Engineering Council of South Africa (ECSA)

An Overview

CAPEC - CESA

13 December 2013
Structure of the Engineering Profession

• Regulates the practice of engineering in South Africa through
  – Registration
  – Accreditation of engineering education programmes
  – Regulating Professional Conduct
  – Setting standards for education and registration
• Act in the interest of public health and safety in engineering for the benefit of the public
• ECSA partners with the engineering voluntary associations
Engineering Voluntary Associations

Serve the interests of their members, promote their disciplines

• Consulting Engineers South Africa (CESA)
• Aeronautical Society of SA (AeSSA)
• SA Institute of Agricultural Engineers (SAIAE)
• SA Institution of Chemical Engineers (SAIChE)
• SA Institution of Civil Engineering (SAICE)
• SA Institute of Electrical Engineers (SAIEE)
• SA Institute for Industrial Engineers (SAIEI)
• SA Institution of Mechanical Engineering (SAIMechE)
• SA Institute of Mining and Metallurgy (SAIMM)
• Institute of Professional Engineering Technologists (IPET)
• Chamber of Engineering Technology (COET)
• + ….. others
Relationships in the Profession

ECSA

Functions:
• Register
• Accredit
• Regulate Professional Conduct
• Set Standards
• Act in the interests of the public
• Advise government

Recognition

Nominate Council and Committee Members

Provider Peer Assessors, Accreditors, Investigators

Presidents Forum

Engineering Voluntary Associations

CESA
AeSSA
SAIAE
SAChE
SAICE
SAIEE
SAIE
SAIMechE
SAIMM
IPET
COET
+ .....
Categories of Registration

**Professionals**
- Professional Engineers
- Professional Engineering Technologists
- Professional Engineering Technicians
- Professional Certificated Engineer

**Specified Categories**
- Lift Inspector
- Lifting Machinery Inspector
- Medical Equipment Maintainer
ECSA’s Education Functions

• Accreditation of qualifications
  – Engineering qualifications:
    • BEng-type: 8 universities offering 51 programmes
  – Technology Qualifications:
    • BTech: 10 providers offering 95 programmes
    • National Diploma: 11 providers offering 103 programmes

• Evaluation of qualifications

• Policy advice on engineering education
Professional Registration Requirements

For registration as a professional in a category, the applicant must

(a) satisfy the relevant educational outcomes determined by council

(b) demonstrate competence as measured against standards determined by the council

Note: (a) is equivalent to the candidate requirements.

After graduation, at least 3 years (usually more) of training and experience required for registration
Step 1: “Candidate” Registration in order to have qualifications evaluated.

- All applicants with non-accredited and non South African qualifications have to apply for “Qualification Evaluation” which is done by ECSA’s Qualification Examinations Committee (QEC).

<table>
<thead>
<tr>
<th>Candidate Engineer</th>
<th>BSc(Eng)/BEng</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidate Eng Techno</td>
<td>BTech</td>
</tr>
<tr>
<td>Candidate Cert Eng</td>
<td>Cert of Competency</td>
</tr>
<tr>
<td>Candidate Eng Techni</td>
<td>National Diploma from UOT</td>
</tr>
</tbody>
</table>
## Register of Engineering Professionals

### By Race

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>M/F</th>
<th>M/F-African</th>
<th>M/F-Coloured</th>
<th>M/F-White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Engineer</td>
<td>16 182</td>
<td>876</td>
<td>1336</td>
<td>160</td>
<td>13810</td>
</tr>
<tr>
<td>Professional Engineering Technologist</td>
<td>4704</td>
<td>406</td>
<td>949</td>
<td>180</td>
<td>3169</td>
</tr>
<tr>
<td>Professional Certificated Engineer</td>
<td>1073</td>
<td>39</td>
<td>57</td>
<td>11</td>
<td>966</td>
</tr>
<tr>
<td>Professional Engineering Technician</td>
<td>3116</td>
<td>229</td>
<td>1724</td>
<td>138</td>
<td>1025</td>
</tr>
<tr>
<td><strong>TOTAL @ 31 October 2013</strong></td>
<td>25 075</td>
<td>1 550</td>
<td>4 066</td>
<td>489</td>
<td>18970</td>
</tr>
</tbody>
</table>
## Register of Candidate Categories

### By Race

<table>
<thead>
<tr>
<th>Category</th>
<th>Total</th>
<th>M/F-Indian</th>
<th>M/F-African</th>
<th>M/F-Coloured</th>
<th>M/F-White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Candidate Engineer</td>
<td>7 387</td>
<td>1 092</td>
<td>2 206</td>
<td>175</td>
<td>3914</td>
</tr>
<tr>
<td>Candidate Engineering Technologist</td>
<td>3 094</td>
<td>267</td>
<td>2 101</td>
<td>115</td>
<td>611</td>
</tr>
<tr>
<td>Candidate Certificated Engineer</td>
<td>287</td>
<td>24</td>
<td>120</td>
<td>13</td>
<td>130</td>
</tr>
<tr>
<td>Candidate Engineering Technician</td>
<td>5 457</td>
<td>312</td>
<td>4 395</td>
<td>136</td>
<td>614</td>
</tr>
<tr>
<td><strong>TOTAL @ 31 October 2013</strong></td>
<td>16 225</td>
<td>1695</td>
<td>8 822</td>
<td>439</td>
<td>5269</td>
</tr>
</tbody>
</table>
THANK YOU!

Website : www.ecsa.co.za
Email : engineer@ecsa.co.za
Tel No : (011) 607 9500
Offices : Waterview Corner,
Building 2 Ernest
Oppenheimer Avenue,
Bruma
Professional Development Model

- Accredited Programme
  - Training And Experience
    - Practice
      - Observe Code of Conduct and Maintain CPD
  - Meet Standard For Professional Competency
    - Meet Standard for Engineering Education

- Candidate Registration
  - Graduation
    - Accredited Programme

- Professional Registration
Renewal of Registration Through CPD

- Engineering Profession Act, 2000 requires Renewal of Registration.
- Renewal of registration is linked to continuing professional development (CPD) over five year cycles.
  - 5 Credits per annum (25 over 5 year cycle) needed for renewal of registration.
  - CPD Credits awarded for
    - Developmental Activities (1 credit required per year)
    - Work-based Activities
    - Individual Activities
Educational Accords

International educational agreements provide for:

- Mutual recognition
- Benchmarking

of programmes providing the educational foundation for practice in each category

<table>
<thead>
<tr>
<th>Washington Accord</th>
<th>Professional Engineer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney Accord</td>
<td>Professional Engineering Technologist</td>
</tr>
<tr>
<td>Dublin Accord</td>
<td>Professional Engineering Technician</td>
</tr>
</tbody>
</table>