



Career Development and Combating Unemployment of Women in Engineering Profession

Presented By
Engr. Rukhsana Rahooja

At
The International Women's Day Celebrations

Organized by
Institution of Engineers Pakistan
Karachi Center

March 08, 2014

What is Career Development?

Career Development is achieved through Continuing Professional Development (CPD) and Engineering Practice Examination (EPE).

CPD and EPE provides competence and ability to engineers for:

- **application of theoretical knowledge to practical situations**
- **to evolve innovative solutions to real life problems**
- **adhering to professional ethics**
- **broader understating of their obligations to society.**

Significance of Career Development

Career Development of professionals keep them abreast of the changes in the rapidly changing world, where legislative, social and economic developments directly affect the environment in which they live and work, and where technological advancements provide radically different ways of working, to broaden professional skills and hence become more effective and valuable for prospective employment.

PEC and Professional Development of Engineers

- Pakistan Engineering Council under its Act has mandate for introducing and ensuring continued professional development activities amongst its growing community of engineers and has devised a comprehensive framework titled *Professional Development of Engineers (Bye Laws – 2008)* *approved by the Government of Pakistan.*
- Pakistan Engineering Council has enforced the Professional Development of Engineers Bye-Laws-2008 w.e.f. 10.07.2010 and applies to *Registered Engineers* and *Professional Engineers*
- In order to maintain minimum standards of competence, practical knowledge and skills of *Registered Engineers* and *Professional Engineers*, following parameters shall apply as per clause 13 (b) of the above Bye-law :

- For newly **Registered Engineers**, first year after graduation is a grace period and **CPD** is applicable from second year onwards.
- **Registered Engineers** shall have to earn 09 credit points in first three years cycle, 12 credit points in next three years cycle and 05 credit points per year thereafter for renewal of registration.
- **Registered Engineers** are required to appear for **EPE** after five years of initial registration and acquire at least 17 credit points.
- **Registered Engineers** may qualify for registration as **Professional Engineers** after qualifying in **EPE**
- Engineers registered as **Registered Engineer** after 2005 are required to show five year experience for **EPE** w.e.f 2010, with requisite credit points.
- **Professional Engineers** already registered with the PEC are not required to appear in **EPE**.
- Existing **Professional Engineers** are required to obtain 03 credit points per year for renewal of registration, with effect from July 2010.

Engineering Practice Examination

- The EPE is optional for a **Registered Engineer** but is essential part of assessment for the title of **Professional Engineer**.
- When a **Registered Engineer** has attained a minimum of five years of practical experience in relevant field of engineering from a recognized engineering organization or institution or service and has earned requisite CPD's, the engineer shall become eligible to apply for EPE.

Information on the mechanism of EPE, eligibility criteria, format of EPE, guidelines for candidates, curricula for EPE is available on the website of Pakistan Engineering Council.

Categories of CPD and Its Accumulation

The CPD programmes include the following through training and experience:

- **additional qualifications**
- **professional skills**
- **relevant management skills**
- **communication skills**

These aspects are grouped into the following four different categories of training, namely:

- a. formal education**
- b. work-based learning**
- c. developmental activities**
- d. individual activities**

Category-a: Formal Education

Acquiring higher education duly recognized by PEC/HEC through accredited engineering programmes and related education in management, law, finance, economics and architecture etc. including on campus education, distance education and others viz. diploma courses of a minimum six months duration involving specialist presenters or resource persons who are external to the workplace.

- **Break-up of CPD Points for Formal Education:**

1	Post Graduate Diploma (PGD) above 6 and below 9 months duration	2
2	Post Graduate Diploma (PGD) 9 to 12 months duration	4
3	Award of Post Graduate Degree in Engineering and related subjects (Course work only)	4
4	Award of Post Graduate Degree in Engineering and related subjects (Course work plus research work)	6
5	Award of Doctorate (Ph.D) in Engineering	12

Category-b: Work-Based Learning

- **It includes on-job learning that takes place because of the workplace requirements on projects viz. construction, operation, supervision at site, management, development of computer programmes or software package, etc.**
- **2 CPD Points are earned for one year of work experience.**

Category c: Developmental Activities

It includes attendance of structured educational or developmental meetings over a period of time, viz conferences, workshops, seminars, refresher courses from PEC's approved bodies and memberships of recognized professional associations/bodies.

- **Break-up of CPD Points for developmental activities:**

1	Memberships of recognized national professional bodies	1
2	Memberships of recognized international professional bodies	2
3	Participation in training and development programmes	1
4	Participation in conference (2 hours of technical session)	0.5
5	Participation in seminar (2 hours of technical session)	0.5
6	Participation in lectures (2 hours technical subject)	0.5
7	Participation in workshops (Full Day)	1
8	Refresher course/short course (Full Day)	1

Category-d: Individual Activities

Publications of technical articles in reputed referred journals, part time lecturing in an approved technical institution, evaluation of dissertation at post-graduate level as external examiner and other participatory activities in the PEC's recognized technical associations or institutions

● Break-up of CPD Points for individual activities:

1	Invited Lecturer. (Excluding routine teaching at institutions and university)	1.5
2	Symposium Panelist	0.5
3	Writing and publishing research article in journals/technical report	
i.	National (HEC/PEC approved)	1.5
ii	International (publication after a peer review)	3
4	Writing conference paper	
i.	National	0.5
ii	International	1.5
5	Authoring a book (approved by a professional body)	5
6	Professional contribution in emergency and recognized social work	1
7	Active participation in statutory, technical or non-technical committees.	1
8	Managing technical event	
i.	National	1
ii	International	2

- **Annual Recording and Accumulation of CPD Points:**

S.No	Category	Professional Engineering Body	Credit Hours Claimed	Credit Points Claimed
1	Formal Education			
2	Work Based Learning			
3	Development Activities			
4	Individual Activities			

DO's - *when unemployed*

- **Make efforts to accumulate as many CPD Points as possible**
- **Prepare for the Engineering Practice Examination.**
- **Participate in professional activities on voluntary basis**
- **Participate in research projects with research teams in R&D organizations and universities**
- **Prepare for entrance tests that are pre-requisites for employment in public sector organizations**
- **Sharpen your communication skills and writing skills**
- **Network with your Alumni**
- **And Do strive to continue with your profession.**

DONT's - *when unemployed*

- **Don't give up at any stage of your life.**
- **Don't hesitate for working on less salary, but Don't stop for searching and striving for better prospects.**
- **Don't "console" yourself with the myth that being a woman means, you accept a back seat in career development.**
- **Don't stop networking with your Alumni.**
- **And Don't stop striving towards your profession.**

DO's - *when employed*

- **Accumulate as many CPD Points as possible.**
- **Prepare for the Engineering Practice Examination.**
- **Network with your Alumni.**
- **Help and assist your friends who are unemployed.**

DONT's - *when employed*

- **Don't slow down your career and professional development.**
- **Don't ignore accumulating your CPD Points.**
- **Don't leave your job if you are posted at a different location or department.**
- **Don't allow yourself to be stuck in the rut of mediocre assignments.**
- **Don't allow gender bias or harassment at your work place.**
- **Don't ever stop networking with your Alumni.**

**Good Luck Fellow
Engineers and
Thank You**