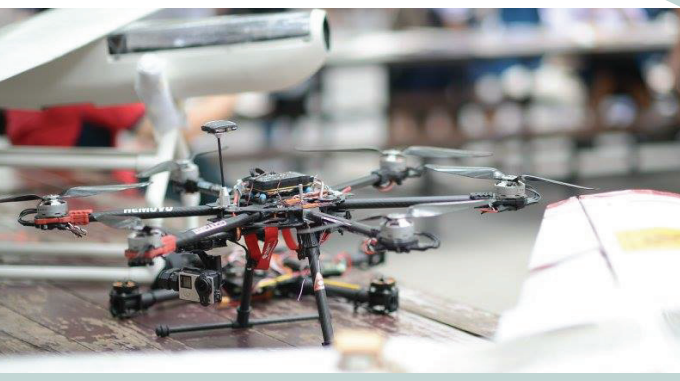




CHULA INTERNATIONAL SCHOOL OF ENGINEERING  
The ingenuity of CHULA ENGINEERING

# SUMMER SCHOOL

2-20  
JULY  
2018



[WWW.ISE.ENG.CHULA.AC.TH](http://WWW.ISE.ENG.CHULA.AC.TH)



## FIRST CHOICE FOR INTERNATIONAL ENGINEERING EDUCATION IN THAILAND

ISE Summer School will take place from **July, 2 to 20, 2018** at the Faculty of Engineering, Chulalongkorn University in Thailand. It will be **fully taught in English** by Lecturers from UK, Thailand, France, Japan and Australia.

ISE Summer School is a great opportunity to evolve during three weeks into an international environment and to get to know more about engineering and emerging topics such as Artificial intelligence and Fintech.

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*The summer school is open to:*

**CHULALONGKORN UNIVERSITY'S STUDENTS** from Thai and International program

**NON-CHULALONGKORN UNIVERSITY'S STUDENTS :**

- High school students
- Undergraduate students
- Postgraduate students
- Exchange students
- Other

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There is no prerequisite for any of the course offered, except to get a sufficient level of English to be able to follow the class.





## APPLICATION FOR ADMISSION (FOREIGNER/TH/CMLV)

The summer school is open to Chula students and non-Chula non-degree students. Please refer to the section you are concerned as the procedure to follow will differ from one category of students to another.

**a**

### CHULALONGKORN UNIVERSITY'S STUDENTS FROM ISE

ISE students shall register online and *do not need to fill in the application of ISE summer school for admission.*

**b**

### CHULALONGKORN UNIVERSITY'S STUDENTS FROM THAI AND INTERNATIONAL PROGRAM

Please fill in the application of ISE summer school for admission.

**c**

### NON-CHULALONGKORN UNIVERSITY'S STUDENTS :

- Undergraduate students
- Postgraduate students
- High school students
- Other

Please fill in the application of ISE summer school for admission.

**d**

### EXCHANGE STUDENTS FROM PARTNER UNIVERSITY

Exchange students from partner university shall follow the exchange program application process and *do not need to fill in the application of ISE summer school for admission.*



Applications for category (b) and (c) of ISE Summer School for Admission with completed documents shall be submitted to **ise@chula.ac.th** and due on **May 15, 2018.**

ISE will notify **the admission results on June 1, 2018.**

Applications for category (d) are due on **March 31, 2018.**

The summer school is open to Chula students and non-Chula non-degree students. Please refer to the section you are concerned as the procedure to follow will differ from one category of students to another.

## ENGLISH PROFICIENCY REQUIREMENT

Applicants of category (b), (c) will have to provide English proficiency test result not more than 2 years old and passing the minimum requirement amongst the following tests.

#### TOEFL

Internet-based: 79  
Computer-based: 213  
Paper-based: 550

#### IELTS

Overall band: 6.0

**CU-TEP  
(CHULALONGKORN  
UNIVERSITY TEST OF  
ENGLISH PROFICIENCY):  
80**

#### TOEIC:

670

# COURSE'S SCHEDULE AND DESCRIPTION

Table 1: Timetable for Courses of ISE Summer School, July 2-20, 2018.

TIME	COURSE	DEPT.	COURSE DESCRIPTION
09.00-12.00	2301107 <b>Calculus I</b>	Math	Limit, continuity, differentiation and integration of real-valued functions of a real variable and their applications; techniques of integration; improper integrals.
	2301108 <b>Calculus II</b>	Math	Mathematical induction; sequences and series of real numbers; Taylor series expansion and approximation of elementary functions; numerical integration; vectors, lines and planes in three dimensional space; calculus of vector valued functions of one variable; calculus of real valued functions of two variables; introduction to differential equations and their applications.
	2143489 <b>IoT Foundations &amp; Applications</b>	ISE	Internet of Things (IoT), network evolution, requirements, standardization, architecture, communication, protocols, planning procedures, performance and security, problem solving and numerical computation, IoT wireless networks, selected applications of IoT. <b>Instructor: Dr. K. Sandy, Visiting Lecturer at Chulalongkorn University</b>
	2145481 <b>Introduction to UAV</b>	ISE	UAV payload, communication system and data link, aircraft design process and initial sizing, basic aerodynamics of small UAVs, propulsion and flight control system for small UAV, structural design and basic detailed design, UAV construction, flight test. <b>Instructors: Prof. Ben Parslew, The University of Manchester, UK, Khristopher Kabbabe, Peter Hollingsworth</b>
13.00-16.00	2304153 <b>Physics for Engineers</b>	Phys	Mechanics of particles and rigid bodies; properties of matter; fluid mechanics; heat; vibrations and waves; elements of electromagnetism; optics; modern physics.
	2304154 <b>Physics and Electronics for Engineers</b>	Phys	Electricity; DC circuits; AC circuits; basic electronics; solid state devices; electrical actuators.
	2143488 <b>Big Data/ Artificial Intelligence</b>	ISE	Introduction to data science, basic concepts and application of data science, data types, scale of measurement, life-cycle of data science project, modelling, evaluation and deployment, exploratory data analysis, summary statistics, presentation and visualisation, unsupervised methods, k-means, association rules, clustering evaluation, supervised methods, ensemble methods, classifiers evaluation and comparison, statistical modelling and machine learning methods. <b>Instructor: Prof.Philippe Lenca, IMT Atlantique, France</b>
	2143495 <b>Introduction to cryptography and cryptocurrencies</b>	ISE	Primitives, cryptosystems, protocols, cryptographic hash functions, public-key cryptography and digital signatures, public-key infrastructures, advanced topics in cryptography and cryptanalysis, blockchains and merkle trees, the Nakamoto consensus protocol & bitcoin, smart contracts & ethereum, labs: smart contract-based Bitcoin exchanges, zerocoin, zerocash, and beyond, the economics of cryptocurrencies, final project presentation and demo. <b>Instructor: Prof.Chen-Mou CHENG, Osaka Univerity, Japan</b>
16.00-18.00	3900115 <b>Sport Activity Muay Thai</b>	Sport Sci	Knowledge, culture, and principles of MuayThai; skills and techniques in MuayThai; punching, kicking, thrusting, elbow striking, and knee kicking; applications of skills and techniques in MuayThai through sport science principles.



**Notes:**

- Courses of Physics and Calculus I & II will be opened only if a minimum of participants have registered. Otherwise, these courses will not be offered.
- Muay Thai class will be opened to a maximum of 30 students and scheduled from 16.00-18.00. This course covers two credits which would be included in the credit transfer. There will be no extra charge.
- Learning outcomes and more details on each syllabus will be provided on arrival, or upon request if needed before arrival.

## CREDIT TRANSFER

- Courses will be opened for eligibility to 3 credit transfer at the home institution of the attendees.
- The approval of credit transfer is up to the home institution of the attendee.
- To ask for a credit transfer students will have to fill the form 'Request for transcript'
- Within one month after the end of ISE summer school, students will get their official transcripts by mail. One copy will be sent to the student and another one to the home institution of each students.

## SCHOLARSHIP FOR STUDENTS FROM



**CAMBODIA**



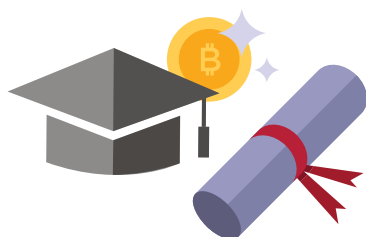
**MYANMAR**



**LAOS**



**VIETNAM**



Students coming from Cambodia, Laos, Myanmar, or Vietnam (CLMV) are eligible to apply a scholarship waiving 100% of the fees and on campus accommodation.

To apply to this scholarship, please submit the following:

- The ISE summer school application for admission
- The Application ISE Summer School Scholarship for CLMV Students with the required documents described in the announcement of summer school scholarship for CLMV students

All documents *must be in English* and submitted via email by May 15, 2018. ISE will notify the **admission and scholarship results on June 1, 2018.**

## FEES AND PAYMENT

Table 2: Fees per category of students

CATEGORY	TUITION/PROGRAM FEES
Thai Students – Chulalongkorn's students	Please refer to Chulalongkorn's financial regulation
Thai Students – Non Chulalongkorn's students	37,625 THB
Foreign Students*	59,188 THB

**Note:** \*Student with ISE summer school scholarship for CLMV shall pay a deposit fee of 1,000 THB.

Students shall pay the fees by **SWIFT transfer** to Faculty of Engineering, Chulalongkorn University.

**Account Name:** Educational Fund of Engineering Chula  
**Account Number:** 045-2-91244-7  
**Name of Bank:** Siam Commercial Bank, Sapha Kachat Thai Branch  
**Bank's Address:** 1873 Henry Dunant Rd., Pathumwan, Bangkok 10330 Thailand  
**SWIFT CODE:** SICOTHBK A/C

**Due payment  
must be made by  
June 15, 2018.**

Once students have made the payment, please send a scan of the wired payment receipt to **Supaphan.p@chula.ac.th**, **Sasiwipa.p@chula.ac.th**

## VISA FOR FOREIGN STUDENTS



Foreign students will need to apply for a student visa, **ED Visa**, in their home countries prior their arrival to Thailand. The following process requires about one month.

- Confirm the admission of ISE summer school after receiving a notification of admission result.
- ISE issues a letter for a study purpose in Thailand.
- ISE send a scan and a hard copy letter of this letter to each foreign student.
- Foreign students will apply at the Thai Embassy near their homes for ED Visa.

**Note:** Student will have to cover costs for flight tickets and other transportation related costs. ISE will give advice on the transportation from the main airports. There will be no airport pickup of attendees.



## ACCOMMODATION

Chulalongkorn University offers an on-campus hall of residence called '**CU iHouse**' for international students. CU iHouse is a 26-storey building with 846 units for international students and visiting international faculty. Rooms are fully furnished with air conditioning, modern conveniences, 24-hour security and safety systems, and free WIFI internet access. The residence provides a shuttle bus service to faculties within Chulalongkorn University.

For further information, please visit the website:  
[www.chula.ac.th/en/prospective-student/accommodation](http://www.chula.ac.th/en/prospective-student/accommodation)



### MONTHLY ROOM RATES

Studio 25 sq.m.	Single Bed	14,000 THB*
Studio 25 sq.m.	Twin Single Beds	14,000 THB*
1 Bedroom 50 sq.m.	Single Bed	22,000 THB*

\*Please note that utility bills are not included in these rates.

\*\*Two-month room deposit and one-month rental fee must be paid either in advance or before checking in.

If participants had required assistance to find an accommodation, ISE will be in touch with them as soon as they are notified of their successful application.



24-HOUR  
SECURITY



SHUTTLE BUS  
SERVICE



FREE WIFI



AIR  
CONDITIONING



FULLY  
FURNISHED



MODERN  
CONVENIENCES

## LUNCH SERVICES

During the summer school from July 2-20, 2018, lunch will be provided by ISE. Other meals will not be covered by ISE. Chulalongkorn University has many canteens around the campus where students can take meals with international or local food.





## CULTURAL ACTIVITIES

After three weeks of Summer School, there will be an opportunity for participants to explore Thai culture by joining one-week discovery trip from July 23-30, 2018. This trip is organized and managed by a local travel agency. All expenses will be borne by students themselves as it is optional. ISE does not guarantee the availability for this trip.



## CONTACT INFORMATION

SUMMER SCHOOL PROGRAM COORDINATOR  
INTERNATIONAL SCHOOL OF ENGINEERING  
FACULTY OF ENGINEERING  
CHULALONGKORN UNIVERSITY

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