

St. Lucia Engineers' Registration Board

Academic and Experience Requirements

April 2013

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1.0 Academic Requirements

The Act is very specific regarding the academic requirements necessary for registration. It states that a person is qualified to be registered as an engineer if

- a) he or she has been awarded a degree in engineering by the University of the West Indies;
- b) he or she has been awarded a degree, diploma, or other qualification in engineering granted by a university or school of engineering, that in the opinion of the Board, is evidence satisfactory training in engineering.

The Board's accreditation process will be in accordance with the following criteria:

- **University of the West Indies**

Graduates of the Bachelor of Science in Engineering courses are considered to possess the necessary academic qualifications for registration

- **Caribbean Accreditation Council for Engineering and Technology (CACET)**

Engineering degree programmes which have received CACET accreditation are considered acceptable academic qualifications for registration in St. Lucia.

- **The Washington Accord**

Undergraduate engineering degree programs, which are recognized as accredited by any of the signatory bodies to the Washington Accord, are considered acceptable academic qualifications for registration in St. Lucia. Registration as a Chartered Engineer by the Engineering Council of the U.K. or registration as a Professional Engineer in one of the signatory countries of the Washington Accord will be considered an acceptable qualifications for registration in St. Lucia.

- **FEANI**

Undergraduate engineering programs in Europe, which are recognized by the European Federation of National Engineering Association (FEANI), are considered acceptable academic qualifications for registration.

All applicants whose degrees and qualifications do not fall under any of the categories identified above, will have to provide an assessment of their qualification to establish academic equivalence with one of the accredited UWI degree programmes or to one of the engineering programmes accredited by the other institutions identified above. The recommended channel for such assessment is through the Engineering Council of the U.K. or other recognized institutions acceptable to the Board.

2.0 Acceptable Engineering Experience

The Board recommends that the applicant places an emphasis on gaining experience that is acceptable for registration during the first few years after graduation. This experience must demonstrate use of engineering knowledge, engineering education, and engineering judgment to perform tasks; and be progressive, of an increasing standard of quality and responsibility in one dominant discipline. All engineering experience must be supervised by a Registered Professional Engineer.

Acceptable engineering experience must include the application of theory for a substantial part of the internship periods and should provide exposure to or experience in the broad categories of practical experience, management, communication and the social implication of engineering. Without at least some appropriate exposure to each of these, an applicant will be ineligible for registration. The following subsections are based on experience requirements for most international licensing bodies.

2.1 Application of Theory

The skilful application of theory is a symbol of quality engineering work. The applicant's experience should include meaningful participation in one or more of the following:

- Analysis: scope and operating conditions; feasibility, technology and economic assessments; safety and environmental issues;
- Design and synthesis: functionality or product specification; component selection; integration of components and subsystems into larger systems; reliability and maintenance factors; human and environmental aspects; and the societal implications of the product or process;
- Testing methods: devising testing methodology and techniques; functional specification; verification; new product or technology commissioning and assessment;
- Implementation methods: technology application; engineering cost studies; optimization techniques; process flow and time studies; quality assurance implementation; development of quality plans and systems; maintenance of quality standards and records; cost/benefit analysis; safety and environmental issues and recommendations; maintenance and replacement evaluation.

2.2 Practical Experience

Practical experience allows applicants to understand the practical limitations of real systems. Practical experience should include:

- Site visits to existing engineering works, with opportunities to see equipment and systems in both operational and maintenance circumstances;
- Application of equipment as part of the larger system including, for example, the merits of reliability, the role of computer software, and understanding the end product or engineering work in relation to the equipment;

- Opportunities to experience and understand the limitations of practical engineering and related human systems in achieving desired goals, including minima, maintenance philosophies;
- Opportunities to experience the significance of time in the engineering process including workflow scheduling, equipment wear-out and replacement scheduling.

2.3 Management of Engineering

Management of engineering works includes the supervision of staff, project management, general exposure to an engineering business environment, and the management of technology.

Engineering management includes:

- Planning, from conception through to implementation. This includes: needs assessments; concept development; resourcing; and assessment of impacts both societal and project implementation;
- Scheduling and developing activity or task schedules; allocation of resources, through to assessment of delay impacts and beyond to broader aspects, such as interactions with other projects and the marketplace;
- Budgeting, including the development of preliminary and detailed budgets. Identifying labour, materials, and overhead; risk analysis; life cycle costing; and value engineering;
- Supervision, including leadership. Professional conduct; organization of human resources; team building; and management of technology;
- Project control, including co-ordination of work phases; tracking and monitoring costs and progress; and implementing changes to reflect actual progress and needs;
- Risk analysis related to operating equipment and system performance, product performance evaluation, and evaluation of societal and environmental impacts.

2.4 Communication Skills

Acceptable engineering experience should allow communication with others at all levels. Development of effective communication skills is an important experience requirement. These skills apply to all areas of the work environment including communication with superiors, colleagues, regulators, clients, and the public. Applicants should have regular and progressive opportunities to participate in:

- Preparation of written work; including day-to-day correspondence, letters, record-keeping, and report writing;
- Making oral reports or presentations to colleagues, supervisors, senior management, and an exposure to, or participation in, reports to clients and regulators;
- Making public presentations.

2.5 Social Implications of Engineering

The objective of this component of acceptable engineering experience is to provide experience which increases awareness of an engineer's professional responsibility to guard against conditions dangerous or threatening to life, limb, property, or the environment, and to call any such conditions to the attention of those responsible.

This component is an important part of the practice of engineering. The work environment should provide opportunities for applicants to demonstrate a personal commitment to professional standards, recognise obligations to society, the profession and the environment. The applicants work environment should heighten their awareness of the potential consequences of engineering work. This should include:

- A recognition of the value and benefits of the engineering work to the public;
- An understanding of the safeguards required to protect the public and methods of mitigating adverse impacts;
- An understanding of the relationship between the engineering activity and the public;
- A demonstrated interest and involvement in the broader social implications of engineering;
- An appreciation of the role of regulatory bodies on the practice of engineering;
- An understanding of the provincial health and safety of the workplace legislation.

3.0 Engineering Experience Record

The Engineering Experience Record (EER) is a portfolio or dossier of engineering activities and tasks undertaken during the period under record. It is generally a record or diary of all tasks performed during the period. The EER should provide a comprehensive summary of the applicant's engineering experience based on the five criteria discussed in Section 6.0. The applicant is expected to describe clearly, but concisely, the complexity of the work that was personally performed, the duties, and the degree of responsibility.

The EER is expected to include the dates of employment (beginning and end dates for each employer), names and locations of employers, and a description of your engineering experience. There should be no unexplained time gaps in the EER. The applicant is expected to differentiate between periods of part-time and full-time employment.

More specifically, the EER should contain the following for each position held by the applicant.

- Names or descriptions of the projects that the applicant worked on during the period under record
- Implementation periods for the said projects;

- Supervising engineer and the number of years experience as a Registered Professional Engineer in St. Lucia or in any other country where there is legislation governing the practicing of engineering;
- Applicant's specific role and extent of involvement in each project;
- Extent of participation in meetings at the direct work/office level, with funding agencies or Ministries;
- Workshops, seminars attended or any professional development units acquired.

When describing the engineering experience, applicants should avoid the use of vague terms such as "involved in" "participated in" and use specific terms such as "I designed" and "I recommended".

The Board requires that the EER shows that the applicant has obtained progressive engineering experience during the period under record. The EER will only be considered as progressive if the applicant demonstrates that there has been practical utilization of the acquired knowledge, continuous improvement, growth, maturity, and development over the period. This development would normally be manifested in the increasing complexity and technical difficulty of the work undertaken by the applicant. There must be a clear delineation/demonstration of the continuous assumption of greater individual responsibility for the work, tasks, or projects undertaken during the experience period.

It is therefore important that prospective applicants maintain a current record of their work experience. A diary of daily activities and a logbook for each project will go a long way in recording all relevant experience. Critical to the training and experience record is the supervision by a senior Registered Professional Engineer. Should the applicant engineer be in a work environment where there is no senior engineer, the Association of Professional Engineers of St. Lucia will appoint a mentor, supervising, or designated engineer to provide necessary guidance.

Appendix 1 – Suggested Format for Engineering Experience Record

St. Lucia Engineers' Registration Board Engineering Experience Record

Submission Date:		Diary No:			Page:	
Name:				Member No:		
Employer:				Discipline:		
Project:						
Implementation Period of Project:						
Work Period dd/mm/yy		Work Experience				
From	To	<i>Application of Theory</i> /100	<i>Practical Experience</i> /100	<i>Management of Engineering</i> /100	<i>Communication Skills</i> /100	<i>Social Implications</i> /100
Signature						
Supervisor's Signature						
Supervisor's Membership No						
Supervisor's contact information for verification of your work experience						

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Project:						
Implementation Period of Project:						
Work Period dd/mm/yy		Work Experience				
From	To	<i>Application of Theory /100</i>	<i>Practical Experience /100</i>	<i>Management of Engineering/100</i>	<i>Communication Skills /100</i>	<i>Social Implications /100</i>