

This program aims at producing researchers with high knowledge and competencies at the doctoral level to conduct research in new bodies of knowledge and technological innovations in production technology and management in metallurgy, metal casting, welding of metals and plastics, inspection without destroying, quality control and production system in response to the needs of the industrial, government and private sectors.

### Applicant Qualifications

1. A candidate must hold a bachelor's degree with honors in production engineering, chemical engineering, electrical engineering, computer engineering, mechanical engineering, instrumentation and control system, tools and materials engineering, or equivalent from higher education institutions accredited by Office of the Civil Service Commission (OCSC), depending on the consideration of the academic committee of the department or
2. A candidate must hold a master's degree or a master 's degree in Engineering with a GPA of not less than 3.5 from the 4.0 system in production engineering, welding engineering, metallurgy engineering, manufacturing system engineering, chemical engineering, electrical engineering, computer engineering, mechanical engineering, control system and instrumentation engineering, tools and materials engineering, or equivalent from higher education institutions accredited by Office of the Civil Service Commission (OCSC), depending on the consideration of the academic committee of the department or
3. A candidate must hold a master's degree in any of the same fields as stated in no. 1 and 2 with at least two years' working experience in an industrial sector with recognized work or invention or has research work in related fields under the consideration of the academic committee of the department.
4. The qualifications of applicants for admission to all study plans are in accordance with the regulations of the King Mongkut's University of Technology Thonburi on Graduate Studies, B.E.2562 (2019)
5. The candidate must submit the English Proficiency Test Score as part of their application according to the KMUTT announcement on the English Language Requirement for Doctoral Degree.

### Professions after Graduation

1. Researcher
2. Engineer in industrial plants
3. Expert or lecturer in production and systems in the industry
4. Lecturer in educational institutions

### Curriculum

|   |            |
|---|------------|
| Plan 1.1 for student with Master degree   | 48 Credits |
| Plan 1.2 for student with Bachelor degree | 72 Credits |
| Plan 2.1 for student with Master degree   | 48 Credits |
| Plan 2.2 for student with Bachelor degree | 72 Credits |

### Curriculum Components

|   |    |         |
|---|----|---------|
| Plan 1.1 for student with Master degree   |    |         |
| ● Dissertation                            | 48 | Credits |
| Plan 1.2 for student with Bachelor degree |    |         |
| ● Dissertation                            | 72 | Credits |
| Plan.2 1 for student with Master degree   |    |         |
| ● Major Course                            | 3  | Credits |
| ● Elective Course                         | 9  | Credits |
| ● Dissertation                            | 36 | Credits |
| Plan 2.2 for student with Bachelor degree |    |         |
| ● Major Course                            | 3  | Credits |
| ● Elective Course                         | 21 | Credits |
| ● Dissertation                            | 48 | Credits |



# Faculty of Engineering

## Doctor of Philosophy Program in Industrial and Manufacturing Systems Engineering

### COURSE STRUCTURE

#### Plan 1.1 for student with Master degree

##### First Year

###### First Semester

###### Credits

ISE 792 Dissertation

6 (0-12-24)

Total

6 (0-12-24)

###### Second Semester

###### Credits

ISE 792 Dissertation

6 (0-12-24)

Total

6 (0-12-24)

##### Second Year

###### First Semester

###### Credits

ISE 792 Dissertation

12 (0-24-48)

Total

12 (0-24-48)

###### Second Semester

###### Credits

ISE 792 Dissertation

12 (0-24-48)

Total

12 (0-24-48)

##### Third Year

###### First Semester

###### Credits

ISE 792 Dissertation

6 (0-12-24)

Total

6 (0-12-24)

###### Second Semester

###### Credits

ISE 792 Dissertation

6 (0-12-24)

Total

6 (0-12-24)

#### Plan 1.2 for student with Bachelor degree

##### First Year

###### First Semester

###### Credits

ISE 791 Dissertation

6 (0-12-24)

Total

6 (0-12-24)

## Doctor of Philosophy Program in Industrial and Manufacturing Systems Engineering

|                        |                |
|------------------------|----------------|
| <b>Second Semester</b> | <b>Credits</b> |
| ISE 791 Dissertation   | 6 (0-12-24)    |
| Total                  | 6 (0-12-24)    |
| <b>Second Year</b>     |                |
| <b>First Semester</b>  | <b>Credits</b> |
| ISE 791 Dissertation   | 6 (0-12-24)    |
| Total                  | 6 (0-12-24)    |
| <b>Second Semester</b> | <b>Credits</b> |
| ISE 791 Dissertation   | 6 (0-12-24)    |
| Total                  | 6 (0-12-24)    |
| <b>Third Year</b>      |                |
| <b>First Semester</b>  | <b>Credits</b> |
| ISE 791 Dissertation   | 9 (0-18-36)    |
| Total                  | 9 (0-18-36)    |
| <b>Second Semester</b> | <b>Credits</b> |
| ISE 791 Dissertation   | 9 (0-18-36)    |
| Total                  | 9 (0-18-36)    |
| <b>Forth Year</b>      |                |
| <b>First Semester</b>  | <b>Credits</b> |
| ISE 791 Dissertation   | 9 (0-18-36)    |
| Total                  | 9 (0-18-36)    |
| <b>Second Semester</b> | <b>Credits</b> |
| ISE 791 Dissertation   | 9 (0-18-36)    |
| Total                  | 9 (0-18-36)    |
| <b>Fifth Year</b>      |                |
| <b>First Semester</b>  | <b>Credits</b> |
| ISE 791 Dissertation   | 6 (0-12-24)    |
| Total                  | 6 (0-12-24)    |
| <b>Second Semester</b> | <b>Credits</b> |
| ISE 791 Dissertation   | 6 (0-12-24)    |
| Total                  | 6 (0-12-24)    |

### Plan 2.1 for student with Master Degree

#### First Year

| First Semester                                 | Credits    |
|--|------------|
| ISE 701 Advanced Topics in Experimental Design | 3 (3-0-9)  |
| MTH 665 Mathematical Techniques                | 3 (3-0-9)  |
| Total  | 6 (6-0-18) |

| Second Semester  | Credits    |
|------------------|------------|
| XXX xxx Elective | 3 (3-0-9)  |
| XXX xxx Elective | 3 (3-0-9)  |
| Total            | 6 (6-0-18) |

#### Second Year

| First Semester       | Credits     |
|----------------------|-------------|
| ISE 796 Dissertation | 9 (0-18-36) |
| Total                | 9 (0-18-36) |

| Second Semester      | Credits     |
|----------------------|-------------|
| ISE 796 Dissertation | 9 (0-18-36) |
| Total                | 9 (0-18-36) |

#### Third Year

| First Semester       | Credits     |
|----------------------|-------------|
| ISE 796 Dissertation | 9 (0-18-36) |
| Total                | 9 (0-18-36) |

| Second Semester      | Credits     |
|----------------------|-------------|
| ISE 796 Dissertation | 9 (0-18-36) |
| Total                | 9 (0-18-36) |

### Plan 2.2 for student with Bachelor degree

#### First Year

| First Semester                                 | Credits   |
|--|-----------|
| ISE 701 Advanced Topics in Experimental Design | 3 (3-0-9) |

|                  |            |
|------------------|------------|
| XXX xxx Elective | 3 (3-0-9)  |
| XXX xxx Elective | 3 (3-0-9)  |
| Total            | 9 (9-0-27) |

### Second Semester

### Credits

|                  |            |
|------------------|------------|
| XXX xxx Elective | 3 (3-0-9)  |
| XXX xxx Elective | 3 (3-0-9)  |
| XXX xxx Elective | 3 (3-0-9)  |
| Total            | 9 (9-0-27) |

### Second Year

### Credits

#### First Semester

#### Credits

|                      |            |
|----------------------|------------|
| XXX xxx Elective     | 3 (3-0-9)  |
| XXX xxx Elective     | 3 (3-0-9)  |
| ISE 794 Dissertation | 3 (0-9-18) |
| Total                | 9 (6-9-36) |

#### Second Semester

#### Credits

|                      |             |
|----------------------|-------------|
| ISE 794 Dissertation | 6 (0-12-24) |
| Total                | 6 (0-12-24) |

### Third Year

#### First Semester

#### Credits

|                      |             |
|----------------------|-------------|
| ISE 794 Dissertation | 6 (0-12-24) |
| Total                | 6 (0-12-24) |

#### Second Semester

#### Credits

|                      |             |
|----------------------|-------------|
| ISE 794 Dissertation | 6 (0-12-24) |
| Total                | 6 (0-12-24) |

### Forth Year

#### First Semester

#### Credits

|                      |             |
|----------------------|-------------|
| ISE 794 Dissertation | 6 (0-12-24) |
| Total                | 6 (0-12-24) |



# Faculty of Engineering

## Doctor of Philosophy Program in Industrial and Manufacturing Systems Engineering

| Second Semester      | Credits     |
|----------------------|-------------|
| ISE 794 Dissertation | 9 (0-18-36) |
| Total                | 9 (0-18-36) |
| Fifth Year           |             |
| First Semester       | Credits     |
| ISE 791 Dissertation | 6 (0-12-24) |
| Total                | 6 (0-12-24) |
| Second Semester      | Credits     |
| ISE 791 Dissertation | 6 (0-12-24) |
| Total                | 6 (0-12-24) |