

Toward Engineering Educational Leader via Active and Sustainable International Research Collaboration

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ABSTRACT


New challenging ways toward leadership development have been formulated with an objective of sustainable growth of engineering education in not only domestic but also global level. Faculty of Engineering, CHILALONGKORN University has tried to establish challenging attitudes which are required for achievement of development of new generation of engineers with engineer excellence. It is an important issue that the outcome-based management would be undertaken to ensure sustainable development in collaborative research works. Moreover, mutual benefits among each stakeholder involving in the global engineering education will essentially play an important role in our brighter future.

Keywords : Engineering Education, Collaborative research, International Collaboration



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CHULALONGKORN UNIVERSITY



Overview

- Vision and Mission of CU
- Vision, Mission and Core Value of F.Eng.
- Present status of F.Eng.
- Roadmap and Strategic Clusters toward Engineering Educational Leader
- Summary



Vision and Mission of CU



CHULALONGKORN UNIVERSITY

- Established in the year of 1917, by King Vajiravudh, (King Rama VI)
- Present status
 - 18 Faculties
 - 3 Affiliated Institutions
 - 3 Colleges
 - 11 Institutes
 - Totally 132 Departments



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CHULALONGKORN UNIVERSITY

- **Present Status**

Degree	Faculty members		Students (Last updated September 2005)		Graduates	
	amount	%	amount	%	amount	%
Bachelor Degree	156	5	20,258	62	3,816	50
Graduate Diploma	-	-	329	1	326	3
Master Degree	1,300	46	10,110	31	3,238	42
Higher graduate diploma	-	-	313	1	140	2
Doctoral Degree	1,376	49	1,450	4	190	2
Total	2,852	100	32,460	100	6,620	100

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CHULALONGKORN UNIVERSITY

- **The Century Policy of Chulalongkorn University**

- To be a knowledge and reference resource
- To improve and develop Thai human resources to be a sustainable, internationally competent, and collaborative society
- To combine research works to academic works, concentrating in extending fundamental and applied knowledge

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CHULALONGKORN UNIVERSITY

- **Mission of Chulalongkorn University**

- To produce internationally competent, and socially compatible students
- To develop moral and leadership
- To explore fundamental and advance knowledge beneficial to Thai society
- To transfer and apply available knowledge into public knowledge, making Thai an internationally sustainable society

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CHULALONGKORN UNIVERSITY

- **Mission of Chulalongkorn University**

- To transfer and apply available knowledge into public knowledge, making Thai an internationally sustainable society
- To conserve, and carry on the beauty of Thai Tradition and Culture.



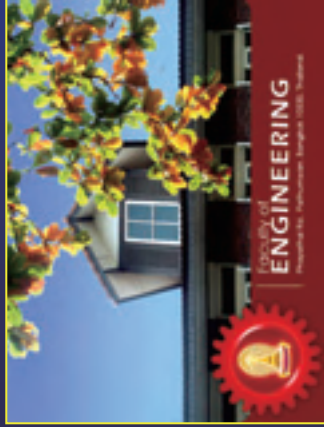

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Vision, Mission and Core Value of F.Eng.



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FACULTY OF ENGINEERING

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FACULTY OF ENGINEERING

- Established on 1 June 1913, by King Vajiruvudh (Rama VI)
- Merged into Chulalongkorn University in 1916
- Recognized as the "Faculty of Engineering" under CU since then




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FACULTY OF ENGINEERING

Missions, Vision, and Values

- The faculty's Vision is "Commitment to Engineering Excellence in Asia"
- Goal "Commitment to the production of high-caliber graduates and academic excellence in Engineering"




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FACULTY OF ENGINEERING

Missions, Vision, and Values

Mission Statements

1. To produce world-class engineers, equipped with required skills and suitable for society
2. To instill ethics in its graduates to be responsible leaders of the society
3. To innovate engineering technologies and integrate various bodies of knowledge for the benefit of Thai society




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FACULTY OF ENGINEERING

Missions, Vision, and Values

- **Mission Statements**
 4. To transfer knowledge to the public in an effort to improve Thai society, leading to self-sufficiency in the global community
 5. To uphold and disseminate Thai arts and culture




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FACULTY OF ENGINEERING

Missions, Vision, and Values

- **Values: Core values "LEADERS"**
 - L**eadership
 - E**xcellence
 - A**ccountability
 - D**iscovery
 - E**thics / team / happy
 - R**elevancy
 - S**ystem (SOTUS)





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Present status of F.Eng.





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Stakeholder Perspective	Internal Process Perspective
Financial Perspective	Learning and Growth Perspective

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Strategic Plans

- **Stakeholder Perspective**
 - Nationally and internationally accepted academic excellence
 - Student ability accepted at national level and corresponding to international standard




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Strategic Plans

- **International Process Perspective**
 - Research and teaching activities development
 - Proactive Public relations
 - Academic and extracurricular activity, enhancing student's morality and ability




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Strategic Plans

- **Learning and Growth Perspective**
 - Information system development
 - Physical system and supporting resource development
 - Support staff and faculty members development



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Strategic Plans

- **Financial Perspective**
 - Revenue increase
 - Cost reduction



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FACULTY OF ENGINEERING

International Collaborations

- **Faculty of Engineering is engaged in international collaborations with universities and organizations worldwide, including**
 - Massachusetts Institute of Technology (USA)
 - University of Maryland, College Park (USA)
 - Oregon State University (USA)
 - Weldinf Institute SLV Munich (Germany)
 - Warsaw Univ. of Technology (Poland)
 - Slovak Univ. of Technology (Slovak Republic)

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International Collaborations

- Beijing University (China)
- Tsing Hau University (China)
- Univ. of Tokyo (Japan)
- Tokyo Inst. of Tech. (Japan)
- Saitama University (Japan)
- Queensland Univ. (Australia)
- Univ. of Canterbury (New Zealand)
- Korea Science and Engineering Foundation (Korea)




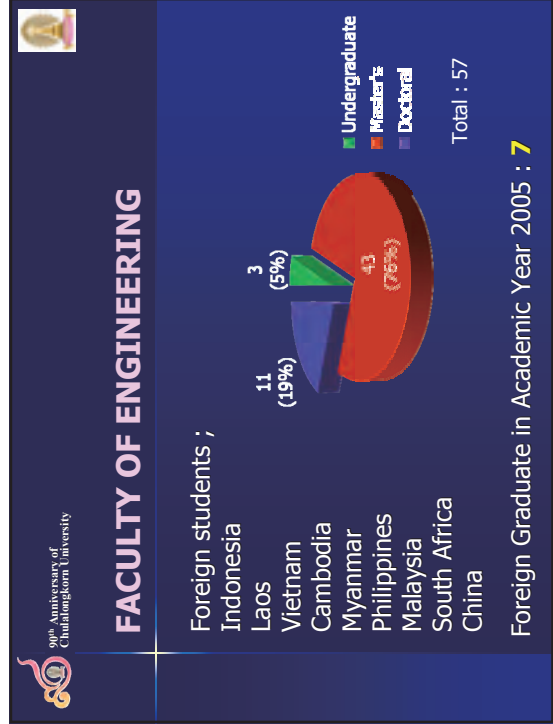
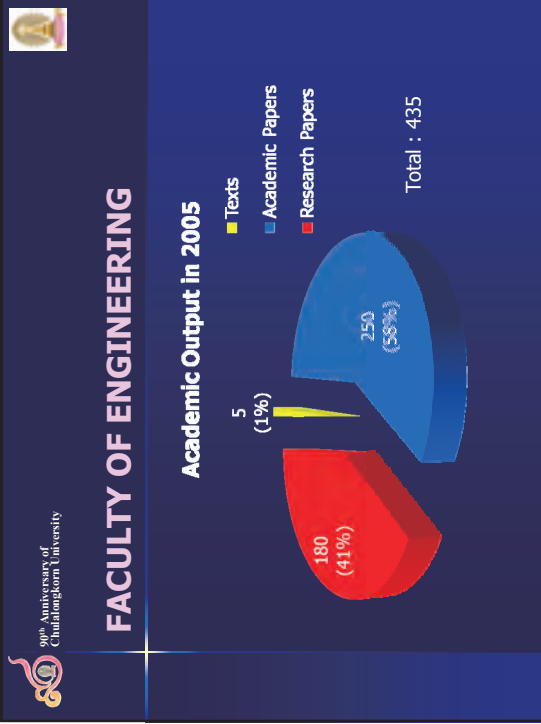
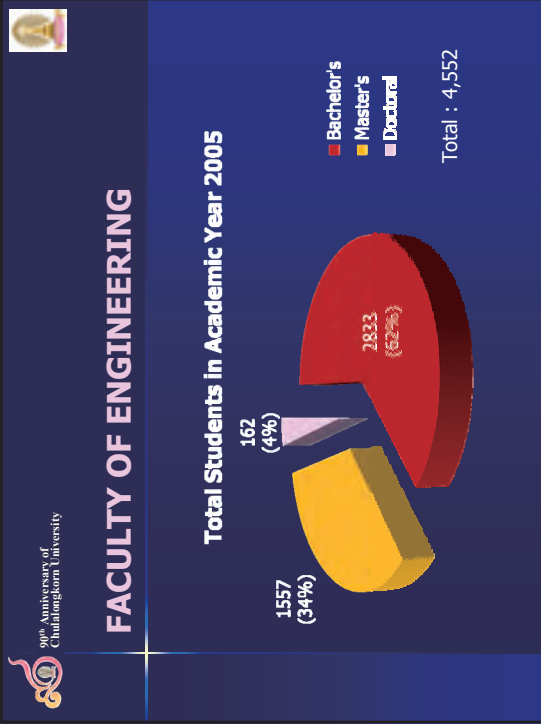
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FACULTY OF ENGINEERING

Present Status

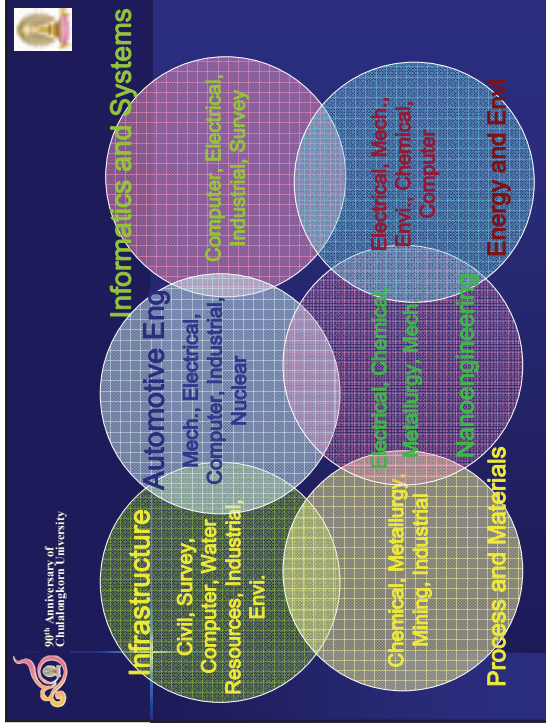
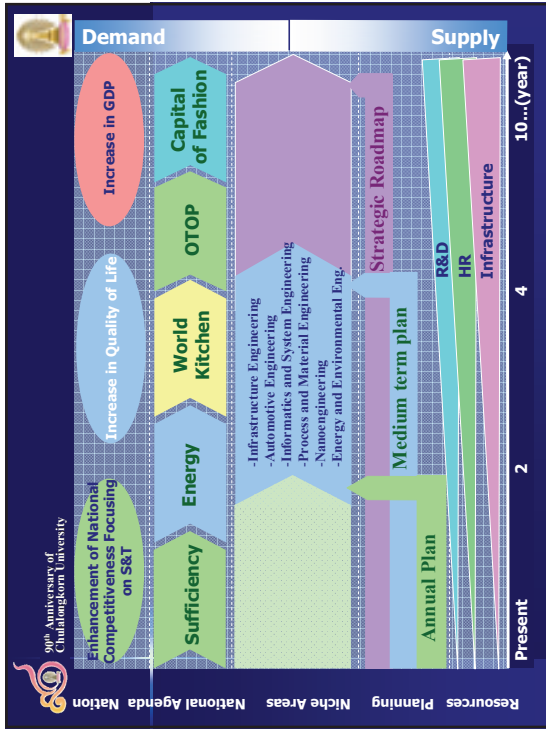
- **6 Centers of Excellence**
- **23 Research Units**
- **11 Professors**
- **85 Assoc. Professors**
- **84 Assist. Professors**
- **127 Lecturers**
- **180 Supporting Staffs**





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Roadmap and Strategic Clusters toward Engineering Educational Leader



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Active and Sustainable International Research Collaboration

- Mutual understanding with intensive communications among researchers in Clustered Strategic Research Fields
- Responding to actual needs of society with focusing points on developing high-caliber engineering graduates with new challenging attitudes

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Engineering Educational Leadership

Core Values "LEADERS"	
Leadership	Nationwide leadership in research, teaching, career, public service and upgrading of students to be well-served in leadership paths
Excellence	Commitment to excellence in academic, research and public service
Accountability	Accountability to society in their engineering practices, particularly with regard to potential impacts of their work
Discovery	Discovery and dissemination of engineering knowledge to ensure continued progress and innovations
Ethics/Team/Happy	Commitment to code of conduct, contribution to teamwork, and being happy in the course of their work
Reflexivity	Keeping up to date with advancements in society and the ability to adjust to changing times
System (SORUS)	Systematic performance of engineering tasks, coupled with an appreciation and implementation of SCRTS-Spink, Order, Tradition, Unity, Seniority-system



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Summary



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Summary

Challenging attitudes are required for achievement of development of new generation of engineers with engineering excellence

The outcome-based management would be undertaken to ensure sustainable development in collaborative research works

Mutual benefits among each stakeholder involving in the global engineering education will essentially play an important role in our brighter future



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THANK YOU FOR YOUR ATTENTION