NEPAL ENGINEERING COUNCIL (NEC)

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Chairperson

For "Orientation cum Workshop on the Quality Accreditation process", jointly organized by UGC, NEC, and AECoN.
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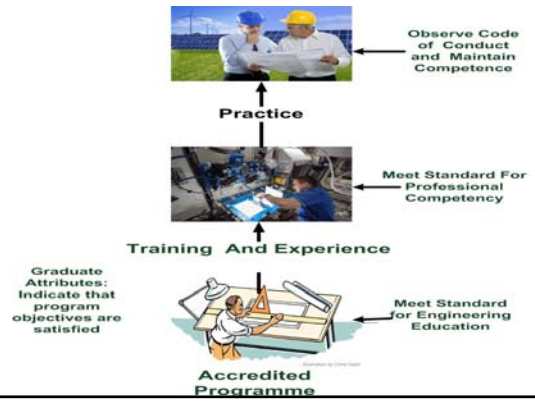
Engineering Professional Lifecycle



Practicing engineering in Nepal without registering with NEC, is against the law of the country.

Rights & DUTIES OF NEC

- To prepare and execute policies, plans and programs for the effective functioning of the Engineering Profession.
- Set qualifying criteria for the persons who want to practice engineering in Nepal and register them in the council.
- Derecognize (as per the laws) those who do not follow the professional ethics set by the council while performing their jobs.
- To set Norms and Standards for Engineering Colleges to run engineering programs.
- Recognize the degree awarded by the Engineering Colleges /Universities as per the directives.

The Nepal Engineering Council (NEC) is aiming to be a signatory of International Engineering Alliance (IEA).

Achieving Quality Engineering Education System in Nepal is one step forward in the preparations.

INTERNATIONAL ENGINEERING ALLIANCE (IEA) is a global not-for-profit organisation, which comprises members from 36 jurisdictions within 27 countries, across seven international agreements. These international agreements govern the recognition of engineering educational qualifications and professional competence.

Through the Educational Accords and Competence Agreements members of the International Engineering Alliance establish and enforce internationally bench-marked standards for engineering education and expected competence for engineering practice.

International Engineering Alliance (IEA)

Vision

To develop and maintain authoritative, independent international standards for engineering education and competence and promote their wider recognition and adoption

IEA Core Values

- **Uphold, assess and improve engineering educational standards and professional competence**
- **Best of engineering accreditation bodies from world economies**
- **Driven by the engineering profession**
- **Non governmental**

Overarching purpose and the objectives of the IEA

To improve the global quality and productivity of engineering by being the accepted independent authority on best practice engineering education and competence standards, assessment and monitoring

What is Professional Competence?

- **Professional Engineers are able to perform functions because of their:**
  - **Knowledge,**
  - **Skills, and**
  - **Attitudes**
- **Competence is developed by**
  - **Education,**
  - **Training, and**
  - **Experience**

The Washington Accord Agreement recognises that: "Accreditation of engineering academic programs is a key foundation for the practice of engineering at the professional level in each of the countries or territories covered by the Accord."

TERMS OF AGREEMENT

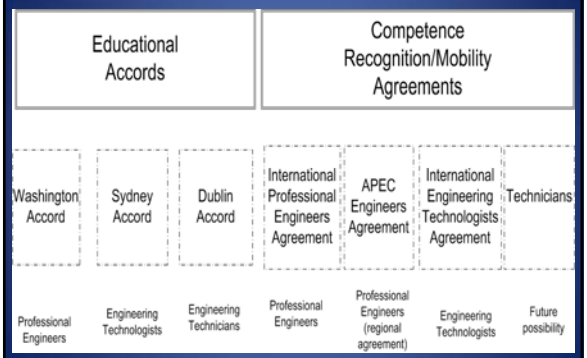
- The Authorized Members shall establish and maintain a benchmark competence standard to further the purpose of this agreement and this standard shall be attached as a schedule to the agreement .
- The benchmark competence standard shall include elements covering the following areas:
  - An overall level of **academic achievement** as a requirement of registration, licensure or other equivalent recognition which is not less than substantially equivalent to that of a **graduate holding an engineering degree** accredited by an organisation holding full signatory status of, and acting in accordance with the terms of, the Washington Accord; and
  - The professional **engineering competence** for independent practice ; and
  - A prescribed minimum period **of practical experience** since graduation; and
  - A prescribed minimum period in **responsible charge** of significant engineering work; and
  - Sufficient **continuing professional development to maintain** the currency of knowledge and skills; and
  - **Ethical** responsibility in practice; and
  - **Accountability** for personal actions and decisions as a professional engineer.

IEA Constituents

Constituents of IEA predominately consists:

- National organizations solely responsible for accreditation of engineering programs in their economies, and
- National licensure bodies responsible for safe-guarding professional competence.

International Engineering Alliance (IEA)



The Washington, Sydney and Dublin Accords participants, termed signatories, are committed to benchmarking of engineering education standards for engineers, engineering technologists and engineering technicians respectively and to mutual recognition of the graduates of accredited educational programmes as providing the educational foundation for the following occupational roles:

- **Washington Accord: engineering at the professional level;**
- **Sydney Accord: engineering technology practice within the engineering team;**
- **Dublin Accord: engineering technician practice within the engineering team;**

DIFFERENCES BETWEEN ACCORDS

Washington Accord	Sydney Accord	Dublin Accord
Basis of agreement Substantially equivalent accreditation systems leading to recognition of substantial equivalence of programmes in satisfying academic requirements for the practice of engineering at professional level	Substantially equivalent accreditation systems leading to recognition of substantial equivalence of programmes in satisfying academic requirements for the practice of engineering technology at the appropriate level	Substantially equivalent means for recognising the educational base qualifications to meet expected outcomes for engineering technicians according to exemplifying academic qualifications Provisional

Washington Accord: Benchmarking

Agreement states:

- The Signatories will identify and encourage the implementation of best practice for the academic preparation of engineers by mutual monitoring, regular communication and sharing of information:
  - (a) accreditation criteria, systems, procedures, manuals, publications;
  - (b) lists of accredited programs;
  - (c) invitations to observe accreditation visits and invitations to observe meetings of any boards.
- Regular monitoring through six-yearly visits now required

Washington Accord: Becoming a Signatory

- Normal minimum period as provisional is two years
- A provisional that is ready to apply for signatory status requests a verification visit
- Application must be supported by two signatories
- Visit takes place
- Visit must demonstrate substantial equivalence of:
  - Accreditation standard to the Graduate Attributes
  - Policies and processes to be substantially equivalent
- Visit report is considered at a general meeting
- Admission of a new signatory requires unanimous approval

Signatories (full)

- **Signatories have full rights of participation in the Accord-Qualifications accredited or recognized by other signatories are recognised by each signatory as being substantially equivalent to accredited or recognised qualifications within its own jurisdiction.**
- **Australia** - Represented by Engineers Australia (EA) (1989)
- **Canada** - Represented by Engineers Canada (EC) (1989)
- **China** - Represented by China Association for Science and Technology (CAST) (2016)
- **Chinese Taipei** - Represented by Institute of Engineering Education Taiwan (IEET) (2007)
- **Hong Kong China** - Represented by Hong Kong Institution of Engineers (HKIE) (1995)
- **India** - Represented by National Board of Accreditation (NBA) (2014)
- **Ireland** - Represented by Engineers Ireland (EI) (1989)
- **Japan** - Represented by Japan Accreditation Board for Engineering Education (JABEE) (2005)

Signatories (full)

- **Korea** - Represented by Accreditation Board for Engineering Education of Korea (ABEEK) (2007)
- **Malaysia** - Represented by Board of Engineers Malaysia (BEM) (2009)
- **New Zealand** - Represented by Engineering New Zealand (EngNZ) (1989)
- **Russia** - Represented by Association for Engineering Education Russia (AEER) (2012)
- **Singapore** - Represented by Institution of Engineers Singapore (IES) (2006)
- **South Africa** - Represented by Engineering Council South Africa (ECSA) (1999)
- **Sri Lanka** - Represented by Institution of Engineers Sri Lanka (IESL) (2014)
- **Turkey** - Represented by Association for Evaluation and Accreditation of Engineering Programs (MÜDEK) (2011)
- **United States** - Represented by Accreditation Board for Engineering and Technology (ABET) (1989)
- **United Kingdom** - Represented by Engineering Council United Kingdom (ECUK) (1989)
- **Pakistan** - Represented by Pakistan Engineering Council (PEC) (2017)

Signatories (Provisional)

- **Provisional Signatories are recognised as having appropriate systems and processes in place to develop towards becoming a full signatory**
- **Bangladesh** - Represented by Institution of Engineers, Bangladesh (IEB)
- **Costa Rica** - Represented by Colegio Federado de Ingenieros y de Arquitectos de Costa Rica (CFIA)
- **Mexico** - Represented by Consejo de Acreditación de la Enseñanza de la Ingeniería (CACEI)
- **Peru** - Represented by Instituto de Calidad Y Acreditacion de Programas de Computacion, Ingeneria Y Technologia (ICACIT)
- **Philippines** - Represented by Philippine Technological Council (PTC)

Conclusion

- The Washington Accord is an independent agreement for:
  - Mutual recognition of accredited engineering programmes
  - Benchmarking standards for engineering education
- The WA Graduate Attributes represent the generally agreed reference for accredited programmes – Benchmarking accreditation policies and processes
- The WA has grown from a small group of signatories to a well structured and sought-after organisation

Please do support "Nepal Engineering Council" through your **INITIATIVES.**

"Be Accredited and show your Presence in the International Engineering Societies"

THANKS

FOR

YOUR ATTENTIVE PRESENCE

Please visit us at www.nec.gov.np