asked to actively participate in each session which includes asking questions and providing feedback to their classmates using the following form.

Presenting Tips
• Save a copy of the slide package in electronic format on a memory stick to bring to the presentation session. Students are not permitted to present using their own laptops.
• Perform a trial launch of the presentation on a computer other than the one on which it was created to help confirm that the presentation will work on presentation day.
• Use notes or cue cards while presenting to keep on track. These are usually key words or short sentences.
• Practise the presentation to a friend or colleague. This will determine its final duration, allow fine tuning of the presentation and improve confidence. It is not possible to be too prepared.

Evaluation

The Presentation Summary Package and performance in the Oral Presentation are evaluated in conjunction with each other to assign an overall evaluation for the communications components.

The reviewer may require a student to give the oral presentation a second time if it is considered less than adequate. This second presentation would have to be completed before a final mark is assigned. Students who are required to re-present will receive a grade no higher than “Marginal Pass”.

Both the written Presentation Summary Package and the Oral Presentation are required. A student not completing one or both components may receive a grade of “fail” for the work term communications component.

Each component will be assessed according to the following:

Presentation Summary Package
Summary Structure and Format
• Cover and Title Page
• Letter of Transmittal
• Table of Contents (if required by the content)
• Proper binding
• Appropriate font
• Correct use of page numbering
• Overall length
• Easy to read layout
• Logical order of material
• Appropriate sections included (if required by the content)
• Tables and figures properly formatted (if included)
• Tables and figures properly cross-referenced in the text

**Technical Quality**
• Suitability of Topic
• Introduction
• Main discussion sections
  o sufficient technical discussion/content,
  o information and analysis (if included) is accurate,
  o content is consistent with stated purpose of the presentation,
  o tables and figures accurate and complete (if included),
  o thorough, yet concise,
  o original
• Conclusion/Summary
• Recommendations (if required)

**Referencing and Resources**
• Follows a consistent referencing style (e.g., IEEE, APA)
• Number of references listed
• Consistent/proper referencing of material
• In-text citations included where required, for both summary and slides
• Variety of reference material used
• Validity/authority of the reference material used

**Communication Effectiveness**
• Writing is in the third person
• Use of contractions is avoided
• Vague language is avoided; material is qualified and quantified
• Ambiguous pronouns are avoided
• Unnecessary wordiness and redundancy are avoided; writing is concise
• Figures of speech are avoided
• Run-on sentences are avoided
• Definitive language is supported with evidence
• Word choices are appropriate
• Formal writing style is used
• Acronyms are correctly defined
• Punctuation is correct
• Spelling is correct
• Grammar is correct
• Parallel construction is used in sentences and lists
• Sentence structure is correct
• Paragraph structure is appropriate (one main concept with supporting details)
• Writing is clear
• Content is written for the appropriate audience
• Tables and figures included (if required) to support descriptions
Oral Presentation

Introduction
- Agenda
- Background / Problem Definition
- Objective
- Topic
- Student/role

Organization of Material
- Logical Order
- Internal Summaries/Transitions
- Main Points Highlighted
- Well Defined Summary
- Referencing of Sources

Content
- Appropriate Subject
- Knowledge of Subject
- Level of Challenge
- Idea(s) Clearly Explained

Delivery
- Posture/Presence/Appearance
- Vocal Ability
- Speed of Delivery
- Mannerisms / Gestures
- Eye Contact
- Use/Quality of AV Material
- Confidence/Enthusiasm
- *Time Management
- Response to Questions
- Audience Interest

*Note that going under or over the prescribed time may result in reduction of overall grade.
WORK TERM PRESENTATION
STUDENT'S FEEDBACK FORM

Name of Presenter: _________________________   Date: _________________________

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<thead>
<tr>
<th>Introduction</th>
<th>Weak -&gt; Strong</th>
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<td>Background / Problem Definition</td>
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<td>Well Defined Summary</td>
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<td>Response to Questions</td>
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<td>Audience Interest</td>
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OVERALL COMMENTS: (Strengths / Areas of Improvement)

How would you rate this presentation?

☐ Unacceptable  ☐ Needs Improvement  ☐ Satisfactory  ☐ Very Good  ☐ Excellent
APPENDIX M  CAREER DEVELOPMENT REPORT (Class of 2024 and later)

Introduction

When seeking work or contemplating a career move, it is important for engineers to understand the work opportunities in a desired industry sector as well as the skills required for these opportunities. During the third work term, students are required to write a Career Development Report. The Career Development Report provides the opportunity for a student to conduct a self-assessment of their technical and non-technical skills developed during their experiences and work terms to date, discuss how career choices have been made, understand the job market and job skills required in their current and a potential future industry sector, and discuss factors that influence engineering employment. Students will research the industry sector in which they are currently working and an industry sector where they would like to work in a future co-op work term(s). Preparing this report will provide students further insight into factors that are influencing employment in industry.

If a student is interested in continuing to work in their current industry, they should explore two different sectors of that industry for the Career Development Report. For example, if a student wants to continue to work in the communications industry, they should write about the sector in which they are working currently (e.g., wireless communications) and then explore another sector of interest (e.g., networking).

Confidentiality

This work term deliverable is intended to be a personal reflective document that does not require supervisor review at the end of the work term prior to submission to the Engineering Co-op Office. This notwithstanding, depending on an employer’s confidentiality protocols, some supervisors may be required to conduct a review of any material to be submitted to the ECEO at the end of the work term. At the beginning of the work term, students should confirm with their work term supervisor whether the Career Development Report may need to be reviewed for confidentiality purposes prior to submission. The content of the Career Development Report must be such that it is able to be submitted and evaluated by the ECEO (i.e., removed from the workplace for marking). When developing the Career Development Report, avoid including company sensitive information in the document related to the current employer.

Industry Sectors

The following is a list of industry sectors in which engineers typically work. It can help identify the industry sector in which a student is currently working and/or would like to work during a future Co-op work term(s). The list contains many examples, but is not exhaustive. Students may choose to explore sectors that are not listed below.

Construction
- Building, General Contracting
- Infrastructure construction and maintenance (road/bridges/rail/subway)
- Shipbuilding
- Marine structures
- Offshore structures
Communications/Utilities
- Telecommunications
- Power Generation, Transmission, Distribution
- Water Supply
- Sewage Systems

Natural Resources/Energy
- Renewable/Alternate Energy Production
- Oil & Gas Extraction (onshore/offshore)
- Mining
- Environmental Engineering/Remediation

Manufacturing
- Chemical/ Petrochemical/Refinery
- Metal/Metal Products/Machinery
- Aerospace and Aviation
- Pharmaceuticals
- Biomedical/Biotechnology
- Robotics
- Consumer Products
- Nanotechnology
- Automotive
- Food/Beverage
- Computers/Electronics/Semiconductors
- Electrical Machinery/Equipment
- Wood Products/Pulp/Paper

Transportation & Warehousing
- Pipelines
- Water/Air/Rail/Transit/Transport
- Ports

Services
- Research and Development
- Government (Municipal, Provincial, or Federal)
- Defence and Security
- Computer Programming/Software
- Computer Related Services/Hardware
- Consulting (various)
- Materials Testing
- Charitable Organization (not-for-profit)
General Report Guidelines

Please follow the general guidelines listed below:

- The report should be 10-12 double-spaced pages long (excluding illustrative figures and tables and the updated résumé).
- When determining report length, page count begins with the introduction and ends with concluding statements. It does not include any front-matter or appendices.
- The report must be written in a formal style. This means that students should use formal wording, avoid colloquialisms, jargon, and the use of contractions.
- In the case of the Career Development Report, the report should be written in first person.
- Terms such as “I” and “We” should be used throughout the report.
- Other than those noted above, all other general report guidelines are the same as the Work Term 1 Short Descriptive Technical Report described in APPENDIX K.

Structure

The general structure of the Career Development Report, is as follows:
- Cover Page
- Letter of Transmittal
- Title Page
- Table of Contents
- List of Illustrations (Figures and Tables) @
- List of Acronyms @
- Introduction
- Sections 1-5
- Concluding Statement
- References
- Required Appendix

Items marked @ above are considered optional based on the report; other sections are required.

Detailed Description of Report Sections

If not outlined below, please see APPENDIX K for a description of the guidelines for all other sections required for the report (e.g., Cover Page, Table of Contents, etc.).

Introduction

Provide a general introduction to the content of the report.

Include the following:
- A statement of purpose that defines what the report is to achieve.
- A statement of scope that outlines what the report covers and any limitations that may be imposed on the report.
- An outline of the student’s current company/organization and its mandate, the division (if applicable), and the student’s position and role within the company.
Section 1
Explore how engineering-related career choices have been made to date.

Include the following:
- The reasons why the current and previous engineering work terms were selected or how they were attained, outlining the student’s thinking and planning processes.
- Whether career choices were based on interest, a network of contacts, availability of jobs, skills possessed, and/or a lack of particular skills, or a combination of some or all these elements.
- How this knowledge/insight/awareness may influence how future job searches are conducted and career choices are made.

Section 2
Introduce and review the current industry sector in which the student is working and discuss the factors influencing employment in that sector.

Include the following:
- A brief history of the industry sector
- Geographical location of the industry
- Projected economic status of the industry
- Influence of unionized work environment on that industry (if applicable)
- Economic factors influencing the industry
- Political factors influencing the industry
- Environmental and societal aspects that are impacted by the industry
- Opportunities for engineers and in which engineering disciplines
- Opportunities for advancement (hiring trends and long-term outlook)
- Explore 2 to 3 other employers in this industry where the student would consider working. For each employer, provide the following information:
  - Name of company, and division (if applicable)
  - Location (city, province/state, country)
  - Brief description of the company, and/or division
  - The reason the company was selected (e.g., innovative, progressive, aligned with discipline, aligned with student values, advancement opportunities, professional development opportunities, location, size of organization, compensation package, etc.).

Section 3
Provide an overview of technical and non-technical skills developed on the previous two work terms and the current work term.

Include the following:
- The technical skills required to be effective in this role.
- The non-technical skills (personal qualities/attributes) required to be effective in this role.
- How the development of these skills has led to the current position (i.e., how did the student get to where they are currently?).
- Professional development events attended during all work terms to date. These may include networking events, technical training courses, and seminars. Outline how the events have helped to develop the skills required for the current position.
- Any experiences that the student may have had with a mentor (any person who is providing guidance in skills development and career progression). Describe how these experiences have
helped the student to develop professional skills or connect them with a job opportunity. What other value did this relationship provide?

- Any other key learning experiences that have had an impact on skills development, including extra-curricular activities, providing examples to demonstrate how specific job-related skills were developed.

Section 4
Introduce and review a desired future industry sector in which the student would like to work in their senior co-op work term(s), based on their own experiences and current industry awareness, outlining the factors influencing employment in that industry.

Include the following:
- A brief history of the industry sector
- Geographical location of the industry
- Projected economic status of the industry
- Influence of unionized work environment on that industry (if applicable)
- Economic factors influencing the industry
- Political factors influencing the industry
- Environmental and societal aspects that are impacted by the industry
- Opportunities for advancement (hiring trends and long-term outlook)
- Advancement opportunities (hiring trends and long-term prospects)
- Explore 3 to 4 employers in this industry where the student would consider working. For each employer, provide the following:
  - Name of company, and division (if applicable)
  - Location (city, province/state, country)
  - A brief description of the company, or division
  - The reason the company was selected (e.g., innovative, progressive, aligned with discipline, aligned with student values, advancement opportunities, professional development opportunities, location, size of organization, compensation package, etc.).
- List short, medium, and long-term career goals. Describe how setting goals (short, medium, long-term) has assisted the student so far in their skills development.

Section 5
Outline the technical and transferable skills that are required to obtain a senior Co-op work term in the industry sector identified in Section 4 and propose a plan for developing these skills.

Include the following:
- Identify the technical and non-technical skills that are required to be effective in a role in the desired industry sector identified in Section 4.
  - Look at current engineering job descriptions in this industry sector to determine the skills required.
  - Online resources such as PEGNL (job postings), Talentegg.ca, Wowjobs.ca, Careerbeacon.com, Workopolis.com, and individual company “Careers” web pages may assist in this research.
- Based on the student’s current skill set, identify the skills that need to be developed to become (more) marketable for these positions.
  - Identify current strengths and areas for further development, as related to the identified industry.
Outline a plan to develop the required skills to the required level. This discussion will include how the student will further develop existing skills and start developing new required skills.

Identify obstacles (if any) previously experienced in developing the required skills to work in a desired industry, and note steps that can be taken to mitigate or overcome these obstacles in the future.

Discuss why lifelong learning is important as it relates to career development. How will the student continue to maintain the skills needed to progress their career in an ever-changing world?

Concluding Statement
Provide final comments on the student’s strategy to obtain their next Co-op position.

Guidelines:
- Highlight the major points raised in the body of the report.
- Re-state the strategies that could assist the student in attaining their career goals.

References
Common to all communication components. Please refer to APPENDIX P.

Required Appendix
Insert an updated résumé (which includes the current work experience).

Guidelines:
- The résumé can be a one or two-page résumé.
- Select whichever length is best suited to the industry in which the student is interested in working during their next work term.

Evaluation
The Career Development Report will be assessed according to the following:

Structure and Format

Structure
- Cover and Title Page are included
- Letter of Transmittal is included
- Table of Contents is included and appropriately formatted
- List of Figures / List of Tables is included (if sufficient number included in report)
- List of Abbreviations is included (if report contains sufficient number)
- If report is confidential, each page is stamped confidential

Format and Organization
- Report folder/binding is appropriate
- Appropriate font used
- Correct use of page numbering
- Length of the report is appropriate to topic and scope; not shorter than minimum requirements
- Layout is easy to read
- Section headings are used and are numbered and named appropriately
- Main sections and sub-sections have a logical order
- Appropriate sections are included
- Sections properly formatted and contain appropriate material
- If used, tables and figures are properly formatted and referenced in the text

**Content**
- Demonstrated understanding how career choices have been made
- Demonstrated understanding of the current industry sector
- Demonstrated understanding of technical skills required
- Demonstrated understanding of a future work term industry sector or subsector
- Demonstrated understanding of technical skills required
- Updated résumé is included
- Material is cited and referenced where required

**Communication Effectiveness**
- Use of contractions is avoided
- Vague language is avoided; material is qualified and quantified
- Ambiguous pronouns are avoided
- Unnecessary wordiness and redundancy is avoided; writing is concise
- Figures of speech are avoided
- Run-on sentences are avoided
- Definitive language is supported with evidence
- Word choices are appropriate
- Formal writing style is used
- Acronyms are correctly defined
- Punctuation is correct
- Spelling is correct
- Grammar is correct
- Parallel construction is used in sentences and lists
- Sentence structure is correct
- Paragraph structure is appropriate (one main concept with supporting details)
- Writing is clear
- Content is written for the appropriate audience
- Tables and figures included (if required) to support descriptions
APPENDIX N  COMPREHENSIVE TECHNICAL REPORT (Class of 2024 and later)

Introduction

The technical report is an important document for engineers. Engineers will be expected to write reports throughout their careers. These documents may be written to analyse something, describe an existing process, or to document a decision. During their work terms, students may be expected to complete several different types of reports.

For the Work Term 4 communications component, students are required to prepare a Comprehensive Technical Report. The report is typically based on a project that the student has worked on for a significant portion of their term.

This section describes the general format for a Comprehensive Technical Report. The format is very similar to that of a Short Descriptive Technical Report, such as that written in Work Term 1. Where there are similarities, the reader should refer to APPENDIX K for the Short Descriptive Technical Report. Where there are key differences, the differences are described below. A student in Work Terms 5 or 6 who chooses to complete a technical report should also use the format outlined in this section.

The Comprehensive Technical Report

The Comprehensive Technical Report should be based on some aspect of the student’s job or the industry in which they are working. Ideally, the report should illustrate a substantial amount of independent student conducted research, design, or analysis to permit the drawing of detailed conclusions and recommendations; however, if the student’s placement does not allow such a study, some other form of report, such as an operating manual or software documentation may be permissible. The report must reflect/contain a significant amount of the student’s original work. It must also contain a significant amount of the student’s writing, rather than the student using a prescribed template that limits description and analytic discourse.

The word ‘comprehensive’ indicates that the report explores a topic thoroughly and goes beyond just describing a process or concept, as was required by the Work Term 1 report. This report is meant to substantially address a topic.

Examples of comprehensive technical reports include (the list is not exhaustive):

- Feasibility study of a design, project, or technology - a study based on testing and analysis that presents information to determine if a proposed project or solution should proceed.
- Evaluation of a process/product - describes how a process/product was evaluated, assessed, or monitoring, presents findings, and makes recommendations about future decision-making and process/product improvement.
- Environmental impact review/environmental assessment – an evaluation of the anticipated environmental impacts of a project, considering positive and negative socio-economic, cultural, and health impacts.
- Project/Progress report – an assessment of an ongoing project that outlines the goals that have been met, resources utilized, challenges faced, and if the project is projected to be completed on time and on budget, decision-making about the project’s future.

- Investigation report – informs a reader about an incident; identifies and defines the problem, describes the investigation methods, the outcomes, and proposes actions to mitigate the situation.

- Research paper – describes the writer’s own research on a topic, including the analysis and interpretation of findings.

For students interested in submitting, as their communication component, documents such as a user’s or operations manual, a procedure, or a test plan, the content must be based on work that was substantially completed by the student.

**Topic**

Students should discuss their topic with their supervisor early in the term, as the supervisor may have a particular topic or project that the organization would like documented. Sometimes a report may not be required by the employer, which allows the student the opportunity to explore a topic of their interest. If the student has difficulty selecting a topic, they should discuss it with their ASM-CE.

An outline of the proposed report should be sent to the Co-op Education Office using the Work Report/Presentation Outline form. This outline should include the title, the purpose of the report, and a brief description of the major topics to be covered. A tentative table of contents would also be useful to include. The assigned ASM-CE will review this outline and discuss it with the student during the work term monitoring visit. See more information on this submission in 7.4.3.

**General Report Guidelines**

Please follow the general guidelines listed below:
- Report should be **15-20 double-spaced pages** long (excluding illustrative figures and tables).
- When determining report length, page count begins with the introduction and ends with the recommendations. They do not include appendices or any front-matter.
- Other than that noted above, all other general report guidelines are the same as the Work Term 1 Short Descriptive Technical Report described in APPENDIX K.

**Structure**

The structure of a formal report, in the order that the main sections are found, is as follows:
- Cover Page
- Letter of Transmittal
- Title Page
- Summary
- Table of Contents
- List of Illustrations
- List of Acronyms
Items marked @ above are considered optional based on the report; other sections are required for most technical reports.

Very often parts marked @ above are combined with one of the major parts; for example, the scope and foreword may become part of the introduction. They may also be combined, or they may be eliminated entirely; for example, acknowledgments, list of illustrations, a separate statement of scope, and bibliography are often not included. Whether these parts are included as separate items, combined with one of the major sections or with each other or left out entirely depends on the objectives of the writer, the complexity of the report and the needs of the reader. They should not be included unless there is a reason for doing so.

All structural items listed above are similar to those listed for the Work Term 1 Short Descriptive Technical Report described in APPENDIX K, except Conclusions and Recommendations, which are described in the following section.

There are many good reference books available either in a book store or library to assist in report writing. One example is “Writing in the Technical Fields: A Practical Guide”, by Thorsten Ewald, published in 2017. Students are encouraged to select a good reference book and use it throughout their undergraduate career.

**Detailed Description of Technical Report Sections**

If not outlined below, please see APPENDIX K for a description of the guidelines for all other sections required for a technical report (e.g., Cover Page, Table of Contents, etc.).

**Conclusions**

Provides a synthesis of the ideas discussed in the report, demonstrates the importance of the ideas discussed and propels the reader to a new or enlightened view of the subject matter.

Guidelines:

- Everything presented in the conclusions must have been discussed in previous sections of the report. That is the function of the discussion section.
- Be as brief as possible with main points drawn from the concluding paragraph or statement of each section of the discussion.
- Be presented clearly and accurately in a neat format, for example, in point form and numbered.
- Satisfy the requirements established in the introduction (background, purpose, scope).
- Never advocate action.
Common Pitfalls:

- Conclusions and recommendations are sometimes inadvertently placed in the same section under the heading Conclusions and Recommendations. This practice is not recommended because there is a danger that a conclusion may be taken for a recommendation or that a recommendation may be stated loosely or weakly.
- Similarly, conclusions and results should not be confused. Results are obtained by applying a method or approach to the problem under consideration. Conclusions are drawn from the results by applying the criteria or guidelines established in the discussion and the introduction.

For example, a study of the condition of all concrete bridges in St. John’s might find that some were in poor condition with cracks, exposed reinforcement steel, spalling, etc. These are results, not conclusions. If criteria such as safety, maintenance, and life expectancy are applied, a conclusion might be that certain bridges are in poor condition and have a limited life expectancy.

Recommendations
The recommendations section presents the preferred plan of action.

Guidelines:

- An action plan is presented with several courses of action described, each with attendant advantages, disadvantages, costs, limitations, and ramifications.
- The above-noted items should have all been previously discussed and conclusions are drawn based on the criteria being applied.
- Be specific, definite and clearly stated.
- Be strong and advocate action.
- Satisfy the requirements established in the introduction.
- Follow logically from the conclusions.
- Be presented in a logical order, e.g., by importance, chronologically, functionally.

In the example of the bridge study previously presented, the student may have concluded that it will cost $1.3 million to replace a badly deteriorated bridge. To repair the same bridge to an acceptable standard will cost $300,000 now and $20,000 a year in maintenance. The bridge will have to be replaced eventually. The recommendations should state which option is preferred and, briefly, why.

Evaluation

The Technical Work Term Report will be assessed according to the following:

Structure and Format

Structure

- Cover and Title Page are included
- Letter of Transmittal is included
- Table of Contents is included and appropriately formatted
- List of Figures / List of Tables is included (if sufficient number included in the report)
- List of Abbreviations is included (if the report contains sufficient number)
- If report is confidential, each page is stamped confidential
Format and Organization
• Report folder/binding is appropriate
• Appropriate font used
• Correct use of page numbering
• Length of the report is appropriate to topic and scope; not shorter than minimum requirements
• Layout is easy to read
• Section headings are used and are numbered and named appropriately
• Main sections and sub-sections have a logical order
• Appropriate sections are included
• Sections properly formatted and contain appropriate material
• Tables and figures are properly formatted
• Tables and figures are properly cross-referenced in the text

Technical Quality
• Topic is suitable
• Introduction is thorough (general background, purpose, and scope included)
• Main discussion sections cover the scope of report appropriately/thoroughly
  o sufficient technical discussion/content,
  o information and analysis is accurate,
  o content is consistent with stated purpose of the report,
  o tables and figures accurate and complete,
  o content of tables and figures is explained to the reader,
  o thorough/depth of treatment is appropriate,
  o original
• Conclusions are drawn from the main discussion points
• Recommendations are based on conclusions; does not contain material that was not previously discussed
• Appendix/ices are included (if required by the content/topic) and introduced in the discussion

Summary
• Written as a stand-alone piece
• Neither too long or too short
• Key material is included
• No material is introduced that is not discussed in the report
• Includes conclusions and recommendations
• No acronyms are included

Referencing and Resources
• Consistent referencing style is used throughout (e.g., IEEE, APA)
• Number of references listed is sufficient
• Material is consistently/properly referenced
• In-text citations are included where required
• Use of direct quotes is avoided
• Variety of reference material is used
• Reference material is taken from a valid source; has authority
Communication Effectiveness

- Use of I, we, you, etc. is avoided
- Use of contractions is avoided
- Vague language is avoided; material is qualified and quantified
- Ambiguous pronouns are avoided
- Unnecessary wordiness and redundancy is avoided; writing is concise
- Figures of speech are avoided
- Run-on sentences are avoided
- Definitive language is supported with evidence
- Word choices are appropriate
- Formal writing style is used
- Acronyms are correctly defined
- Punctuation is correct
- Spelling is correct
- Grammar is correct
- Parallel construction is used in sentences and lists
- Sentence structure is correct
- Paragraph structure is appropriate (one main concept with supporting details)
- Writing is clear
- Content is written for the appropriate audience
- Tables and figures included where appropriate to support descriptions,
APPENDIX O  WORK TERM 5/6 ALTERNATIVE SUBMISSIONS (All class years)

General

Students in Work Term 5 or 6 have flexibility in selecting their communications component. Typically, the topic should be technical in nature, and should be related to the work being completed. Students may choose the Comprehensive Technical Report or Oral Presentation (with Presentation Summary Package), as completed in earlier work terms, or an alternate document or report. Some examples and how they may be reviewed and evaluated if they are submitted for a Work Term 5 or 6 communications component are described below. If a student wishes to submit a report type that has not been previously described they are required to speak with their ASM-CE to determine the type of report. Students who have demonstrated weakness in one of the required types may be asked to submit that type again.

Confidentiality

Several of the work term communication component options described below (Portfolio and Work Term Journal) are intended to be a personal document that does not require supervisor review at the end of the work term prior to submission to the Engineering Co-op Office. This notwithstanding, depending on an employer’s confidentiality protocols, some supervisors may be required to conduct a review of any material to be submitted to the ECEO at the end of the work term. At the beginning of the work term, students should confirm with their work term supervisor whether their chosen communications component may need to be reviewed for confidentiality purposes prior to submission. The content of the communications component must be such that it is able to be submitted and evaluated by the ECEO (i.e., removed from the workplace for marking). When developing the Portfolio or Work Term Journal, avoid including company sensitive information in the document related to the current employer.

Portfolio

A portfolio is a showcase of items that the student has personally created or produced. It is not a list of items in which the student has had limited or cursory input.

Purpose

The purpose of the portfolio is to demonstrate skills, talents, abilities gained and accomplishments achieved during the current work term. The portfolio is a tool that will help document relevant academic, work related and personal achievements.

Content

Students should follow the General Report Guidelines as described in the appendix on Short Technical Reports APPENDIX K. The following is a list of items that should be included in a portfolio:

- A letter of transmittal as outlined in APPENDIX K.
- A two to three page introduction and background on the material presented.
- Description of any training courses and lectures attended whether formal or informal.
- Commendations or written feedback received.
- List of any formal meeting attended and or chaired.
- Sample of original designs, sketches, drawings well indexed and organized.
- Copies of written documents or reports.
• Personal qualities and employability skills assessments (see skills checklist APPENDIX E).
• A résumé and transcript.
• Samples of work done.
• Samples of achievements in volunteer work, recreational activities, part time jobs, or other extracurricular involvement.
• A summary of work search including lists of contacts, industry research, employer research, etc.
• Job description for each position held.
• Copies of performance review forms.

A portfolio is a personal document; therefore, the contents will depend on the individual student’s objectives, goals and experience.

Evaluation
The Portfolio will be assessed according to the following:

Format and Organization
• Cover and Title Page
• Letter of Transmittal
• Table of Contents
• Proper binding
• Appropriate font
• Correct use of page numbering
• Logical order of material
• Appropriate sections included

Technical Quality
• Appropriate introduction of the material presented
• Suitable explanation of background and scope
• Suitability of samples provided
• Sufficient analytical content
• Information and analysis is accurate
• Thorough/depth of treatment is appropriate
• Variety of work
• Technical ability demonstrated
• Original

Communication Effectiveness
• Writing is in the 3rd person
• Use of contractions is avoided
• Word choices are appropriate
• Formal writing style is used
• Acronyms are correctly defined
• Punctuation is correct
• Spelling is correct
• Grammar is correct
• Sentence structure is correct
Paragraph structure is appropriate (one main concept with supporting details)
Writing is clear

Work Term Journal

The work term journal (WTJ) allows the student to observe and interpret job events. They should attempt to describe some of the activities and events in the work place and write about what they concluded about the events, or what they learned from them. The WTJ should be prepared with the general learning objectives of the work term in mind as well as specific objectives set by the student and their supervisor.

General objectives include developing the following:

- a clearer understanding and confirmation of career alternatives and choice
- a professional attitude and behaviour
- a recognition of workplace learning
- interpersonal skills and maturity
- an ability to work as a team person
- an ability to be self-motivated
- an understanding of professionalism
- an understanding of the broader environment
- an ability to manage a work related project
- technical skills appropriate to the position

Specific technical and professional work term objectives related to the job and established in conjunction with the supervisor, as submitted to the Co-op Office, must also be addressed in the WTJ.

Guidelines:

- Dated, detailed entries should be made, at least on a weekly basis, and should be typed.
- Early journal entries should focus on job content, objectives and preliminary observations.
- Subsequent entries should deal with job progress, realization of work term objectives, skills development, feedback from the supervisor, new assignments, and any other job elements which the student believes to be significant.
- The final entry should be reflective of the overall events of the work term including workplace learning, employer feedback, how well objectives were met, and a personal assessment of the work term and identified needs to be met in future work terms. This should be a summary of the whole work term.
- A typical journal should be about 10 to 15 pages long double-spaced and can be bound in any acceptable fashion.
- Prior to submitting the journal, students should review all entries and remove any duplicate or irrelevant information.
- A letter of transmittal as outlined in Appendix K should also be included.

Because entries are being made on a regular basis, the journal should be concluded at the end of the last week of work and submitted to the Co-op Office along with the diary on the last official day of the work term.
Evaluation
The Work Term Journal will be assessed according to the following:

Physical Features
- Format
- Structure
- Neatness
- Readability

Reflective Learning
- Setting learning objectives
- Workplace observations
- Assigned work
- Job progress
- Workplace learning
- Skills development
- Supervisor feedback
- Professionalism
- How the work relates to a broader environment
- Progress made in meeting learning objectives
- Impact of the experience upon career choice
- Future areas for personal or professional development
- Overall thoroughness of entries, ideas, and actions

Communication Effectiveness
- Use of contractions is avoided
- Vague language is avoided; material is qualified and quantified
- Ambiguous pronouns are avoided
- Unnecessary wordiness and redundancy are avoided; writing is concise
- Figures of speech are avoided
- Run-on sentences are avoided
- Definitive language is supported with evidence
- Word choices are appropriate
- Formal writing style is used
- Acronyms are correctly defined
- Punctuation is correct
- Spelling is correct
- Grammar is correct
- Parallel construction is used in sentences and lists
- Sentence structure is correct
- Paragraph structure is appropriate (one main concept with supporting details)
- Writing is clear
- Content is written for the appropriate audience
Tender Document

Tender documents are completed by suppliers typically in response to a request for proposal or invitation to tender from an organization looking for goods or services. Depending on the size or scope of the request, these documents can be split into individual packages where each package focuses on different parts of the contract. Items that are typically found in tender documents include: documents confirming eligibility to complete the project; certifications or accreditations; specifications of the intended goods or services to be supplied including timelines; conditions relating to rights and responsibilities of the parties; any relevant conditions.

While the specific components of a package of Tender Documents may be different from the more typical Comprehensive Technical Report as described in Appendix APPENDIX M, evaluation will be much the same and students should refer to that appendix for more information.

Evaluation

Students will be evaluated against the quality of the submission, the proper inclusion of all required components, and the quality of the communications. Tender Documents will be according to the following:

- Structure and Format
- Technical Quality
- Summary (if included)
- Referencing and Resources
- Communication Effectiveness

Project Management Document

The documentation required for adequate planning, scheduling, and tracking projects can vary significantly from project to project depending on the industry, size of the project, and regulations. Many projects would include some or all of the following components:

- Business Case – A well defined business case will identify the actual business need or reason for a project linking it to an organization’s strategic goals. It should include business reasons/drivers; scope; financial and cost details; risks and benefits.
- Project Charter – A project charter formally authorizes the team to execute a project and provides the project manager the authority to proceed. A project charter will often include a list of stakeholders; identification of scope, risks and assumptions; high level objectives; and success criteria.
- Work Breakdown Structure – The Work Breakdown structure breaks the entire scope of work into understandable and manageable blocks. WBS are typically broken down by the products or outcomes of the project, and then subdivided into the components that will make that outcome. The lowest level of a WBS should be broken into activities that are of suitable lengths so that they can be accomplished in a reasonable amount of time given the overall project length.
- Statement of Work – A statement of work clearly defines the activities, timelines, and deliverables for a project. Special considerations for standards and costs should also be included.
- Risk analysis – The risk analysis should be the outcome of a process of looking at all aspects of a project to determine where risks might come from, and determine their likeliness of occurring and

Appendix O (All class years)

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seriousness should they occur. For significant issues mitigation opportunities should be explored. There are a number of very popular techniques for completing risk assessments on projects.

While the specific components of a package of Project Management Documents may be different from the more typical Comprehensive Technical Report as described in APPENDIX M, evaluation will be much the same and students should refer to that appendix for more information.

**Evaluation**
Students will be evaluated against the quality of the submission, the proper inclusion of all required components, and the quality of the communications. Project Management Documents will be assessed according to the following:

- Structure and Format
- Technical Quality
- Summary (if included)
- Referencing and Resources
- Communication Effectiveness
APPENDIX P REFERENCING (All class years)

Introduction

A list of references must be provided if the work is based on, or refers to, other reports, documents, texts, presentations, and personal communications including discussions or email, etc. to properly acknowledge the work of others (and to avoid plagiarism).

Citation and referencing is required for all sources of information included in the report – print, online, and word of mouth (personal communication). When using material found online, students should be careful to rely only on valid, trustworthy sites. Wikipedia, for instance, can be changed by any user and is therefore not a valid site for obtaining technical information.

There are three main reasons why writers need to provide citations within their reports, including:

1) It allows proper credit to be given to the authors and/or source of the information cited and allows the reader to distinguish between the writer’s own ideas and the referenced information.
2) It demonstrates that the writer has researched the claims and ideas put forth and supports these ideas with evidence and information from other sources.
3) It allows the writer to share their information sources with readers so that they can find that same resource material, if needed.

General Referencing Guidelines

Please follow the guidelines listed below:

- The list of references should only contain entries for works cited directly within the report. That is, each reference in the list must have at least one in-text citation.
- Information from the sources should not be “cut and pasted” but instead paraphrased or summarized to offer support for the writer’s own ideas.
- Even when a citation is included, copying material directly from the source without changing the wording is considered plagiarism.
- Technical reports will rarely, if ever, include information enclosed in direct quotes. Direct quotes are only used when the information cannot be paraphrased (re-written in your own words) without altering the meaning.
  - To decide if a direct quote should be used, writers need to ask themselves the following question, “Can I re-write this in another way and still maintain the original message or meaning?”
  - If the answer to this question is yes, don’t quote – paraphrase.
- All diagrams or images that are not the personal creation or capture of the author must be correctly cited.
- Information obtained from conversations or interviews must be cited in the report but these sources do not appear in the reference list. This can be done in one of two ways, as follows:
  - Introduce the paraphrased information similar to this: “In an interview with John Smith on August 22/18, he suggested …” OR
  - Add the following citation at the end of the paraphrased information: “….. (Personal communication, John Smith August 22/18)”.
- The list of references is only for works cited directly within the report, and must be in the order in which the citations are provided.
• Documents that have been read, but not directly or indirectly quoted should be listed in the Bibliography, not the Reference List.
• General information that can be considered public knowledge in the field need not be referenced.
• The requirement for precise referencing is greater for academic and scientific reports than for business and other technical reports. However, all reports must be referenced to the level that an interested reader can identify the sources and obtain them if desired.

Additional guidelines on referencing can be obtained from the library. Students may also find more information online at:

http://www.mun.ca/writingcentre/plagiarism/
http://www.engr.mun.ca/~techcomm/

Referencing Using IEEE

Students may choose any referencing style, however for consistency and versatility, the IEEE style is recommended. An example of the IEEE format from the style guide http://www.ijssst.info/info/IEEE-Citation-StyleGuide.pdf is shown below.

Book
[#] Author(s). Book title. Location: Publishing company, year, pp.
Example:

World Wide Web
[#] Author(s)*. “Title.” Internet: complete URL, date updated* [date accessed].
Example

E-mail
[#] Author. Subject line of posting. Personal E-mail (date).
Example:

Non-published sources such internal or unpublished documents
Examples:

Other non-recoverable unpublished sources such as interviews or phone calls do not require a reference, or citation; however the author or source must still be noted in the text. i.e “In an interview with John Smith on 22 August, he suggested …”
APPENDIX Q  STUDENT WELLNESS AND COUNSELLING CENTRE

During both academic and work terms, engineering students can avail of the various services offered by Memorial University’s Counselling Centre.

Through individualized personal counselling, outpatient psychiatric services and a wide range of group counselling, professional staff and faculty at the Centre, with the assistance of supervised doctoral residents and practicum students from the various training programs on campus, help students to develop their own unique resources.

The Counselling Centre also helps students develop their study strategies through academic support programming. The Centre offers support for study problems in which students learn to apply strategies for managing university level academic work more effectively. Following an intake session, students are provided with access to an online Brightspace course called, “Academic Skills Portfolio”, that facilitates the acquisition and practice of helpful skills.

Check out the brand new feature in Current Students if you are seeking help with studying, time management or procrastination.

The Counselling Centre is open Monday-Friday, 9 a.m. - 5 p.m. With the exception of special tests, and admission testing all services are free to registered students. Appointments can be made in person or by telephone, 864-8874. Appointments cannot be made via email.

A crisis counsellor is available for students who feel they need to be seen immediately Monday - Thursday from 10 a.m. - 1 p.m. and 2 - 5 p.m., Monday – Friday. Students are seen on a first come, first serve basis.

Students in residence, and in crisis after hours, may talk to their Residence RA or Proctor. Students not in residence, and in crisis after hours, may go to a local emergency room for assistance.

The Counselling Centre also offers a Wellness Program, which is designed to educate students about self-care and healthy lifestyles. In addition, the Glenn Roy Blundon Centre for Students with Disabilities, a division of the Counselling Centre, serves prospective and current students on Memorial’s St. John’s campus whose disabilities involve conditions affecting mobility, vision, hearing, learning (disabilities), chronic illnesses, or mental health. Support is also provided to students with documented temporary illnesses and injuries.

The source of the above information is: http://www.mun.ca/counselling/home/. More information can also be found through this link.

For additional resources, guidance and support, students can also contact the Chaplaincy at Memorial. The overriding intent of the Chaplaincy is to provide a forum for interaction, a non-threatening environment, opportunity for fellowship, as well as individual pastoral counselling and support.

The source of this information is: http://www.mun.ca/chaplaincy/. More information on the Chaplaincy at Memorial can also be found through this link.
APPENDIX R  OCCUPATIONAL HEALTH AND SAFETY

Occupational Health and Safety is concerned with the working conditions and work process at places of employment. All persons at a workplace have a fundamental right to an environment that neither impairs their health nor imperils their safety. It is the responsibility of government, workers and employers to develop and foster awareness of health and safety matters.

The Occupational Health and Safety Act (www.assembly.nl.ca/legislation/sr/statutes/o03.htm) provides for specific obligations on government, employers, workers and self-employed persons, to make the workplace as free from health and safety risks, as possible.

Major points of Occupational Health and Safety Acts in each province include:

- **Duties of Principal Contractor** – The principal contractor engaged in a project shall ensure that employers, workers and self-employed persons performing work in respect of that project comply with the Act and the regulations.

- **Duties of Employer** – An employer shall ensure the health, safety and welfare of their workers, provide the necessary personal protective equipment, systems and tools; provide information, instruction and training; and ensure that the workers are familiar with the use of devices and equipment provided for their protection.

- **Duties of the Employee** – A worker shall take reasonable care and cooperate with the employer, to protect their health and safety and that of other workers in the workplace.

- **Right to Refuse Work** – A worker may refuse work if that worker has reasonable grounds to believe it is dangerous to their or any other person’s health and safety. If the worker is reassigned to other work, or has not been reassigned, the employer shall pay the worker the same wages or salary and grant the worker the same benefits the worker would have received if the worker continued to work, or until they are able to return to work.

- **Stop Work Order** – If the conditions of the workplace pose an immediate risk to the health and safety of workers or others near the workplace, a written order to immediately stop work will be imposed and will not be lifted until the remedial measures in the order are in place. The employer shall continue to pay the workers the wages or salary and grant to them the benefits the workers would have received if the order to stop work were not in place.

- **Occupational Health and Safety Committees/Representatives** – A workplace where 10 or more workers are employed must establish an OHS Committee of not less than two nor more than 12 persons, where at least half are representatives of the workers, to monitor the health, safety and welfare of the employees. In the workplace, where less than 10 persons are employed, a worker health and safety representative will be elected.

- **Workplace Hazardous Materials Information System (WHMIS)** – The Workplace Hazardous Materials Information System is a national system designed to ensure that all employers obtain the information that they need to inform and train their employees properly about hazardous materials used in the workplace. Established uniform requirements are in place to ensure that the hazards of materials produced, sold, imported or used in Canada are identified by suppliers and employers using standard classification criteria.
• **First Aid Regulations** – Regulations are in place which govern the level of first aid required, the number of workers required to hold valid first aid certificates, and the quality of first aid kits in each workplace.

When a worker or member of the public files a complaint with respect to possible unsafe working conditions at a particular workplace, the complaint will be investigated by an Occupational Health and Safety Officer. The Branch will investigate all complaints received, whether they are anonymous or if the complainant wishes to leave their name. In any case, the name of the person registering the complaint will be kept in confidence.
APPENDIX S  POLICY ON SEXUAL HARASSMENT

The Sexual Harassment Office exists because Memorial University recognizes its ethical and legal responsibility to provide an environment that is free of sexual harassment, sexual assault and sexual violence.

Sexual Harassment is defined in Memorial’s Sexual Harassment and Sexual Assault policy as ‘Conduct or comments of a sexually oriented or gender-oriented nature based on gender expression, gender identity, sex or sexual orientation directed at a person or group of persons by another person or persons, who knows or ought reasonably to know that such conduct or comments are unwelcome or unwanted. It includes Sexual Assault and assisting in Sexual Harassment.’

Some examples of Sexual Harassment may include but are not limited to:

- Visual displays of sexual images;
- Unwelcome innuendos or taunting about a person's sex, sexual orientation, gender identity, gender expression (including pregnancy and breastfeeding);
- Unwelcome remarks or demands for sexual favours;
- Voyeurism;
- Stalking.

Conduct or comments constitute sexual harassment when:

- submission to such conduct or comments are made either explicitly or implicitly a term or condition of a person's employment, academic status, academic accreditation, or
- submission to or rejection of such conduct or comments by a person is used as the basis for employment, or for academic performance, status or accreditation decisions affecting such person, or
- such conduct or comments interferes with, or adversely affect, directly or indirectly, a person's work or academic environment or performance.

The Sexual Harassment Advisor offers private and confidential information and consultations for students, staff and faculty of all Memorial campuses and institutes. The Sexual Harassment Advisor provides information and coordination regarding informal and formal resolutions, as well as referrals for services (as requested). The Sexual Harassment Advisor is located in ER6039 of the Earth Sciences Building on the St. John’s Campus and can be reached by phone at (709) 864-2015 or (709) 864-8199.

Students are advised to report incidents of Sexual Harassment or Sexual Assault that occur during work terms, placements, internships, instructional field courses or practica outside the University. Students may avail of the support, advice and guidance of the Advisor to do so.

If you have any questions, concerns or ideas, please contact Rhonda Shortall, Sexual Harassment Advisor, by phone at (709) 864-2015, or by email at rshortall@mun.ca.

For more information regarding specific supports and resources available, please review the specific Sexual Assault Support and Response Guide customized for your Campus on the Sexual Harassment Office website. To view Memorial’s Sexual Harassment and Sexual Assault Policy and the University-Wide Procedures for Sexual Harassment and Sexual Assault Concerns and Complaints, please visit http://www.mun.ca/sexualharassment/.
APPENDIX T  WORK TERM EVALUATION

The work term will be evaluated on the basis of the work term communications component and work term performance, as described below.

Communications Component
The written (or oral) communication component is intended to develop the following skills:

- the ability to research the subject appropriately, to conduct the necessary analysis and to effectively substantiate conclusions and recommendations,
- the ability to summarize findings and communicate, in writing or orally, in a professional manner, and
- the ability to apply concepts learned in the academic environment to learning objectives in the work environment.

The communication component will be evaluated by an ASM-CE or delegate. Technical reports for classes of 2024 and later will be evaluated as described in the appropriate appendices; for the class of 2023 and earlier, they are evaluated on the following components:

- structure,
- summary,
- use of resources
- communication effectiveness.

Evaluation of the communication component will result in one of the following classifications:

**Outstanding** - the communication component quality is exceptional; there is clear evidence of the following:

- comprehensive knowledge of the subject matter and principles used,
- high degree of originality and independence of thought,
- superior ability to organize and critically analyze ideas,
- outstanding ability to communicate,
- good planning,
- outstanding effort put into the production of the communication component.

To be considered outstanding, the communication component should have:

- all required sections completed, including letter of transmittal, summary and references,
- very few spelling, grammar and word processing errors,
- a professional presentation, and
- technical content verified by the employer.
Above Expectations - the communication component is of good quality with evidence of:

- substantial knowledge of the subject matter,
- moderate degree of originality and independence of thought,
- good ability to organize and analyze ideas,
- ability to communicate clearly and fluently,
- good planning,
- substantial effort put into communication component production.

Satisfactory - the communication component meets minimum requirements with evidence of:

- acceptable grasp of the subject matter,
- some ability to organize and analyze ideas,
- ability to communicate adequately,
- acceptable planning, and
- acceptable effort put into report production.

Marginal Pass - the written communication component has a number of weaknesses but would meet expectations after modifications are made. The communication component should, as a minimum, demonstrate evidence of:

- adequate knowledge of the subject matter,
- adequate ability to organize and analyze ideas,
- adequate ability to communicate,
- adequate planning, and
- adequate effort put into communication component production.

Fail - the communication component is unacceptable showing evidence of one or more of:

- inadequate knowledge of the subject matter,
- failure to complete required work,
- inability to organize and analyze ideas,
- inability to communicate,
- inability to plan the production of the communication component,
- inadequate effort put into communication component production,
- some or all of the report is plagiarised

At times, an ASM-CE may request that the student revise and resubmit their work report rather than be given a Fail grade.

- When a student has been given the opportunity to resubmit the communication component, the student will not be eligible for a grade other than Fail or Marginal Pass.
- Normally, a student will be given a two-week period in which to resubmit the communication component.
- If the communication component is not revised to an acceptable standard within the specified time, a Fail will be recommended.
Work Term Performance

Within the first three weeks of the work term, the student, in consultation with their supervisor will establish performance and personal/professional objectives for the work term. This should also include identification of specific skills necessary for the student to develop in order to perform the duties and responsibilities of their position. The objectives shall be submitted to the designated ASM-CE for review. Through this process, the student will acquire new skills or further develop existing skills required in the workplace. The key ingredient to a successful work term is the student’s ability or openness to learn and/or further develop work related skills.

There are a key set of skills that will be evaluated through the Co-op End of Work Term Evaluation Form. These skills are demonstrated in a number of ways, and considered important to an engineer’s abilities. The expectations for these skills increase with progression through the engineering education program. During more junior work terms (e.g., work terms 1 and 2), students should demonstrate these skills at a beginner level, working their way to demonstrating the skill at an intermediate level (e.g., during work terms 2 and 3), before demonstrating the skills at a more advanced level in senior work terms (e.g., work terms 4 through 6). Students who meet the expectations listed below would get a rating of 3 on the 1-5 point rating scale. Exceeding these expectations would result in a rating of 4 or 5 for that skill/quality. Conversely, if a student does not meet the expectations they may receive a 1 or 2 rating for that skill/quality. The Skills Expectations for each of the work terms are listed below:

Work Term 1 - Skills Expectations

1. Initiative: Under supervision, voluntarily take action to complete assigned tasks
2. Organization and Planning: Prioritize work assignments with supervision, and plan and use time productively to complete work
3. Quality of Work: With supervision, produce good quality work with minimal errors
4. Productivity: With supervisor guidance, learn new material to complete an assigned amount of work within set time limits
5. Written Communication: Communicate technical information in writing in an organized way, with some review and editing required
6. Verbal Communication: Verbally express ideas and technical information clearly, with minimal clarification required
7. Work Independently: Work independently on routine tasks, taking direction and seeking assistance for clarification and understanding in order to properly complete tasks
8. Teamwork: Work cooperatively with others in completing tasks, supporting team success
10. Project Management Techniques: Develop awareness of project management techniques
11. Safety and Environment: Be aware of safety procedures and demonstrate safe work practices
12. Ethics and Integrity: Demonstrate awareness of ethical issues, and display honesty and fairness in interactions with others
13. Appreciation of Diversity: Recognize diversity and inclusion in the workplace; showing respectful behaviour towards others
15. Response to Supervision: Openly accept direction and feedback and respond positively
16. Dependability: Be reliable and consistent in completing work and meeting commitments, while demonstrating a good work ethic
Work Term 2 - Skills Expectations

1. **Initiative:** Take independent action in completing assigned tasks, and show motivation in seeking new work
2. **Organization and Planning:** Prioritize work assignments based on their importance, and plan and use time efficiently and productively to complete work
3. **Quality of Work:** Produce good quality work with few errors, checking own work with minimal assistance
4. **Productivity:** Independently learn new material to consistently complete an assigned amount of work on time
5. **Written Communication:** Communicate ideas and information in writing clearly, concisely, and in an organized way, with some review and editing required
6. **Verbal Communication:** Verbally express ideas and information clearly, concisely, and in an organize way, with minimal clarification required; comfortable speaking to small group
7. **Work Independently:** Work independently on assigned tasks and projects, taking direction and seeking assistance as required
8. **Teamwork:** Be an effective team member by working collaboratively and cooperatively with others and assuming responsibility for tasks
9. **Problem Solving:** Contribute to engineering problem analysis and solution generation
10. **Project Management Techniques:** Demonstrate understanding of project management techniques and incorporate into work as instructed
11. **Safety and Environment:** Understand the purpose of safety procedures, and demonstrate safe work practice
12. **Ethics and Integrity:** Demonstrate knowledge of ethical standards, ethical issues, and ethical decision-making, and display honesty and fairness in interactions with others
13. **Appreciation of Diversity:** Develop an understanding of and appreciate diversity and inclusion in the workplace; demonstrating respect for individual differences
14. **Adaptation to Organization’s Rules and Policies:** Recognize, understand, and follow an organization’s rules and policies, with minimal guidance
15. **Response to Supervision:** Openly accept direction and feedback and respond positively, incorporating feedback into work as required
16. **Dependability:** Gain the trust of others by being reliable and consistent in completing work and in meeting commitments, while demonstrating a very good work ethic

Work Term 3 - Skills Expectations

1. **Initiative:** Take independent action in completing assigned tasks, and show motivation in seeking new work
2. **Organization and Planning:** Prioritize work assignments based on their importance, and plan and use time efficiently and productively to complete work
3. **Quality of Work:** Produce good quality work with few errors, checking own work with minimal assistance
4. **Productivity:** Independently learn new material to consistently complete an assigned amount of work on time
5. **Written Communication:** Communicate ideas and information in writing clearly, concisely, and in an organized way, with some review and editing required
6. **Verbal Communication:** Verbally express ideas and information clearly, concisely, and in an organize way, with minimal clarification required; comfortable speaking to small group
7. **Work Independently:** Work independently on assigned tasks and projects, taking direction and seeking assistance as required
8. **Teamwork:** Be an effective team member by working collaboratively and cooperatively with others, assuming responsibility and accountability for tasks, and understanding importance of the student’s role within the team
9. **Problem Solving:** Analyze engineering problems, evaluate alternatives, and propose solutions
10. **Project Management Techniques:** Demonstrate understanding of project, change, and/or risk management techniques and incorporate into work as required
11. **Safety and Environment**: Identify safe and unsafe work practices, follow safety procedures, demonstrate safe work practices, and understand the impacts of engineering on health and the environment

12. **Ethics and Integrity**: Contribute to helping to resolve ethical issues, demonstrate good judgment and understand issues around conflicts of interest, and display honesty and fairness in interactions with others

13. **Appreciation of Diversity**: Demonstrate ability to work in a diverse workplace; inclusive, respectful, and work well with others when there are individual differences

14. **Adaptation to Organization’s Rules and Policies**: Recognize, understand, and follow an organization’s rules and policies, with minimal guidance

15. **Response to Supervision**: Openly accept direction and feedback and respond positively, incorporating feedback into work as required

16. **Dependability**: Gain the trust of others by being reliable and consistent in completing work and in meeting commitments, while demonstrating a very good work ethic

**Work Term 4 - Skills Expectations**

1. **Initiative**: Take immediate action without prompting in completing assigned tasks or projects, and show motivation in pursuing work beyond assigned tasks

2. **Organization and Planning**: Prioritize work assignments based on their importance, and plan tasks and projects over a short- to long-term basis, using time efficiently and productively to complete work

3. **Quality of Work**: Produce very good quality and thorough work with few errors, independently checking work prior to completion

4. **Productivity**: Independently and quickly learn material to consistently complete an expected amount of work on time or earlier

5. **Written Communication**: Communicate complex ideas and information in writing clearly, concisely, and in a very organized manner, with minimal review and editing required

6. **Verbal Communication**: Verbally express complex ideas and information, clearly, concisely, and in a very organized manner, with clarification rarely being required; good public speaker

7. **Work Independently**: Assume responsibility for tasks and projects and work independently, seeking input from others when appropriate

8. **Teamwork**: Be an effective team member by working collaboratively and cooperatively with others, assuming responsibility and accountability for tasks and one’s assigned role, and demonstrating leadership as required to provide direction to a small group of people

9. **Problem Solving**: Critically analyze engineering problems, evaluate alternatives, and recommend best course of action

10. **Project Management Techniques**: Use appropriate project management techniques as required, and incorporate principles of change and risk management into work

11. **Safety and Environment**: Understand and contribute to the importance of a safe work culture, demonstrate safe work practices, and understand the impacts of engineering on health and the environment

12. **Ethics and Integrity**: Demonstrate very good judgment and individual accountability in resolving ethical issues, avoid questionable conduct and conflicts of interest, and display honesty and fairness in interactions with others

13. **Appreciation of Diversity**: Support diversity and inclusion in the workplace; respectful and work well with others when there are individual differences

14. **Adaptation to Organization’s Rules and Policies**: Independently recognize, understand, and follow an organization’s rules and policies

15. **Response to Supervision**: Openly accept direction and feedback and respond appropriately, immediately incorporating feedback into current and future work

16. **Dependability**: Gain responsibility and the trust of others by being reliable and consistent in completing work and in meeting commitments, while demonstrating a very good work ethic
Work Terms 5 and 6 - Skills Expectations

1. **Initiative:** Take all appropriate and required action without prompting in completing assigned tasks or projects, and show motivation in pursuing work and additional responsibilities beyond assigned tasks.

2. **Organization and Planning:** Prioritize work assignments based on their importance, set realistic deadlines, and plan and use time efficiently and productively to complete short- to long-term tasks and projects.

3. **Quality of Work:** Produce high quality and thorough work with very few errors, independently checking work prior to completion.

4. **Productivity:** Independently and quickly learn complex new material and use existing knowledge to consistently complete an expected or greater amount or work on time or earlier.

5. **Written Communication:** Communicate complex ideas and information in writing clearly, concisely, persuasively, and in a very organized manner, with review and editing rarely required.

6. **Verbal Communication:** Verbally express complex ideas and information, clearly, concisely, persuasively, and in a very organized manner, with clarification rarely being required; very good public speaker.

7. **Work Independently:** Assume complete responsibility for tasks and projects and work independently, demonstrating understanding of when to seek input from others when work is outside scope of knowledge or ability.

8. **Teamwork:** Be a responsible, accountable, and effective team member by working collaboratively and cooperatively with others, and demonstrating leadership as required to direct and motivate a group of people to work together.

9. **Problem Solving:** Critically analyze engineering problems, evaluate alternatives, predict outcomes, recommend best course of action, and formulate solutions or procedures.

10. **Project Management Techniques:** Use appropriate project management techniques as required, and incorporate plans to effectively manage change and analyze risk.

11. **Safety and Environment:** Understand and contribute to the importance of a safe work culture, demonstrate safe work practices, and understand and analyze the impacts of engineering on health and the environment.

12. **Ethics and Integrity:** Demonstrate excellent judgment and individual accountability in resolving ethical issues, with an understanding of potential outcomes and consequences, avoid questionable conduct and conflicts of interest, and display honesty and fairness in interactions with others.

13. **Appreciation of Diversity:** Promote diversity and inclusion in the workplace; respectful, work well with others, and encourage others to work together despite individual differences.

14. **Adaptation to Organization’s Rules and Policies:** Independently and quickly recognize, understand, and follow an organization’s rules and policies.

15. **Response to Supervision:** Seek constructive feedback to assist in one’s own professional development, openly accept direction and suggestions, and respond appropriately, immediately incorporating feedback into current and future work.

16. **Dependability:** Gain added responsibility and the trust of others by being reliable and consistent in the completion of work and in meeting commitments, while demonstrating an excellent work ethic, putting in extra effort when required.

The work term performance will be based upon an ASM-CE’s assessment of the employer’s evaluation, information gathered from contact with the student, employer, and others in the workplace, and timely receipt of all work term documentation by established deadlines. The ability to plan and to meet deadlines is essential to a professional engineer.

The performance designation is the measure of success in fulfilling the requirements of the work place, taking into account the challenges and opportunities available to the student. It also reflects the working relationship established by the student with the ECEO. Most of the items under each category must be maintained in order to qualify for that designation.
Outstanding - the student has successfully completed an excellent work term, demonstrated by:

- student highly challenged or seeks new challenges,
- high degree of skills and attributes,
- excellent work ethic,
- excellent time management skills, completes assigned task, accurately, ahead of schedule,
- all documentation submitted in a timely manner,
- maintains an excellent working relationship with the ECEO,
- exceeds employer’s expectations in all areas.

Above Expectations - the student has successfully completed a very good work term, demonstrated by:

- highly or moderately challenged,
- generally good skills and attributes,
- very good work ethic,
- good time management skills, completes assigned task, accurately and on time,
- all documentation received,
- maintains a good working relationship with the ECEO, and
- exceeds or meets employer’s expectations in most areas.

Satisfactory - the student has successfully completed a good work term, demonstrated by:

- acceptable level of challenge,
- acceptable skills and attributes,
- good work ethic,
- acceptable level of time management skills, most assigned tasks completed on time with few errors,
- most documentation received,
- maintains an acceptable working relationship with the ECEO,
- meets employer’s expectations.

Marginal Pass - the student meets the minimum requirement of the work term. The student will be monitored and is expected to improve in the next work term. The performance has weaknesses, demonstrated by:

- low level of challenge and student does not seek new challenges,
- some weakness noted in skills and attributes,
- acceptable work ethic,
- time management skills need improvement, some assigned tasks not completed or with errors,
- some of the documentation late or not received,
- working relationship with the ECEO needs improvement,
- did not meet all employer’s expectations.

Fail - Performance is unacceptable, demonstrated by one or more of:

- low level of challenge and student does not seek new challenges,
- unacceptable level of skills and attributes,
- poor work ethic,
• poor time management skills, assigned task not completed in acceptable time frame or with high degree of errors,
• most or all of the documentation not received,
• poor working relationship with the ECEO, and
• did not meet employer’s expectations.
Overall Work Term Evaluation
The overall evaluation of each work term will be based upon the communication component and work term performance and will result in the recommendation of one of the following grades:

**Pass with Distinction** - to receive a recommendation of *pass with distinction*, a student needs to obtain an evaluation of *outstanding* in both the communication and work performance components of the work term.

**Pass** - to receive a recommendation of *pass* a student must achieve an evaluation of *marginal pass* or better in both the communication component and the performance component of the work term.

**Fail** - a student receiving a *fail* in either or both the communication and performance components of the work term will receive a recommendation of *fail*.

For promotion from the work term, a student must obtain **Pass with Distinction or Pass**.

A student who receives a grade of *Fail* on any work term will be required to repeat that work term prior to graduation regardless of whether the work term is mandatory or elective.

Students should be aware of the University’s policy on plagiarism. More information can also be found on the Writing Centre’s web page [http://www.mun.ca/writingcentre/plagiarism/](http://www.mun.ca/writingcentre/plagiarism/)
# Work Term 1 Evaluation Form (class of 2023 and earlier)

## A. Communications Requirements

<table>
<thead>
<tr>
<th>Job Diary</th>
<th>Work Term Journal</th>
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<tbody>
<tr>
<td>Format and Neatness</td>
<td>Format and Neatness</td>
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<tr>
<td>Accuracy and Integrity</td>
<td>Reflective Learning</td>
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<tr>
<td>Communications Effectiveness</td>
<td>Communications Effectiveness</td>
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<tr>
<th>Short Technical Report</th>
<th>Portfolio</th>
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<tr>
<td>Structure</td>
<td>Introduction</td>
</tr>
<tr>
<td>Summary</td>
<td>Organization</td>
</tr>
<tr>
<td>Use of Resources</td>
<td>Work Samples</td>
</tr>
<tr>
<td>Communications Effectiveness</td>
<td>Illustration of Skills</td>
</tr>
</tbody>
</table>

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___ Outstanding ___ Above Expectations ___ Satisfactory ___ Marginal Pass ___ Fail

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## B. Work Term Performance

Includes input from your employer as well as all aspects of the Co-operative Education Program; this includes meeting deadlines

___ Outstanding ___ Above Expectations ___ Satisfactory ___ Marginal Pass ___ Fail

## C. Overall Work Term Evaluations

The overall work term evaluation is based upon the personal job diary, journal, short technical report, or portfolio, and the work term performance

___ Pass with Distinction ___ Pass ___ Fail

Coordinator __________________________ Date __________

Suggestions for improvement:
Work Term 2-6 Evaluation Form (non Presentation) (class of 2023 and earlier)

MEMORIAL UNIVERSITY

WORK TERM EVALUATION
Engineering & Applied Science

Student's Name ______________________ Work Term ______

A. Communications Component

Structure

________________________

________________________

________________________

________________________

Summary

________________________

________________________

________________________

________________________

Use of Resources

________________________

________________________

________________________

________________________

Communication Effectiveness

________________________

________________________

________________________

________________________

☐ Outstanding  ☐ Above Expectations  ☐ Satisfactory  ☐ Marginal Pass  ☐ Fail

B. Work Term Performance includes input from your employer as well as all aspects of the Co-operative Education Program; this includes meeting deadlines.

________________________

________________________

________________________

________________________

☑ Outstanding  ☐ Above Expectations  ☐ Satisfactory  ☐ Marginal Pass  ☐ Fail

C. Overall Work Term Evaluation

The overall work term evaluation is based upon the Work Report and Work Term Performance.

☐ Pass with Distinction  ☐ Pass  ☐ Fail

Co-ordinator ______________________ Date ______________________

☐ Outstanding  ☐ Above Expectations  ☐ Satisfactory  ☐ Marginal Pass  ☐ Fail