



**NATIONAL TECHNICAL UNIVERSITY OF ATHENS**

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

Professor Ioannis Golias

Rector, National Technical University of Athens



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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**