

**Evaluating Academic Qualifications for AMIE (SL) by Individual Candidates**

**Criteria**

The graduates (non-recognized/non accredited engineering degree holders) seeking registration as Associate Members of the IESL should meet three essential criteria/requirements at the outset to apply under this scheme.

- (1) Having a 4 year Engineering Degree, or equivalent
- (2) Having an academic content in the Degree program as set out in the IESL Recognition Manual (or Washington Accord Accreditation Manual)
- (3) Having an entry-qualification to the Degree program as prescribed by the IESL

Duration for a fulltime Degree program should be 4 years, or more. For Degree equivalent qualifications the equivalent fulltime duration should be 4 years, or more.

The entire programme must include a minimum of 130 Academic Credits (ACs), or more, with a Credit distribution as given in Table 1, as per the IESL recognition manual (or the WA accreditation manual). Credits are given in Washington Accord (WA) equivalent. All non WA Credits are converted to equivalent WA Credits (rounded off to lower 0.5) as per Table 2 before totaling, and the candidate must provide necessary information (in a given format) to carry out this conversion.

Refer Annexure 1 for more details on “Minimum Credit Distribution & Credit Computation”.

Table 1: Minimum Credit Distribution

<b>Category</b>	<b>Minimum WA Credits</b>
Engineering Sciences, Engineering Design, Projects, Training	75 Credits
Mathematics, Basic Sciences, Computing	25 Credits
Complementary Studies	20 Credits
<b>Total</b>	<b>120 Credits</b>

Table 2: Credit computation

<b>Category</b>	<b>Active duration per Credit</b>
Lectures	14 hours
Tutorials, laboratory classes, designs or field works	28 hours
Open and distance learning	25 hours
Project study	1 week
Work camps	2 weeks
Industrial training	4 weeks

Entry requirement: GCE A/L Entry-qualification for the Degree program should be as prescribed and published by the IESL (Web link: <http://www.iesl.lk/A/L-Entry-Requirement>).

After evaluating the application of a candidate, one of the following decisions will be reached.

- (i) If the applicant is having an engineering Degree satisfying all three criteria/requirements stated above but the Degree is not recognized by IESL, or accredited by WA, then he/she will be requested to face a General Qualifying Examination set, conducted and assessed by the IESL. Upon the successful completion of this examination he/she will be accepted for the Associate Membership.

(The General Qualifying Examination will focus on broader knowledge in the specific engineering discipline and Graduate Attributes.)

- (ii) If the applicant does not fulfill the three essential criteria/requirements at the outset as stated above, he/she will be not eligible for the Associate Membership.

(The applicant will be provided with details of additional Credits and their categories that he/she should earn before re-applying. It is expected that the candidate will find a recognized course provider and earn the required Credits)

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## ANNEXURE 1

### STRUCTURE AND CONTENT OF THE ACADEMIC PROGRAMME

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#### **DEFINITIONS OF ACTIVE HOURS (AHs) AND ACADEMIC CREDITS (ACs)**

For an academic activity that is granted academic credit, and in which the number of hours associated with it corresponds to the actual contact time of that activity, such as lectures, tutorials, laboratory, design or fieldwork, an Active Hour (AH) is defined as follows:

- one (1) hour of lecture
- two (2) hours of tutorial, laboratory, design or field work

One AH continued over the duration of a semester is defined as an Academic Credit (AC). (One (1) AC is equivalent to about fourteen (14) AHs. However, in the case of Open and Distance Learning, One (1) AC is considered equivalent to about twenty five (25) AHs)

For activities in which contact hours cannot be used to properly describe the extent of the work involved, such as project study, work camps and industrial training, the following definitions are used for an AC:

- one (1) week of project study
- two (2) weeks of work camp
- four (4) weeks of industrial training.

It is appropriate for the programme structure to be designed in such a way that gives a progressive shift of emphasis from engineering science and principles in the early stages to more integrated studies in the final year.

The entire programme must include a minimum of 130 Academic Credits (ACs).

The essential elements are grouped under three headings.

**(a) Mathematics, Basic Sciences and Computing (Minimum of 25 ACs)**

Mathematics should include appropriate elements of linear algebra, differential and integral calculus, differential equations, probability, statistics, numerical analysis and discrete mathematics. Some of the mathematical techniques may be taught within other subjects in the programme where they are relevant.

The basic sciences component of the curriculum must include elements of physics and chemistry, and other relevant elements of sciences. These subjects are intended to impart an understanding of natural phenomena and relationships through the use of analytical and / or experimental techniques.

**(b) Engineering Sciences and Engineering Design (Minimum of 75 ACs)**

A combination of engineering sciences engineering design and projects and exposure to professional practice is recommended. Of this a minimum of 25ACs must be engineering design and projects; and a minimum of 25ACs must be an engineering discipline specialisation.

Engineering science subjects would normally have their roots in basic sciences and mathematics, but carry knowledge further towards creative applications. They may involve the development of mathematical or numerical techniques, modelling, simulation and experimental procedures. Application to the identification and solution of practical engineering problems is stressed. In addition to engineering science subjects pertinent to the discipline, the curriculum must include engineering science content, which imparts an appreciation of important elements of other engineering disciplines.

Engineering design integrates mathematics, basic sciences, engineering sciences and complementary studies in developing elements, systems and processes to meet specific needs.

The engineering curriculum must end with a significant design experience, which is based on the knowledge and skills acquired earlier. Such an exercise is expected to give the student an exposure to the concepts of teamwork and project management. The final year project is required to demand individual analysis, judgement as well as teamwork. Each student should be assessed independently from the work of others. The student is expected to develop techniques in literature review and information gathering.

The engineering sciences and engineering design components of the curriculum must include appropriate content, which requires the application of relevant software.

**(c) Complementary Studies (Minimum of 20ACs)**

A minimum of fifteen (15) academic credits for studies in management, engineering economics, professional ethics and communication and five (5) academic credits in humanities, social sciences, and arts are recommended to complement the technical content of the curriculum.

**EXPOSURE TO PROFESSIONAL ENGINEERING PRACTICE**

Industrial training in a practical engineering environment, directly assisting professional engineers, would give the student a valuable insight into professional practice. Such experience would complement the formal studies at the educational establishment, and should ideally consist of several different types of experience. This must include practical experience in the basic manufacturing and construction techniques applicable to the student's chosen discipline of engineering. The opportunity to observe human and industrial relations, job organisation, maintenance, safety and environmental procedures from the point of view of the general workforce is an important component in the early preparation for a career as a professional engineer.

Each undergraduate shall undergo industrial training for a period of not less than twenty-four (24) weeks, (continuously, or in 2 sessions of 12 continuous weeks) and submit a report on the training certified by the employer's representative to enable assessment and the award of credits. The academic credits obtained for industrial training (subject to a maximum of six ACs) is considered under the category of engineering sciences, engineering design and projects. These credits may be acquired by alternative methods of exposure to the working environment provided there is a satisfactory scheme of assessment and award of credits specified in the curriculum.