CHINA ENGINEERING EDUCATION & ACCREDITATION

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In the year of 2017

HEIs: 1,139 HEIs offering engineering programs, ~92% of the total

Students: 5.38 million engineering undergraduates, ~33% of the total

Number of programs: 18,117 engineering programs, ~32% of the total
Great challenges faced to improve the quality of engineering education with such huge amount

- Mechanism establishment
- Criteria & standards establishment
- Quality assessment
- …………

Engineering Education Accreditation gives the answers……
China Engineering Education Accreditation

- History
- Objectives
- System
- Criteria & Characteristics
- Procedures
- Trainings
- Accredited programs
- Effectiveness
- Prospect
History

1980s
- Study

1990s
- Pilot Accreditation

2006
- Establishment of Accreditation System

2013
- A provisional member of Washington Accord

2016
- A full member of Washington Accord
Objectives

**Profession Involved**

Establishing the cooperation mechanism between engineering education and industry

**Laying down a solid basis for professional engineer system**

**International Recognition**

Promoting the international mutual recognition and enhancing communications with international counterparts

**Promoting the pace of engineering education reform**

**Professional Engineer**

**Education Reform**
Organization system

- Member organization of CAST
- Conduct accreditation independently
- Non-profit, NGO
- Authorized by MOE
- 33 associations involved
Member units
Graduate Outcomes

- Engineering Knowledge
- Problem Analysis
- Design solutions
- Investigation
- Modern Tool Usage
- The Engineer and Society
- Environment & Sustainability
- Ethics
- Individual & Team work
- Communication
- Project Management and Finance
- Lifelong Learning

Consistent with WA graduate attributes

Ability and Attitude

Complex Engineering Problem solving
Accreditation characteristics

- Student-centered
- Demand-based
- Standard-oriented
- Continuous quality improvement
Accreditation Procedures

Application and Acceptance

Self-study
- Submitting Self-study Report
- Desk-Reviewing of Self-study Report of Data Analysis Report

On-site Visiting (on-campus & off-campus)

Reviews and Suggestions on Accreditation Decision

Maintenance of Accreditation Status

- Bachelor’s programs admitted by MOE
- Program areas covered by the CEEAA
- Programs have at least three cohorts of graduates
- Application report prepared in accordance with the Guidelines

Diagram:
- The On-site Visiting team visits the campus
- Submits On-site Visit Report to the Disciplinary Committee
- The institution makes feedback of the report
- The Program Accreditation Sub-committee reviews relevant documents and makes accreditation
- Accreditation Decision Advisory Committee holds Plenary Meeting and votes
- Whether the institution agrees with the accreditation decision or not?
- Pass accreditation or not?
- The board of Supervisors dispose the appeal and makes the final decision
- Lodge an appeal
- Re-examine
- Make decision
- The Maintenance of the Accreditation
- CEEAA publicizes the result
- The end of the validity period of accreditation
Training

Diversified and multi-level training sessions and workshops

1000+ Team Chairs & Volunteers
Evaluator training
Case-study training
Philosophy discussion
On-site probation

800+ HEIs, 9000+ faculty members
Program training
workshops for Accepted Program
Symposia for Interested Program
Q&A
MOOCs
Accreditation experts

Over 1000 well-trained experts in our Expert Pool
42% of them: from industry
58% of them: from academia
Accredited programs

By the end of 2017,

198 HEIs participated in accreditation
846 accredited programs
Effectiveness

• OBE is carried out throughout the country.
• Guided by the accreditation criteria, educational objectives were revised, curriculum was reorganized, classroom teaching was improved, teachers’ responsibility turned to be explicit, assessment mechanism and quality culture were established. The quality of talent cultivation obviously improved.
• Student assessment and teacher assessment focused on outcome assessment.
Prospect

Utilization of information technology during accreditation process

Database of basic educational status

Big Data

Cloud computing

AI analysis

Assistance
Engineering education under reform

“Excellent Engineer Training Program” (2010)

• Perform research and practice of “Emergent Engineering”
• Establish new philosophies of engineering education
• Innovate the teaching organization model of engineering Education
• Establish cultivation mechanism collaborating with society and industry
• Strengthen engineering teachers' engineering practice ability
• Perfect the system of innovative entrepreneurship education
• Enhance the international shaping power of engineering education
• Establish the quality assurance system with international substantial equivalence
The Internet profoundly changes all kinds of industries.

- Artificial intelligence
- Robot
- Internet of things
- Unmanned vehicle
- 3D printing
- Nano technology
- Biotechnology
- Material science
- Energy storage
- Quantum computing
- ......
New demands of engineering talents and education

- Innovation
- Collaboration
- Integration
- Interdisciplinary
- ...
Great opportunity for education development

China National Education Conference:

- Give priority to the development of Education
- Expand the international opening of education, carry out high level cooperation in running schools, and to enhance the influence of China's education in the world
- Promote education to transform from quantity growth to quality improvement
- Strengthen guidance in setting educational objectives and standards
THANKS!

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