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Educating Engineers: Seeking Excellence in Engineering and Distinction in Problem Solving

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THE RECTOR

- ❑ Information technology constantly growing
- ❑ Technology driven approaches globally dispersed
- ❑ Engineering role in global economic and social environment broadens



New era requires multidisciplinary skills for engineers



Engineering curricula should:

- ☐ Prioritise expertise in qualitative and technical issues
- ☐ Develop skills for integrated approach embedding environmental, legal, economic, social, political considerations



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- ☐ BOK required cannot be covered by three or four years long degrees
- ☐ “Shortened” degrees can lead only to “pre-engineering” or “engineering training” status
- ☐ An integrated uninterrupted 5-years educational scheme seems preferable



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Humanities and Social Science knowledge for engineering should include:

- Project Management
- Ethics Consideration
- Leadership Development
- Policy/Strategy Formation
- Communication Issues
- Systems Analysis and Synthesis



Teaching curricula should:

- ☐ Set limits on the work load allocated to multidisciplinary issues
- ☐ Prioritise development of excellence in technical disciplines



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The gap between engineering education and practice
should be kept small



University faculty qualifications should reflect the
appropriate need for practical experience in
academia



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- ❑ Internship important part of education
- ❑ Interns should:
 - Acquire broad set of experiences through position rotation.
 - Be assigned specific self-contained missions



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□ Lifelong learning is becoming a significant issue for engineering profession due to:

- Radical changes in technology, economy, society needs
- Increase of life expectancy

□ Engineering teaching curricula should concentrate:

- Mainly on developing skills for learning
- Secondary on acquiring up to date knowledge



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- ❑ University education of engineers goes beyond provisional demands of current market
- ❑ Engineering education targets:
 - Priority target: excellence in current and expected engineering technical issues
 - Second important target: protagonistic role in strategic design and integrated development activities
- ❑ BOK required needs educational period not less than four and preferably five years



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THANK YOU FOR YOUR ATTENTION