Pre-Grad

Experience

Guide
Engineers-in-Training may be eligible to receive up to 12 months credit for engineering experience acquired prior to graduation

According to the Nova Scotia Engineering Profession Act and By-Laws, to practice professional engineering in the Province of Nova Scotia, engineering graduates must meet the requirements of the Association of Professional Engineers of Nova Scotia and obtain a license with the designation of Professional Engineer (P.Eng.)

Engineers Nova Scotia is the licensing and regulatory body for approximately 4,500 Professional Engineers and Engineers-in-Training practicing in Nova Scotia or on Nova Scotia projects.

The requirements for achieving P.Eng. licensure have been enhanced to conform to international standards and a growing marketplace demand for quality.

Pre-Graduation Experience Requirements
[Reference the EIT Mentor Program Guide]

On September 1, 1999, Council initiated the acceptance of pre-graduation experience for registered Engineers-in-Training under the management of the Board of Examiners through the Mentorship Program. Up to 12 months experience may be eligible for credit towards the 4-year experience requirement. Only experience gained after one half of the classroom component of the engineering program will be eligible for assessment. Engineers-in-Training may apply for experience credit as follows:

- Complete a Pre-Grad Engineering Experience Record.
- Submit the Pre-Grad Engineering Record to the Mentor for review.
- Include a copy of the signed Supervisor’s report.

The Mentor will determine the number of credit months to be granted and forward the Mentor’s Report on Pre-Grad Experience form to Engineers Nova Scotia indicating the number of month experience eligible for credit.

Incomplete submissions will be returned with no credit assigned. Forms are available on the Engineers Nova Scotia web site www.engineersnovascotia.ca

Components of Engineering Experience

The experience attained must introduce Engineers-in-Training to the following five, quality-based components of engineering experience as follows:

- Application of Technical Theory
- Management Techniques
- Social Implications
- Practical Experience
- Communications
Application of Technical Theory

The application of theory is the backbone of acceptable engineering experience, and it is important for the student to be exposed to this type of experience. A candidate’s experience should include active participation and supervised responsibility in several aspects of the following:

- Project analysis, including scope and operating conditions, safety and environmental issues, economic feasibility, technical merit.

- Design, including specifications, compliance with codes and standards, human and environmental aspects.

- Testing, including methodology and techniques.

- Implementation, including engineering cost studies, cost/benefit analysis, quality assurance implementation, and safety, environmental assessment.

- Follow-up of projects.

Practical Experience

The student will gain practical experience in several ways, including the following:

Work Site Visits: The EIT will carry out specific tasks at sites that are associated with assigned responsibilities, or will visit such sites on a periodic basis. If this is not possible, the student will arrange to visit sites where work is similar to that associated with their assigned responsibilities. This will provide the opportunity to experience the significance of time and quality in the design process and to observe practical applications of designs.

Interdependencies: The student will from time to time observe, and recognize in practice, the interdependence of diverse disciplines and activities in overall systems. Including the functions and responsibilities of the student’s department and other departments in the employer’s organization, information flow, work performance structures, and the importance of systems.

Recognizing Limitations: The student will learn to recognize limiting conditions to designs by observing work in progress at appropriate stages and locations.

Applying Codes: The student will apply statutory and regulatory requirements (codes) to designs.

Enhancing Technical Education: The student will enhance his or her technical education as it applies to assigned tasks.

Developing Working Relationships: The student will develop appropriate working relationships with those involved in on-site work and the end use of the work.
Management Techniques

It is essential that the student gain first hand knowledge through exposure to various management techniques during the student-training period. To be gained through:

Managing Resources: The student will ensure that assigned projects are effectively managed, giving due consideration to time, manpower, material and equipment constraints.

Management Knowledge: The student will require training in discipline areas that include: Planning, Scheduling, Estimating, Budgeting, Cost Control.

These discipline areas may be in addition to those directly related to assigned tasks but, as a minimum, they should relate to assigned tasks. Students should solicit the cooperation of their employer in gaining this facet of experience.

Record Keeping: The student will observe and participate in all record-keeping requirements and practices of the employer for calculations, notes, project documents etc.

Understanding Contracts: The student will read and become familiar with the legal aspects of all relevant contracts and ensure the terms are followed.

Ethics: The student will achieve an understanding of professional and business ethics and practice in an ethical manner.

Develop Team Skills: The student will gain insight into the importance of being part of a team, and participate in team-building activities.

Corporate Structure: The student will observe and become knowledgeable about organizational structure, including the functions and responsibilities of key positions.

Participating in Quality Assurance: The student will participate in quality improvement programs and other quality assurance functions.

Communications

During the training period, the student must learn to communicate effectively with superiors, co-workers, clients, government regulators, and the general public. The student is to take advantage of all opportunities presented to develop both oral and written communications abilities in the English language:

Oral Communications: Report or make presentations to management or peers. This can include project status reviews, research or study reports, and presentations at public forums. The student can establish public speaking skills through business and community activities. Discussion skills can be developed through active participation in meetings.

Written Communications: The student should become proficient in the written presentation of engineering from daily correspondence and record keeping, to the production of major reports. Technical reports will clearly describe the project and summarize the results.
Social Implications

The student will become familiar with and practice the following social implications of professional practice:

Public Safeguards: The student will understand and practice the role and responsibilities of professional practice in the areas of public safety, protection of the environment, sustainable development, and workplace health and safety.

Benefits to the Public: The student will be exposed to the benefits that the profession provides to the public.

Regulation Agencies: The student will be provided with an appreciation and understanding of the roles and responsibilities of regulating agencies in his/her professional practice.
Engineering Experience Record Writing Tips

- Format in six-month chronological reports with dates and time frames clearly indicated. Dates must not be overlapped.
- The reports should not be project based unless the project is within the six-month period.
- Write in full sentences in the first person and describe engineering experience in detail.
- Report engineering-related work you have performed, not what the company is involved in. The reviewer requires sufficient detail in order to determine from the content that you have gained relevant and varied engineering experience.
- Complete a minimum of 4 pages per 6-months of experience on the Engineers Nova Scotia Detailed Engineering Experience Record form.
- Indicate the total time being claimed - in months, on the Pre-Grad Credit Application form.
- Submit time spent on courses, in seminars, etc., as professional development. However, this does not count toward the 48 months experience requirement.

The following documents are available on the Engineers Nova Scotia web site

www.engineers novascotia.ca

♦ Engineers Nova Scotia Guide for the Engineer-In-Training Mentor Program

♦ Pre-Grad Experience Guide

♦ The Nova Scotia Engineering Profession Act

♦ Manual of Professional Practice
FORMS
# Detailed Engineering Experience Record – Pre-Grad

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<th>Name:</th>
<th>Registration No.:</th>
<th>Discipline:</th>
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<th>Submission Date:</th>
<th>Diary No.:</th>
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**Applicant / Member Signature:**

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<th>Company Location/Country:</th>
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<table>
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<tr>
<th>Supervisor's Name:</th>
<th>Supervisor's Signature:</th>
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**Supervisor’s contact information to verify your work experience**

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<th>Work Period month/day/year:</th>
<th>From:</th>
<th>To:</th>
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## Work Experience – Show how engineering principles are applied and the percentage of time allocated to equal 100%

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<thead>
<tr>
<th>Technical Theory /100</th>
<th>Practical Experience /100</th>
<th>Management /100</th>
<th>Communications /100</th>
<th>Social Implications /100</th>
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Mentor Program
Pre-Grad Experience Credit Request Form
EIT to Mentor

This form to be submitted to the Mentor by the Engineer-in-Training as a cover page for the engineering experience record submission

Date: ____________________________ Submission No: ____________________________

From: ____________________________ (EIT Name) (EIT No) ____________________________

To: ____________________________ (Mentor Name) (Member No) ____________________________

Attached is an Engineering Experience Record for your review

Work Experience Covering the Period: From: (month/day/year) To: (month/day/year)

Total Months Being Claimed: ____________________________

Comments:
________________________________________________________________________
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Pre-Grad Experience
Supervisor’s Final Report

The Engineer-in-Training must have this report completed by the Professional Engineer/Supervisor. The completed report is to be attached with Pre-Grad Experience Records and submitted to the Mentor for approval.

Student Name: ____________________________

Total Months Work Experience Completed: ____________________________

Eligible Work Experience Start Date: ____________________________

Eligible Work Experience End Date: ____________________________

GENERAL ASSESSMENT

Experience gained:

Excellent □  Good □  Acceptable □  Fair □  Poor □

Presentation of the Experience Reports:

Excellent □  Good □  Acceptable □  Fair □  Poor □

Interpersonal and communication skills:

Excellent □  Good □  Acceptable □  Fair □  Poor □

COMMENTS

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Date: ____________________________  Signature: ____________________________
Mentor’s Pre-Grad Interim Report

The Mentor must forward this form to the Registration Department at Engineers Nova Scotia after approval of each Engineer-in-Training (EIT) Experience Record submission.

EIT Name: _______________________________ Registration No.: _______________________________

Submission No.: ________________________________

Period Covered by This Record:

From: ________________________________ (month/day/year)

To: ________________________________ (month/day/year)

Months Submitted for Approval: ________________________________

Months Approved by Mentor: ________________________________

If months approved is different from months submitted, please give reasons:

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

Comments: ________________________________

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Mentor Signature: ________________________________ Date: ________________________________