Establishing international academic network for future professional students

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The International School of Engineering (ISE) was established in 2001. Our school is both part of, and serves all objectives set out by, the Faculty of Engineering, Chulalongkorn University. We have a broad vision and maintain high academic, moral and ethical standards. Four diverse but complementary fields of study are offered at undergraduate level: Nano Engineering, Automotive Design and Manufacturing Engineering, Aerospace Engineering and Information and Communication Engineering. One of ISE's key strategies is to promote internationalisation, encouraging students to participate in internships, exchanges, and further study and research abroad. Expanding the mindset of both staff and students beyond the borders of Thailand is, of course, of key importance. We hope to realise these goals via the following schemes:

1. Internship abroad (May - September)
We aim to put our junior students into two-month placements in prestigious foreign research or industrial environments. Visiting students will build upon their existing scientific knowledge while gaining hands-on workplace experience. Such exposure can only serve to increase their desirability to employers upon graduation.

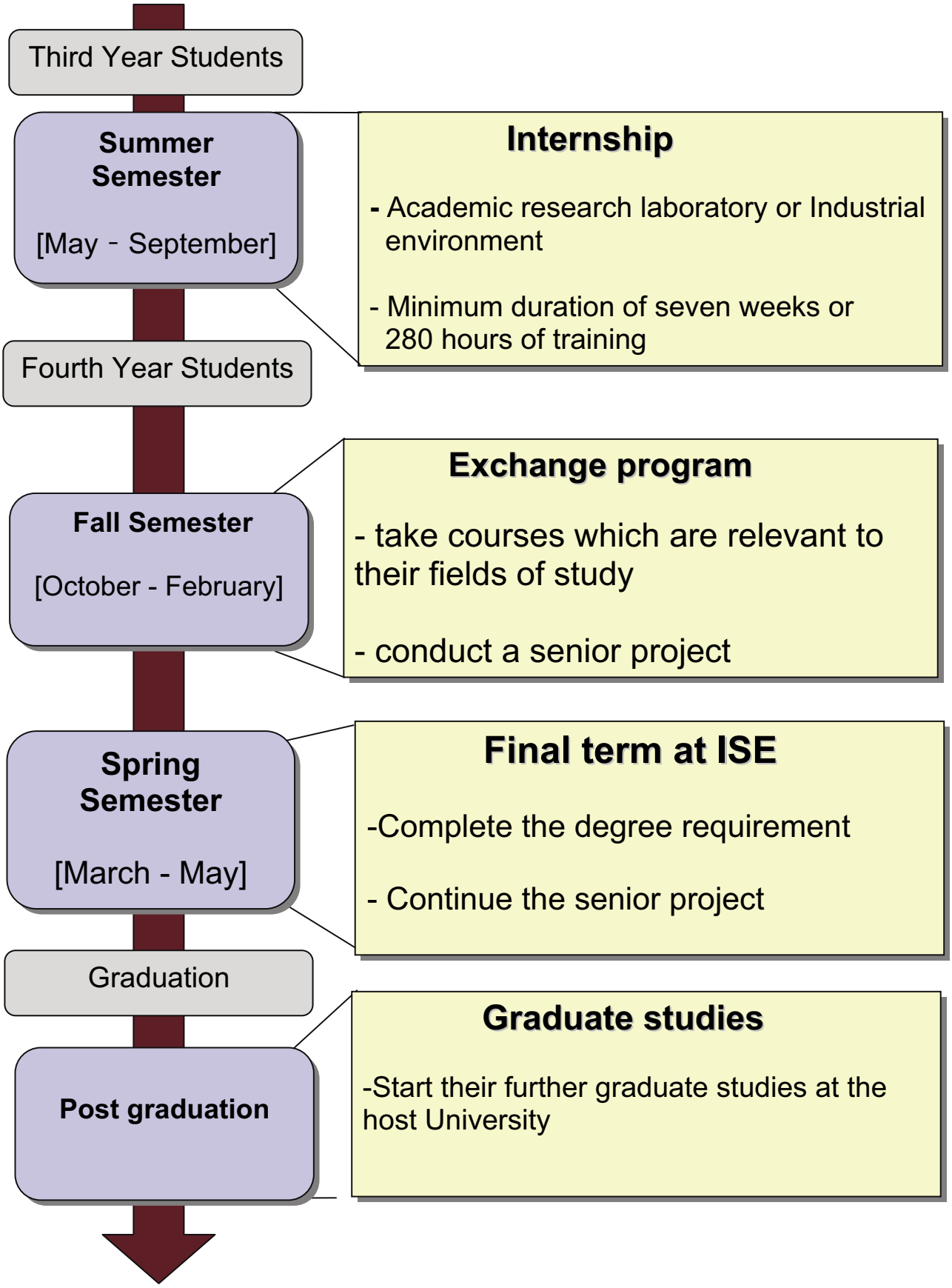
2. Exchange abroad (October - February)
For those students carrying out their practical project for the internship at a university, we would like students to have the option of staying on at that host institution for one semester. Students would study a range of lecture courses and then be able to transfer credits to their degree at Chulalongkorn University. Ideally students would also start their senior project during this time, providing valuable assistance to a professor's research project that is relevant to their chosen field of study.

3. Final term (semester 2 in their 4th year: January - May)
The final term of students' study will be spent back at ISE, during which time senior projects would be finished and final lecture courses would be taken to complete degree requirements.

4. Further Study
For students interested in graduate studies, we will encourage them to return to their former overseas host institution to embark on Masters or PhD research.

At this exciting time of rapid expansion and development of our ISE programmes, we would be most grateful if you could assist us in realising our worthwhile goals.

Assoc.Prof. Vanchai R.
Dr. Natcha T. **Update: 15 January 2008**


Third Year Students
Summer Semester
[May - September]
Internship
- Academic research laboratory or Industrial environment
- Minimum duration of seven weeks or 280 hours of training
Fourth Year Students
Fall Semester
[October - February]
Exchange program
- take courses which are relevant to their fields of study
- conduct a senior project
Spring Semester
[March - May]
Final term at ISE
-Complete the degree requirement
- Continue the senior project
Graduation
Post graduation
Graduate studies
-Start their further graduate studies at the host University

90th Anniversary of Chulalongkorn University

The 3rd University Administrators Workshop
Kyoto University January 24-25th, 2008

Establishing international academic network for future professional students

Assoc. Prof. Vanchai Rijirawanich
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Faculty of Engineering, Chulalongkorn University, Thailand

Outlines

- Background of Chulalongkorn University
- Background of Faculty of Engineering, Chulalongkorn University
- Core concepts of international academic network
- Roadmap and strategic academic network
- Closing remarks

CHULALONGKORN UNIVERSITY

- **The concept of Thai Higher Education was conceived by King Chulalongkorn (King Rama V)**
- **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**

Academic Excellence

- Ranked 1 in Thailand
- Ranked 121 in the world in 2006

(Times Higher Education supplement)

- Ranked 1 in Thailand
- Ranked 80 in the world in 2006

(Times Higher Education supplement)

CHULALONGKORN UNIVERSITY

❑ Present Status

Degree	Faculty members		Students (Last updated January 2008)		Graduates (in 2007)	
	amount	%	amount	%	amount	%
Bachelor Degree	156	5	22,516	64	4350	53
Graduate Diploma	-	-	239	1	223	3
Master Degree	1,300	46	9,952	28	3,314	40
Higher graduate diploma	-	-	368	1	152	2
Doctoral Degree	1,376	49	1,865	5	207	3
Total	2,852	100	32,460	100	8,246	100

FACULTY OF ENGINEERING

Present Status

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

International Collaborations

❑ Faculty of Engineering is engaged in international collaborations with universities and organizations worldwide, including

- Univ. of Tokyo (Japan)
- Kyoto Univ. (Japan)
- Tokyo Inst. of Tech. (Japan)
- Saitama University (Japan)
- Massachusetts Institute of Technology (USA)
- University of Maryland, College Park (USA)
- Oregon State University (USA)
- Case Western University (USA)
- Hong Kong University of Science and Technology (HK)
- National University of Singapore (NUS)
- Hub for ASEAN University Network (AUN)

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
- International School of Engineering (ISE) established in 2005

International School of Engineering (ISE)

NANO ENGINEERING

AUTOMOTIVE DESIGN AND MANUFACTURING ENGINEERING

AEROSPACE ENGINEERING

INFORMATION AND COMMUNICATION ENGINEERING

INTERNATIONAL SCHOOL OF ENGINEERING

ISE Vision

ISE aims for Internationalization of Engineering under the determination of Chulalongkorn University in educating students with Knowledge and Morality and the promotion of Thai culture

Semester System

- International semester system the same as other international programs in Chulalongkorn University
- 2 Semesters

First semester:	Fall (August – December)
Second semester:	Spring (January – May)
Optional:	Summer (June – July)

ISE community

- 4 Programs of studies
- 600 Students
- 125 participating instructors in ISE across 6 Engineering departments

The ideas of international academic network

- Establishing a well defined International academic track through collaboration between our institution and international partners
- Students enrolled in this track will have a broader framework of thoughts and mindsets beyond the nation scope
- The participating partners will have an opportunity to train future candidates that would meet their specific criteria

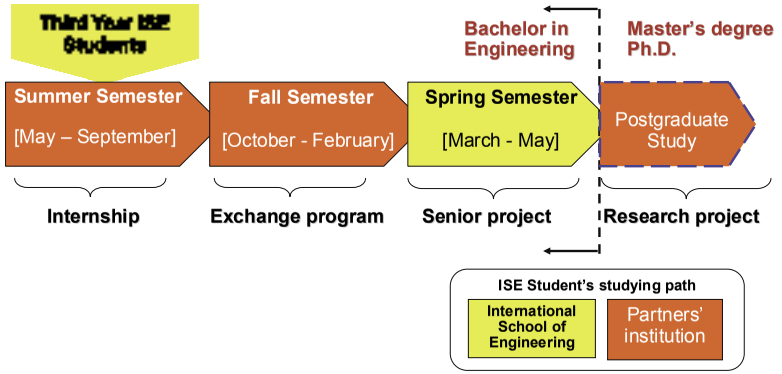
Motivation

- Our motivation:
  - Gaining an international recognition in the academic and industrial societies
  - Providing an excellent international exposure and training experience for our students at the partner institutions
  - Building a solid and fruitful collaborative relations with our partner institutions

Motivation

- Partners motivation:
  - Having a chance to supervise and prepare our undergraduate students to meet your specific needs and requirements
  - Ensuring integration of potential candidates to suit your graduate programs and research interests
  - In case of fellowships offered by the partner institutions, students on this track become the preferred choice

Strategy and Roadmap for International academic network



Proposed scheme (1)

- The proposed track starts from the summer of the third year study.
- The student joins the host institution for **internship training**

Summer Semester
[May – September]

Internship

- Academic research laboratory or Industrial environment
- Minimum duration of seven weeks or 280 hours of training

Proposed scheme (2)

- The student starts his/her fourth year study as an **exchange student** at the host institution after finishing the internship period
- During this period the student initiates a senior project under the supervision of a faculty member of the host institution

Fall Semester
[October - February]

Exchange program

- take courses which are relevant to their fields of study
- conduct a senior project

Proposed scheme (3)

- The student **returns to ISE** after completing his/her internship and/or exchange program
- The student will remain in touch with the host faculty member to **continue the senior project** (a possible co-supervision with local faculty at ISE)

Spring Semester

[March - May]

Final term at ISE

-Complete the degree requirement

- Continue the senior project

Proposed scheme (5)

- The students who wish to continue their graduate studies have already established a personal contact with faculty members at the host institution, which facilitates the **direct admission procedure**

Post graduation

Graduate studies

-Start their further graduate studies at the host University

ISE roles

- ISE is an international school with four majors:

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INFORMATION AND COMMUNICATION ENGINEERING

- Our majors are multi-disciplinary, which broadens the scope of the participating partners' specialities
- That makes our ISE students

International, Unique, Skilful, and **Matching most academic interests**

ISE roles

- Applying the proposed scheme, ISE becomes a **hub for networking in Engineering** among different international partners in the world
- **Promoting partner institutions** to Chulalongkorn University students and other Thai Universities

Closing remarks

- Mutual Development with Clear Direction
- Sustainable Collaboration
- Innovative Endeavors in Interdisciplinary Schemes
- International and Global academic network

Challenging attitudes are required for achieving the development of the new generation of engineers for engineering excellence

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

Mutual benefits among alliances involved in global engineering education will essentially play an important role in our brighter future