Professional Engineers Ontario

Engineering Intern Experience Checklist

This checklist is for the Intern's personal use. No need to submit to PEO.

Is the position being considered exclusively for a graduate from an engineering degree program?	☐ Yes	☐ No
If the answer to the question above is **'No'**, what other academic qualifications would be suitable?		

SUPERVISION - *A professional intern needs to learn from a licensed practitioner within the same profession*

Will the supervisor be a licensed professional engineer?	☐ Yes	☐ No
If 'No' to the above, would someone take professional responsibility for the work being performed by the intern?	☐ Yes	☐ No
Would the intern have access to a 'mentor' who is a licensed professional engineer who could monitor the work being assigned and performed?	☐ Yes	☐ No

QUALITY OF EXPERIENCE - *Licensing of an engineering intern is structured along the lines of five criteria which must be met over the course of the 48- month internship. Engineering work experience is reviewed for indication that the applicant has had exposure and understanding of each of the criteria.*

Please circle or highlight the relevant items from the listings below and indicate proportion of time that the intern will be spending on each of them.

APPLICATION OF THEORY - *To qualify as engineering work, at least one component of the following must be present in the position as a significant percentage of the job function. The work should involve the use of engineering principles taught during an engineering degree program*.

Analysis*: scope & operating conditions, performance assessment, safety & environmental issues, technology assessment, economic assessment, reliability analysis*	Present in the position? ☐ Yes %____ ☐ No
Design & Synthesis: *functionality or product specification, component selection, integration of components & sub-systems into larger systems, reliability & maintenance factors, environmental & societal implications of the product or process, quality improvements*	Present in the position? ☐ Yes %____ ☐ No
Testing Methods: *devising testing methodology & techniques, verifying functional specifications, new product or technology commissioning & assessment*	Present in the position? ☐ Yes %____ ☐ No
Implementation Methods: *applying technology, engineering cost studies, optimization techniques, process flow & time studies, implementing quality control & assurance, cost/benefit analysis, safety & environmental issues & recommendations, maintenance & replacement evaluation*	Present in the position? ☐ Yes %____ ☐ No

PRACTICAL EXPERIENCE - *Provides interns with an appreciation of the fundamental roles of function, time, cost, reliability, reparability, safety & environmental impact in their work, through the opportunity to experience/understand/acquire knowledge about the following:*	
Function of Components within a System: *merits of reliability, role of computer software, relationship of the end product to the equipment & control systems*	Present in the position? ☐ Yes %____ ☐ No
Limitations of Practical Engineering & Related Human Systems: *production methods, manufacturing tolerances, operating & maintenance philosophies, ergonomics*	Present in the position? ☐ Yes %____ ☐ No
Significance of Time in the Engineering Process: *work flow, scheduling, equipment wear out, corrosion rates and replacement scheduling*	Present in the position? ☐ Yes %____ ☐ No
Codes, Standards, regulations & Laws that govern Applicable Engineering Activities	Present in the position? ☐ Yes %____ ☐ No
MANAGEMENT OF ENGINEERING – **Planning** *including development of a concept & evaluation of alternatives,* **Scheduling** *including allocation of resources & assessing impact of delays,* **Budgeting** *including identification of resources to assessment of cost escalation,* **Supervision** *including leadership, organization & motivational skills,* **Project Control** *including coordination, monitoring & taking corrective action***, Risk Assessment** *including performance & social & environmental impacts*	Present in the position? ☐ Yes %____ ☐ No
COMMUNICATION SKILLS - **Written Work** *including briefs or formal reports,* **Oral Reports or Presentations** *to peers, management, scientific community and/or the general public*.	Present in the position? ☐ Yes %____ ☐ No
SOCIAL IMPLICATIONS OF ENGINEERING – Awareness of Potential Consequences both **Positive** and **Negative** of a Project, Recognition of Value to the Public, **Safeguards** to Mitigate Adverse Impacts, Role of **Regulatory Agencies**, and **Responsibility** to Guard Against Conditions Dangerous or Threatening to Life, Limb, Property or the Environment.	Present in the position? ☐ Yes %____ ☐ No
NOTE: These guidelines can help applicants, supervisors, referees and employers assess whether a job position offers sufficient engineering to help meet the five quality-based criteria of : ◆ Application of Theory ◆ Practical Experience ◆ Management of Engineering ◆ Communication Skills ◆ Social Implications of Engineering	