KMUTT Qualified Hands-on Engineers

By

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KMUTT Qualified Hands-on Engineers

Introduction

King Mongkut's University of Technology Thonburi
To produce qualified students having Monotsukuri Philosophy with a hands-on knowledge and experience. They will develop potential to work effectively; have profound knowledge, systematic thinking skills, learning skills, professional skills, communication skills and humanization for Thai and foreign workplaces.
<table>
<thead>
<tr>
<th>Field</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering</td>
<td>48,665</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>23,242</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>29,650</td>
</tr>
<tr>
<td>Electronic and Telecommunication Engineering</td>
<td>4,894</td>
</tr>
<tr>
<td>Industrial Engineering</td>
<td>8,393</td>
</tr>
<tr>
<td>Mining Engineering</td>
<td>438</td>
</tr>
<tr>
<td>Environmental Engineering</td>
<td>3,777</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>2,294</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>121,353</strong></td>
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</tbody>
</table>
Japanese Factory in Thailand
1,747 in 2017

1. Ayutthaya
2. Bangkok
3. Chachoengsao
4. Chiangrai
5. Chonburi
6. Lamphun
7. Lopburi
8. Nakhon Pathom
9. Nakhon Ratchasima
10. Nonthaburi
11. Pathumthani
12. Prachinburi
13. Ratchaburi
14. Rayong
15. Samutprakan
16. Samutsakorn
17. Saraburi
18. Singburi
19. Songkhla
**KMUTT Qualified Hands-on Engineers**

**Monotsukuri Philosophy**

*Mono* means Things

*Zukuri* mean Making

*Monotsukuri* mean Process of Making things
### KMUTT Qualified Hands-on Engineers

<table>
<thead>
<tr>
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<th>OUTCOMES</th>
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<tbody>
<tr>
<td>1</td>
<td>Students imbibe ‘Monotsukuri Philosophy’ to become a new generation of KMUTT social agents.</td>
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<tr>
<td>2</td>
<td>Students realize, accept and adapt themselves to various cultures.</td>
</tr>
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<td>3</td>
<td>Students come to know how to work smartly and royally by fulfilling commitments in their workplace.</td>
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<tr>
<td>4</td>
<td>Companies, industrial sectors and stakeholders welcome KMUTT graduates as qualified workforces.</td>
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</tbody>
</table>
A total of 95 – 120 undergraduate students for 3 academic years
KMUTT Qualified Hands-on Engineers

Operating Plan

**1st Year**
- Student Recruitment
  - Recruitment process
  - Proportion of student in each discipline
  - Preparation of faculties/invitation of Japanese experts

**2nd Year**
- Provision of enhancement program; focusing on
  - Hands-on through Math integrated into engineering project
  - Japanese language for communication/working in industry
  - Japanese working culture

**3rd Year**
- Same as 2nd year
- Summer: Japanese Company Experience
  - Overseas

**4th Year**
- Working in industrial sectors for one semester
  - Domestic

Preparation:
- Scholarships for 40-50 new students (all faculty/schools - proportion of disciplines according to the need of Japanese industry)
- Survey of student requirements of Japanese industry in Thailand
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AY 2016 (Y2)
- 1st & 2nd semester: Provision of enhancement program
- Japanese Company Experience

Semester 1/2016 (Y2)
- Site visit + Special Lecture (10 times)
- Japanese course (Elective)
- Enhancement on Applied math (2hr x 10 times)

Semester 2/2016 (Y2)
- Site visit + Special Lectures (10 times)
- Japanese course (Elective)
- Enhancement on Applied Math (2hr x 10 times)

Summer (Y2)
- Japanese Company Experience (1 month in JP)
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**AY 2017 (Y3)**
- 1st & 2nd semester: Same as AY 2016
- Summer session: WIL Preparation

**Semester 1/2017 (Y3)**
- Site visit + Special Lecture (10 times)
- Enhancement on Applied math (2hr x 10 times)
- Japanese for a workplace (2hr x 10 times)

**Semester 2/2017 (Y3)**
- Site visit + Special Lecture (10 times)
- Enhancement on Applied math (2hr x 10 times)
- Japanese for a workplace (2hr x 10 times)

**Summer + WIL (Y3)**
- Site Preparation
- Personality Training
<table>
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</table>

**AY 2018 (Y4)**
- 1<sup>st</sup> semester: WIL
- 2<sup>nd</sup> semester: wrap up

**Semester 1/2018 (WIL) (Y4)**
- Internship

**Semester 2/2018 - wrap up (Y4)**
- Reflection
- How to attract them with a portfolio (2hrs x 1 time)
- Preparation on interview (2 hrs x 1 time)
- Step out for working life I (Thai's views) (2 hrs x 1 time)
- Step out for working life II (Foreigners' views) (2 hrs x 1 time)
- Final orientation
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Pilot Project

13 Students

- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Mechanical Engineering
- Mechatronic Engineering
- Physics
- Computer Science

1st batch

24 Students

- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Mechanical Engineering
- Mechatronic Engineering
- Physics
- Computer Science
- Industrial Technology
- Electrical Engineering
- Institute of Field Robotic Automation Engineering
- Electronic and Telecommunication Engineering
ACTIVITIES

Special Lecture

Studying and Doing research in Japan
Studying and Working in Japan
Working style and Organization culture
Wrap Up

Japanese Manufacturing
Professional working
Japan Industry
ACTIVITIES

Site Visit

AJINOMOTO CO., (THAILAND) LTD.

KYB (THAILAND) CO., LTD.

KYB STEERING (THAILAND) CO., LTD.
ACTIVITIES Applied Mathematics
ACTIVITIES

Japan trip
ACTIVITIES

KMUTT Roadshow
Thank You