

**BACHELOR OF SCIENCE  
(INTERNATIONAL PROGRAM)  
INTERDISCIPLINARY PROGRAM  
NEW PROGRAM 2018**

**Bachelor of Science in Logistics Management  
International Program  
Interdisciplinary Program  
New Undergraduate Curriculum, Academic Year 2018**

King Mongkut's Institute of Technology Ladkrabang  
International Academy of Aviation Industry  
Department of Aviation Industry Innovation and Services



## 6. Curriculum status and curriculum approval

This is a new curriculum starting in the first semester of the academic year 2018

The academic committee approved the curriculum in the 11/2017 meeting on 21/11/2017

The university council approved the curriculum in the 13/2017 meeting on 20/12/2017

## 7. Readiness curriculum expanding with high quality standards

The curriculum was ready to expand with high quality standards, which was related to Thai Qualifications Framework for Higher Education (TQF) 2016.

## 8. Potential careers for graduates

After graduation, having received Bachelor of Science in Logistics Management, graduates are able to work as a business owner, employee in public and private sector relating to logistics and aviation. Possible careers in logistics are logistics analyst, procurement officer, transport coordinator, customer officer in freight forwarder, freight broker and shipping company, import/export officer, distribution center and warehouse officer, inventory planner, material planner, demand planner and customer service officer. Possible careers in aviation are ground officer, flight planner, and cargo officer in airline.

## 9. Names, positions, and degrees of the instructors in charge of the curriculum

Name	Qualification	Education Institute
1. Dr. Waralee Peetawan [REDACTED]	- วท.ด. (การจัดการโลจิสติกส์) หลักสูตรนานาชาติ, 2559 - Master of Business Logistics Engineering, 2010 - วท.บ. (เทคโนโลยีการจัดการ) หลักสูตรนานาชาติ, 2550	จุฬาลงกรณ์มหาวิทยาลัย  The Ohio State University  มหาวิทยาลัยธรรมศาสตร์
2. Dr. Wareerath Akkalatham [REDACTED]	- ปรี.ด. (บริหารธุรกิจ), 2555 - Master of Arts (Marketing), 2005 - นศ.บ. (โฆษณา), 2547	มหาวิทยาลัยอัสสัมชัญ Middlesex University มหาวิทยาลัยอัสสัมชัญ
3. Asst. Prof. Nattaporn Nawakitransan (Civil Engineering) [REDACTED]	- วศ.ม. (วิศวกรรมขนส่ง), 2545 - วศ.บ. (วิศวกรรมโยธา), 2542	สถาบันเทคโนโลยีแห่งเอเชีย  สถาบันเทคโนโลยีพระจอมเกล้า เจ้าคุณทหารลาดกระบัง
4. Dr. Jumrus Pitaksringkarn [REDACTED]	- วศ.ด. (วิศวกรรมขนส่ง), 2539 - M.Sc. (Civil Engineering), 1999 - วศ.บ. (วิศวกรรมโยธา), 2551	สถาบันเทคโนโลยีแห่งเอเชีย University of Massachusetts - Lowell มหาวิทยาลัยขอนแก่น

Name	Qualification	Education Institute
5. Asst. Prof. Dr. Manop Phankokkrud (Information Technology) ██████████	<ul style="list-style-type: none"> <li>- ปริญญาโท (คอมพิวเตอร์ศึกษา), 2554</li> <li>- ค.อ.ม. (เทคโนโลยีคอมพิวเตอร์), 2547</li> <li>- วท.บ. (เคมี), 2537</li> </ul>	<ul style="list-style-type: none"> <li>มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าพระนครเหนือ</li> <li>มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าพระนครเหนือ</li> <li>มหาวิทยาลัยขอนแก่น</li> </ul>

## 10. Teaching venue

International Academy of Aviation Industry, King Mongkut's Institute of Technology Ladkrabang, Bangkok

## 11. External factors or necessary development to be considered in curriculum planning

### 11.1 Economic situation and development

Logistics has become one of national development strategies. The Strategy and Labor Network Division, Department of Skill Development, Ministry of Labor had estimate that need for logistics workforce until 2020. More than 30,000 workforces are required while educational institute can supply only about half. The national economic and social development board is also driving toward logistics excellence for the country, aiming to lower logistics cost per GDP while supporting capacity building for logistics workforce. In the meantime, striking growth in global aviation and air cargo are to continue for over the next decade. Therefore, Department of Aviation Industry Innovation and Services, International Academy of Aviation Industry has developed a program that would equipped the graduates with logistics and aviation skills, as well as English proficiency to fulfill the country and global needs.

### 11.2 Social and cultural situation and development

King Mongkut's Institute of Technology Ladkrabang are situated close to aviation and logistics cluster, that is Suvarnabhumi International Airport, air cargo sites, and inland container depot, which stimulate the learning environment. Students are to be trained and skilled in not only logistics and aviation but also business administration and related technology. Students will also be able to develop social responsibility, professional and academic ethics, and adapt to changing environment and culture.

## **12. The effect mentioned in Section 11 on curriculum development and their relevance to the missions of the institution**

### **12.1 Curriculum development**

Innovative technology has led to changes where the networking through the Internet enables worldwide interaction promoting several new trends in business. Today's manufacturing industry is not only focus on controlling its production processes, but increasing the effectiveness of its management to be superior in the market; raise its product quality, standard, and safety; reduces production costs, and add value to its product and service. The Institute sees the necessity of integrating business administration, logistics and aviation management and the changes of industry and technology. Thus, the Institute has developed this curriculum in response to the needs of logistician personnel by providing them with advanced knowledge, skill, and ethics for their professions.

### **12.2 The relevance to the missions of the institution**

King Mongkut's Institute of Technology Ladkrabang is an institution with prestige in science and technology. At present, the Institute is committed to growing itself as an international interdisciplinary university to support society.

The Bachelor of Science in Logistics Management (International Program) is developed to be aligned with the institute's vision and mission focusing on producing quality graduates to create excellence in business, logistics management and aviation, and the development of sustainable self-sufficient innovation.

## **13. Relationship with other curricula in the faculty/ other department in the institution**

### **13.1 Course(s) offered by other faculties/ department/ programs**

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### **13.2 Course(s) offered to other faculties/ department/ programs**

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### **13.3 Administration and management**

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### 3. Curriculum and instructors

#### 3.1 Curriculum

3.1.1 <u>Total credit</u>	141	credits
3.1.2 <u>Curriculum Structure</u>		
GENERAL EDUCATION COURSES	30	credits
SCIENCE AND MATHEMATICS	6	credits
SOCIAL SCIENCES	6	credits
HUMANITIES	6	credits
LANGUAGE	12	credits
PROFESSIONAL COURSES	105	credits
CORE COURSES	57	credits
MATHEMATICS COURSES	9	credits
GENERAL MANAGEMENT COURSES	21	credits
ENGINEERING AND TECHNOLOGY COURSES	27	credits
MAJOR COMPULSARY COURSES	30	credits
MAJOR ELECTIVE COURSES	12	credits
ALTERNATIVE EDUCATION	6	credits
FREE ELECTIVE COURSES	6	credits

#### 3.1.3 Courses

<b>GENERAL EDUCATION</b>		30	credits
<u>SCIENCE AND MATHEMATICS</u>		6	credits
			Credits (Lecture-Practice-Self-study)
15006101	CONTEMPORARY SCIENCE AND TECHNOLOGY	3	(3-0-6)
15006102	TECHNICAL SKILLS DEVELOPMENT	3	(2-2-5)
	<u>LANGUAGE</u>	12	credits
			Credits (Lecture-Practice-Self-study)
15006201	FOUNDATION ENGLISH 1	3	(3-0-6)
15006202	AVIATION ENGLISH	3	(3-0-6)
15006203	ENGLISH FOR ACADEMIC PURPOSES	3	(3-0-6)
15006204	ENGLISH FOR PROFESSIONAL PRESENTATION	3	(3-0-6)
	<u>HUMANITIES</u>	6	credits
			Credits (Lecture-Practice-Self-study)
15006303	PERSONALITY DEVELOPMENT	3	(3-0-6)
15006304	SPORTS SCIENCE FOR HEALTH	3	(2-2-5)

	<b><u>SOCIAL SCIENCES</u></b>	<b>6 credits</b>
		Credits (Lecture-Practice-Self-study)
15006401	ENTREPRENEURSHIP	3 (3-0-6)
15006402	LAW AND REGULATION IN AVIATION INDUSTRY	3 (3-0-6)
<b>PROFESSIONAL COURSES</b>		<b>105 credits</b>
		Credits (Lecture-Practice-Self-study)
	<b><u>CORE COURSES</u></b>	<b>57 credits</b>
15026101	MATHEMATICS 1	3 (3-0-6)
15026102	MATHEMATICS 2	3 (3-0-6)
15026103	PROBABILITY AND STATISTICS	3 (3-0-6)
15026201	PRINCIPLES OF ECONOMICS	3 (3-0-6)
15026202	INTERNATIONAL TRADE POLICIES	3 (3-0-6)
15026203	PRINCIPLES OF MANAGEMENT	3 (3-0-6)
15026204	PRINCIPLES OF MARKETING	3 (3-0-6)
15026205	PRINCIPLES OF ACCOUNTING	3 (3-0-6)
15026206	COST MANAGEMENT FOR DECISION MAKING	3 (3-0-6)
15026207	BUSINESS FINANCE	3 (3-0-6)
15026301	INTRODUCTION TO INFORMATION SYSTEMS	3 (3-0-6)
15026302	DATABASE MANAGEMENT SYSTEMS	3 (2-2-5)
15026303	ENTERPRISE RESOURCE PLANNING	3 (2-2-5)
15026304	SYSTEM AND PROCESS SIMULATION	3 (2-2-5)
15026305	PRODUCTION AND OPERATIONS ANALYSIS	3 (3-0-6)
15026306	ENGINEERING ECONOMICS	3 (3-0-6)
15026307	RESEARCH METHODOLOGY	3 (3-0-6)
15026308	PROJECT MANAGEMENT	3 (3-0-6)
15026309	OPERATIONS RESEARCH	3 (3-0-6)
	<b><u>MAJOR COMPULSARY COURSES</u></b>	<b>30 credits</b>
15026401	LOGISTICS AND SUPPLY CHAIN MANAGEMENT	3 (3-0-6)
15026402	FUNDAMENTALS OF AVIATION	3 (3-0-6)
15026403	INVENTORY AND WAREHOUSE MANAGEMENT	3 (3-0-6)
15026404	FREIGHT TRANSPORTATION AND DISTRIBUTION	3 (3-0-6)
15026405	FACILITY LOCATION AND PLANNING	3 (3-0-6)
15026406	AIRPORT OPERATIONS AND MANAGEMENT	3 (3-0-6)
15026407	AIR CARGO MANAGEMENT	3 (3-0-6)
15026408	DANGEROUS GOODS MANAGEMENT	3 (3-0-6)

15026409	CENTER OF GRAVITY AND LOAD CONTROL	3 (3-0-6)
15026410	SELECTED TOPICS IN LOGISTICS MANAGEMENT	3 (3-0-6)
	<b><u>MAJOR ELECTIVE COURSES</u></b>	<b>12 credits</b>
15026411	TRANSPORTATION LAW	3 (3-0-6)
15026412	RAIL BUSINESS MANAGEMENT	3 (3-0-6)
15026413	SHIPPING BUSINESS	3 (3-0-6)
15026414	AIRLINE BUSINESS MANAGEMENT	3 (3-0-6)
15026415	QUANTITATIVE METHODS IN LOGISTICS BUSINESS	3 (3-0-6)
15026416	MATERIAL HANDLING AND PACKAGING SYSTEM	3 (3-0-6)
15026417	TECHNOLOGIES FOR LOGISTICS MANAGEMENT	3 (3-0-6)
15026418	STRATEGIC SUPPLY CHAIN AND LOGISTICS MANAGEMENT	3 (3-0-6)

**ALTERNATIVE EDUCATION** **6 credits**

All students must take logistics management training during summer semester of the third year. There are three options for alternative education. Students must choose only one option to complete 6 credits.

		Credits (Lecture-Practice-Self-study)
15026800	LOGISTICS MANAGEMENT TRAINING	0 (0-0-0)
	(1) CO-OPERATIVE EDUCATION	
15026801	CO-OPERATIVE EDUCATION	6 (0-45-0)
	(2) INDEPENDENT STUDY	
15026802	INDEPENDENT STUDY 1	1 (0-5-0)
15026803	INDEPENDENT STUDY 2	5 (0-40-0)
	OR	
15026804	SPECIAL PROJECT 1	1 (0-5-0)
15026805	SPECIAL PROJECT 2	5 (0-40-0)
	(3) OVERSEAS TRAINING	
15026806	OVERSEAS TRAINING	6 (0-45-0)

**FREE ELECTIVE COURSES** **6 credits**

		Credits (Lecture-Practice-Self-study)
15016906	SAFETY MANAGEMENT SYSTEMS	2 (2-0-4)
15016907	CREW RESOURCE MANAGEMENT	2 (2-0-4)
15026901	BUSINESS NEGOTIATION	3 (3-0-6)
15026902	CONSUMER BEHAVIORS	3 (3-0-6)



15026903	HUMAN RESOURCE MANAGEMENT	3 (3-0-6)
15026904	SERVICE BUSINESS MANAGEMENT	3 (3-0-6)

### Meaning of subject code

The subject code consists of eight digits (numbers and letters):

1 <sup>st</sup> , 2 <sup>nd</sup> digits	15	mean	International Academy of Aviation Industry
3 <sup>rd</sup> , 4 <sup>th</sup> digits	00	mean	General Education
	02	mean	Logistics Management
5 <sup>th</sup> digit	6	means	Undergraduate Curriculum
6 <sup>th</sup> digit		means	Subject category
	1	means	Mathematics Courses
	2	means	General Management Courses
	3	means	Engineering and Technology Courses
	4	means	Major Courses (Logistics Management)
	8	means	Alternative Education Courses
	9	means	Free Elective Courses
7 <sup>th</sup> , 8 <sup>th</sup> digits	01-99	mean	Number of Subjects

3.1.4 Study plan**1<sup>st</sup> Year 1<sup>st</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15006101	CONTEMPORARY SCIENCE AND TECHNOLOGY	3 (3-0-6)
15006304	SPORTS SCIENCE FOR HEALTH	3 (2-2-5)
15006201	FOUNDATION ENGLISH	3 (3-0-6)
15026101	MATHEMATICS 1	3 (3-0-6)
15026201	PRINCIPLES OF ECONOMICS	3 (3-0-6)
15026202	INTERNATIONAL TRADE POLICIES	3 (3-0-6)
	<b>Total</b>	<b>18 credits</b>

**1<sup>st</sup> Year 2<sup>nd</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15006101	TECHNICAL SKILLS DEVELOPMENT	3 (2-2-5)
15006402	LAW AND REGULATION IN AVIATION INDUSTRY	3 (3-0-6)
15006202	AVIATION ENGLISH	3 (3-0-6)
15026102	MATHEMATICS 2	3 (3-0-6)
15026203	PRINCIPLES OF MANAGEMENT	3 (3-0-6)
15026204	PRINCIPLES OF MARKETING	3 (3-0-6)
	<b>Total</b>	<b>18 credits</b>

**2<sup>nd</sup> Year 1<sup>st</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15006203	ENGLISH FOR ACADEMIC PURPOSE	3 (3-0-6)
15006303	PERSONALITY DEVELOPMENT	3 (3-0-6)
15026103	PROBABILITY AND STATISTICS	3 (3-0-6)
15026205	PRINCIPLES OF ACCOUNTING	3 (3-0-6)
15026301	INTRODUCTION TO INFORMATION SYSTEMS	3 (3-0-6)

15026401	LOGISTICS AND SUPPLY CHAIN MANAGEMENT	3 (3-0-6)
15026402	FUNDAMENTALS OF AVIATION	3 (3-0-6)
	<b>Total</b>	<b>21 credits</b>

**2<sup>nd</sup> Year 2<sup>nd</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15006204	ENGLISH FOR PROFESSIONAL PRESENTATION	3 (3-0-6)
15006401	ENTREPRENEURSHIP	3 (3-0-6)
15026206	COST MANAGEMENT FOR DECISION MAKING	3 (3-0-6)
15026302	DATABASE MANAGEMENT SYSTEMS	3 (2-2-5)
15026305	PRODUCTION AND OPERATIONS ANALYSIS	3 (3-0-6)
15026306	ENGINEERING ECONOMICS	3 (3-0-6)
15026403	INVENTORY AND WAREHOUSE MANAGEMENT	3 (3-0-6)
	<b>Total</b>	<b>21 credits</b>

**3<sup>rd</sup> Year 1<sup>st</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026207	BUSINESS FINANCE	3 (3-0-6)
15026303	ENTERPRISE RESOURCE PLANNING	3 (2-2-5)
15026307	RESEARCH METHODOLOGY	3 (3-0-6)
15026404	FREIGHT TRANSPORTATION AND DISTRIBUTION	3 (3-0-6)
15026406	AIRPORT OPERATIONS AND MANAGEMENT	3 (3-0-6)
15026407	AIR CARGO MANAGEMENT	3 (3-0-6)
1502641X	MAJOR ELECTIVE 1	3 (3-0-6)
	<b>Total</b>	<b>21 credits</b>

**3<sup>rd</sup> Year 2<sup>nd</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026304	SYSTEM AND PROCESS SIMULATION	3 (2-2-5)
15026308	PROJECT MANAGEMENT	3 (3-0-6)
15026309	OPERATIONS RESEARCH	3 (3-0-6)
15026405	FACILITY LOCATION AND PLANNING	3 (3-0-6)
15026408	DANGEROUS GOODS MANAGEMENT	3 (3-0-6)
15026409	CENTER OF GRAVITY AND LOAD CONTROL	3 (3-0-6)
1502641X	MAJOR ELECTIVE 2	3 (3-0-6)
	<b>Total</b>	<b>21 credits</b>

**3<sup>rd</sup> Year Summer Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026800	LOGISTICS MANAGEMENT TRAINING	0 (0-0-0)
	<b>Total</b>	<b>0 credit</b>

**(Option 1: Co-Operative Education)****4<sup>th</sup> Year 1<sup>st</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026410	SELECTED TOPICS IN LOGISTICS MANAGEMENT	3 (3-0-6)
1502641X	MAJOR ELECTIVE 3	3 (3-0-6)
1502641X	MAJOR ELECTIVE 4	3 (3-0-6)
1502690X	FREE ELECTIVE 1	3 (3-0-6)
1502690X	FREE ELECTIVE 2	3 (3-0-6)
	<b>Total</b>	<b>15 credits</b>

**4<sup>th</sup> Year 2<sup>nd</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026801	CO-OPERATIVE EDUCATION	6 (0-45-0)
	<b>Total</b>	<b>6 credits</b>

**(Option 2: Independent Study)****4<sup>th</sup> Year 1<sup>st</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026410	SELECTED TOPICS IN LOGISTICS MANAGEMENT	3 (3-0-6)
1502641X	MAJOR ELECTIVE 3	3 (3-0-6)
1502641X	MAJOR ELECTIVE 4	3 (3-0-6)
1502690X	FREE ELECTIVE 1	3 (3-0-6)
1502690X	FREE ELECTIVE 2	3 (3-0-6)
15026802	INDEPENDENT STUDY 1	1 (0-5-0)
	<b>Total</b>	<b>16 credits</b>

**4<sup>th</sup> Year 2<sup>nd</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026803	INDEPENDENT STUDY 2	5 (0-40-0)
	<b>Total</b>	<b>5 credits</b>

**(Option 3: Special Project)****4<sup>th</sup> Year 1<sup>st</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026410	SELECTED TOPICS IN LOGISTICS MANAGEMENT	3 (3-0-6)
1502641X	MAJOR ELECTIVE 3	3 (3-0-6)
1502641X	MAJOR ELECTIVE 4	3 (3-0-6)
1502690X	FREE ELECTIVE 1	3 (3-0-6)
1502690X	FREE ELECTIVE 2	3 (3-0-6)
15026804	SPECIAL PROJECT 1	1 (0-5-0)
	<b>Total</b>	<b>16 credits</b>

**4<sup>th</sup> Year 2<sup>nd</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026805	SPECIAL PROJECT 2	5 (0-40-0)
	<b>Total</b>	<b>5 credits</b>

**(Option 4: Overseas Training)****4<sup>th</sup> Year 1<sup>st</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026410	SELECTED TOPICS IN LOGISTICS MANAGEMENT	3 (3-0-6)
1502641X	MAJOR ELECTIVE 3	3 (3-0-6)
1502641X	MAJOR ELECTIVE 4	3 (3-0-6)
1502690X	FREE ELECTIVE 1	3 (3-0-6)
1502690X	FREE ELECTIVE 2	3 (3-0-6)
	<b>Total</b>	<b>15 credits</b>

**4<sup>th</sup> Year 2<sup>nd</sup> Semester**

<b>Code</b>	<b>Courses</b>	<b>Credits (Lecture-Practice-Self-study)</b>
15026805	OVERSEAS TRAINING	6 (0-45-0)
	<b>Total</b>	<b>6 credits</b>

**Total credits****141 credits****3.1.5 Course Description**

See Appendix D

**3.2 Name, position, and qualification of instructors****3.2.1 Key instructors**

<b>Name</b>	<b>Qualification</b>	<b>Academic Works</b>
1. Dr. Waralee Peetawan [REDACTED]	<ul style="list-style-type: none"> <li>- วท.บ. (เทคโนโลยีการจัดการ) หลักสูตรนานาชาติ มหาวิทยาลัยธรรมศาสตร์, 2550</li> <li>- Master of Business Logistics Engineering, The Ohio State University, USA, 2010</li> <li>- วท.ด. (การจัดการโลจิสติกส์) หลักสูตรนานาชาติ จุฬาลงกรณ์มหาวิทยาลัย, 2559</li> </ul>	<ol style="list-style-type: none"> <li>1. Research <ul style="list-style-type: none"> <li>- Logistics Service Providing</li> <li>- Logistics Decision Analysis</li> </ul> </li> <li>2. Book -</li> <li>3. Teaching load (3 hr./week) <ul style="list-style-type: none"> <li>- Industrial Economics</li> </ul> </li> </ol>
2. Dr. Wareerath Akkalatham [REDACTED]	<ul style="list-style-type: none"> <li>- นศ.บ. (โฆษณา) มหาวิทยาลัยอัสสัมชัญ, 2547</li> <li>- Master of Arts (Marketing), Middlesex University, UK, 2548</li> <li>- ปร.ด. (บริหารธุรกิจ) มหาวิทยาลัยอัสสัมชัญ, 2555</li> </ul>	<ol style="list-style-type: none"> <li>1. Research <ul style="list-style-type: none"> <li>- Consumer Behavior</li> </ul> </li> <li>2. Book -</li> <li>3. Teaching load (3 hr./week) <ul style="list-style-type: none"> <li>- Management for Aeronautical Engineering</li> </ul> </li> </ol>

### **General Education**

#### **Science and Mathematics**

15006101 CONTEMPORARY SCIENCE AND TECHNOLOGY 3 (3-0-6)

PREREQUISITE : NONE

Discussion of contemporary topics in science and technology including innovation and technology in modern days, development and integration of sciences and technology, novel science and technology concepts, and recent applications of formal, physical, life, applied and interdisciplinary sciences.

15006102 TECHNICAL SKILLS DEVELOPMENT 3 (2-2-5)

PREREQUISITE : NONE

Developing technical skills necessary for logisticians and personnel in aviation industry including basic computer programming and skill building for data management, data analysis, and data visualization by using popular spreadsheet software.

#### **Languages**

15006201 FOUNDATION ENGLISH 1 3 (3-0-6)

PREREQUISITE : NONE

A practice in four language skills related to daily life activities, including the use of dictionary as well as the study of vocabulary, language and expressions in reading passages selected from printed materials such as journals, newspapers, etc. as well as a revision of grammatical structures and social functions of language in various situations.

15006202 AVIATION ENGLISH 3 (3-0-6)

PREREQUISITE : 15006201 FOUNDATION ENGLISH 1

A study and practice in the use of English for aviation industry, including technical terms for pilots, cabin crews, ground crews, aeronautical engineers, flight operators, air traffic controllers, airport operators, and aviation logistics operators.

15006203 ENGLISH FOR ACADEMIC PURPOSES 3 (3-0-6)

PREREQUISITE : 15006201 FOUNDATION ENGLISH 1

Development of language and study skills in English for academic purposes with an emphasis on reading texts related to students' fields of subjects including language use for expressing definition, comparison, classification, purposes, functions, processes, cause and effect, etc.

15006204 ENGLISH FOR PROFESSIONAL PRESENTATION 3 (3-0-6)

PREREQUISITE : 15006201 FOUNDATION ENGLISH 1

A study and practice of communication and presentation skills with an emphasis on practical preparation and training of all theoretically gained knowledge such as the ability to

present self-confidently and professionally, the ability to manage verbal and nonverbal parts of the speech, including the ability to deal with stage-fright and work with the audience.

**Humanities**

15006303 PERSONALITY DEVELOPMENT 3 (3-0-6)

PREREQUISITE : NONE

Basic principles of psychology, self-awareness and emotional awareness. Personality traits, values, skills and interests, short-term and long-term goals, strategies for coping with stress, anger and other negative emotions, self-images and self-esteem, positive thinking, critical thinking and decision-making skills, motivation, overcome fear of failure and fear of success, time and money management, effective speaker and an active listener, diversity, stereotypes and prejudice.

15006304 SPORTS SCIENCE FOR HEALTH 3 (2-2-5)

PREREQUISITE : NONE

Application of theory and principles of sports science for health; factor and effect of exercise, principles and method of exercise for health and health maintenance.

**Social sciences**

15006401 ENTREPRENEURSHIP 3 (3-0-6)

PREREQUISITE : NONE

A study of successful business entrepreneurs, characters of successful entrepreneur, categories of entrepreneurs, business set-up, business plan writing, operating strategies, modern techniques in business management and case studies of successful entrepreneurship.

15006402 LAW AND REGULATION IN AVIATION INDUSTRY 3 (3-0-6)

PREREQUISITE : NONE

International Civil Aviation Organization (ICAO) and other international and European organizations' air law. Aviation regulators in Thailand. Legal and institutional framework of international air law regimes. Impacts of air law towards aviation industry. Legal issues in aviation industry.



## Professional Courses

### Core Courses

#### 1. Mathematics

15026101 MATHEMATICS 1 3 (3-0-6)

PREREQUISITE : NONE

The study of systems of linear equation, matrices, orthogonality, determinants and their properties, linear transformation, Cramer's Rules, vector spaces, and eigenvalues and eigenvectors. Linear dependence and independence.

15026102 MATHEMATICS 2 3 (3-0-6)

PREREQUISITE : 15026101 MATHEMATICS 1

Function, limit, continuity and their applications, introduction to derivative, differentiation, applications of derivative, higher order derivatives, and definite integrals. Applications of differentiation. Indefinite integration and techniques of integration - integration by substitution, integration by parts, trigonometric substitution, integration by partial fractions.

15026103 PROBABILITY AND STATISTICS 3 (3-0-6)

PREREQUISITE : 15026102 MATHEMATICS 2

Study of an application of statistical methods to business problems including descriptive statistics, random variables and probability distributions, estimation and hypothesis testing, one-way and two-way analysis of variance, correlation analysis, simple and multiple regression analysis, and introduction to forecasting with regression models, use of computer programs in solving statistical problems.

#### 2. General Management

15026201 PRINCIPLES OF ECONOMICS 3 (3-0-6)

PREREQUISITE : NONE

A study of concepts and application of economic theories, the economic system to solve the basic economic problems, demand, supply, and equilibrium, elasticity, consumer theory, production costs theory, pricing and production volumes in different markets, role of the government in solving problems.

15026202 INTERNATIONAL TRADE POLICIES 3 (3-0-6)

PREREQUISITE : NONE

Introduction to the theory of international trade and finance. Main reasons for trade, trade patterns, trade and income distribution, foreign direct investment and immigration, trade policy instruments, World Trade Organization and the multilateral trading system, trade agreements.

15026203 PRINCIPLES OF MANAGEMENT 3 (3-0-6)

PREREQUISITE : NONE

Study of characteristics of business organization; manager's role and duties; motivation, communication and decision making; effective management for business firms, corporate social responsibility.

15026204 PRINCIPLES OF MARKETING 3 (3-0-6)  
PREREQUISITE : NONE

Study of future marketing, marketing environment for defining strategy, collecting information and forecasting demand including conducting marketing research that can be creating long-term relationship with customer, analyses consumer market for defining segmentation, selecting target market that can be implementing in create product, brand, price, deliver value of product and communicate to target groups.

15026205 PRINCIPLES OF ACCOUNTING 3 (3-0-6)  
PREREQUISITE : NONE

Study of concepts and meaning of accounting, financial statements, accounting equation, accounting transaction analysis, the recording of the accounting data, theory of double-entry bookkeeping, general and trail balance, closing and adjusting entries.

15026206 COST MANAGEMENT FOR DECISION MAKING 3 (3-0-6)  
PREREQUISITE : 15026205 PRINCIPLES OF ACCOUNTING

A study of cost classifications, product costing, job costing, process costing, full costing and variable costing, cost-volume-profit analysis, budgeting, capital budgeting, relevant costs for decision making, standard costing and variance analysis.

15026207 BUSINESS FINANCE 3 (3-0-6)  
PREREQUISITE : 15026205 PRINCIPLES OF ACCOUNTING

Study of goals and functions of financial management in business organizations, financial statements, financial statement analysis, cash flow statement, risk and return, time value of money, capital structure, cost of capital, capital budgeting, financing, working capital management, and current asset management.

### 3. Engineering and Technology

15026301 INTRODUCTION TO INFORMATION SYSTEMS 3 (3-0-6)  
PREREQUISITE : NONE

Introduction to information systems, information systems in organization, hardware and software in information systems, fundamental information database system, fundamental computer networks, decision support system, information technology in business, e-commerce, resource management, ethics in information technology, and information systems development.

15026302 DATABASE MANAGEMENT SYSTEMS 3 (2-2-5)  
PREREQUISITE : NONE

Logical data models, relational database systems, structured query language (SQL), conceptual modeling; database design, Web-connected databases, transaction management, data warehousing, data mining, database administration issues, focuses on the use/management of business data in areas such as finance, accounting, and production.

- 15026303 ENTERPRISE RESOURCE PLANNING 3 (2-2-5)  
 PREREQUISITE : 15026301 INTRODUCTION TO INFORMATION SYSTEMS  
 Fundamentals of enterprise resource planning (ERP) systems concepts, and the importance of integrated information systems in an organization. Managing procurement, production, and sales business processes using ERP software. Use of SAP as an example ERP system. Introduction of Systems, Applications and Products (SAP).
- 15026304 SYSTEM AND PROCESS SIMULATION 3 (2-2-5)  
 PREREQUISITE : 15026103 PROBABILITY AND STATISTICS  
 Basic principles in system simulation and modeling. Probability and statistic used in simulation. Discrete event simulation. Continuous system simulation. Queuing system. Simulation models for logistics system, distribution network, airport operations, and air cargo operations.
- 15026305 PRODUCTION AND OPERATIONS ANALYSIS 3 (3-0-6)  
 PREREQUISITE : NONE  
 Study of production and operations planning, product and process development, production forecasting and quantitative management, material requirement planning, capacity planning, operation sequencing and scheduling, quality and assurance, factory safety management and lean production.
- 15026306 ENGINEERING ECONOMICS 3 (3-0-6)  
 PREREQUISITE : NONE  
 Overview of a variety of engineering economic problems. Time value of money. Concept of present value, future value, interest rate and inflation rate. Topics include money management, present-worth analysis, and annual equivalence analysis, rate of return analysis, project-cash flow analysis, replacement decision and benefit-cost analysis.
- 15026307 RESEARCH METHODOLOGY 3 (3-0-6)  
 PREREQUISITE : 15026103 PROBABILITY AND STATISTICS  
 Study of an importance of research, research process, literature review, research methodology, research proposal, setting research objectives and hypothesis, primary data collection, data processing, data analysis and interpretation, research report writing and communicating research findings.
- 15026308 PROJECT MANAGEMENT 3 (3-0-6)  
 PREREQUISITE : NONE

Study of project management and techniques for project planning, project scope development, and controlling project resources. Project feasibility study and feasibility analysis. Management of time, risk, human resources, communication, and cost of project.

15026309 OPERATIONS RESEARCH 3 (3-0-6)

PREREQUISITE : 15026102 MATHEMATICS 2

Application of mathematical modeling to solve business operations problems. Linear, nonlinear, and integer programming. Simplex Method. Duality and sensitivity analysis. Network programming and transportation model. Queuing theory. Applications of operations research methods in logistics and aviation business.

### **MAJOR COMPULSARY COURSES**

15026401 LOGISTICS AND SUPPLY CHAIN MANAGEMENT 3 (3-0-6)

PREREQUISITE : NONE

Overview of logistics management including definition, information technology used to manage logistics, organizational issues concerning logistics, and logistics activities. Overview of procurement, demand management, customer service management, inventory management, facility location decision, warehouse management, transportation management, packaging and material handling, international logistics, and supply chain management.

15026402 FUNDAMENTALS OF AVIATION 3 (3-0-6)

PREREQUISITE : NONE

A historical review of aviation, fundamentals and theory of flight. Aeronautical technology, an introduction to aircraft systems and operations, safety of flight, human factors, an introduction to air traffic control and airspace, aviation weather factors, and aviation rules and regulation. Field trip in aviation industry may be included.

15026403 INVENTORY AND WAREHOUSE MANAGEMENT 3 (3-0-6)

PREREQUISITE : 15026401 LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Operational and strategic management of inventories. The role of inventory management within organization. Inventory planning. Demand forecasting. Lead time management. Inventory categorization techniques. Inventory operations. Warehouse system, process, and operations. Warehouse development and trend.

15026404 FREIGHT TRANSPORTATION AND DISTRIBUTION 3 (3-0-6)

PREREQUISITE : 15026401 LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Principle of transportation. Modes of transportation: motor, rail, air, water, and pipelines. International and global transportation. Transportation ratings, costing and pricing. Transportation regulation and public policy. Transportation risk management. Third party logistics. Field trip in transportation industry may be included.

- 15026405 FACILITY LOCATION AND PLANNING 3 (3-0-6)  
 PREREQUISITE : 15026401 LOGISTICS AND SUPPLY CHAIN MANAGEMENT  
 Introduction to facility planning and design. Topics include flow systems, activity relationship and space requirement; layout planning model and design algorithm; warehouse operations; manufacturing systems; facility system and maintenance; and quantitative facility planning models.
- 15026406 AIRPORT OPERATIONS AND MANAGEMENT 3 (3-0-6)  
 PREREQUISITE : 15026402 FUNDAMENTALS OF AVIATION  
 Study airport management including airport elements, basic airport layout, air traffic control, related activities, airport regulations, aircraft document preparation for concerned organizations, the work of related organizations at the airport, aircraft risk management and airport safety. Field trip in airport operations may be included.
- 15026407 AIR CARGO MANAGEMENT 3 (3-0-6)  
 PREREQUISITE : 15026401 LOGISTICS AND SUPPLY CHAIN MANAGEMENT  
 and  
 15026402 FUNDAMENTALS OF AVIATION  
 The basic knowledge handling of air cargo. Categorized of goods; Packaging; labeling; regulations and documents necessary for air cargo. Import and export; tariffs; currency exchange; storage Products; the charges of air cargo; Vocabulary related to air transport. Field trip in air cargo operations may be included.
- 15026408 DANGEROUS GOODS MANAGEMENT 3 (3-0-6)  
 PREREQUISITE : 15026405 AIR CARGO MANAGEMENT  
 Regulations on the transport of dangerous goods by International Air Transportation Association (IATA), regulations, limitation of the carrier and agents. Levels of violence dangerous goods; Packaging, labeling, marking. Documents relating to the transport of dangerous goods. The process of collecting placement on aircraft.
- 15026409 CENTER OF GRAVITY AND LOAD CONTROL 3 (3-0-6)  
 PREREQUISITE : 15026405 AIR CARGO MANAGEMENT  
 The importance of weight and balance of aircraft. Classification of aircraft models Restrictions on the sort used on aircraft to make a center of gravity and load control. How to calculate the balance of the aircraft. The structure of the container product types. Important documents in the process of finding the right balance and weight control. The detailed information on the air cargo (load sheet) according to the International Air Transportation Association (IATA).

- 15026410 SELECTED TOPICS IN LOGISTICS MANAGEMENT 3 (3-0-6)  
 PREREQUISITE : 15026401 LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Contemporary issues in logistics management. Application of operations and strategic tools such as lean, Six Sigma, theory of constraints, and Supply Chain Operations Reference model. Other issues include sourcing, technology, environmental, safety, and security. Students will be assigned issues as individual and/or group and responsible for delivery of research reports and presentations.

### **MAJOR ELECTIVE COURSES**

- 15026411 TRANSPORTATION LAW 3 (3-0-6)  
 PREREQUISITE : NONE

Overview of transportation and transport business's governance. International and domestic transportation regulations. Land, maritime, rail, and aviation law. Multimodal transport bill. Regulations concerning hazardous material transportation. Law and issues related to transportation.

- 15026412 RAIL BUSINESS MANAGEMENT 3 (3-0-6)  
 PREREQUISITE : NONE

History and importance of railroads and rail transport. Overview of rail transport in Thailand and overseas. Rail business administration. Application of transit oriented develop to freight transport. Government's plan and policy for rail infrastructure development. Theory and practice of public-private partnership in rail infrastructure development for country's logistics. Field trip in rail business operations may be included.

- 15026413 SHIPPING BUSINESS 3 (3-0-6)  
 PREREQUISITE : NONE

History of maritime shipping and trade, an overview of ports and waterways, international shipping lanes. Shipping's demand and supply. Shipping business structure. Port and shipping investment decisions. Role of port authorities, port ownership, and government's regulation. Shipping companies' strategies. Field trip in shipping operations may be included.

- 15026414 AIRLINE BUSINESS MANAGEMENT 3 (3-0-6)  
 PREREQUISITE : 15026402 FUNDAMENTALS OF AVIATION

The composition of the airline about structure, duties, responsibilities and the operations of the airline including provide of airline revenues. Topics include classification of airlines, aircraft management, charter airline, airlines service, airline ticketing and reservation, management of aviation safety, freedom of the air, management personnel for aviation organizations, and strategy formulations for airline competition.

15026415 QUANTITATIVE METHODS IN LOGISTICS BUSINESS 3 (3-0-6)

PREREQUISITE : NONE

Study of quantitative methods and analysis in logistics. Quantitative demand forecasting approaches including causal approach and time series. Linear optimization and its extension. Heuristics approaches for routing, vehicle routing, and facility location decisions. Multi-criteria decision analysis and risk analysis models. Students will learn how to use computer software to solve quantitative problems.

15026416 MATERIAL HANDLING AND PACKAGING SYSTEM 3 (3-0-6)

PREREQUISITE : 15026401 LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Study of material handling systems, equipment selection, and the relationship of material handling to other activities and operations of the industrial plant or warehouse. Planning and analyzing material handling systems. Material handling automation. Packaging systems and design.

15026417 TECHNOLOGIES FOR LOGISTICS MANAGEMENT 3 (3-0-6)

PREREQUISITE : 15026401 LOGISTICS AND SUPPLY CHAIN MANAGEMENT

History of information technology used in logistics management. Importance and impact of information technology in logistics business. Electronic commerce and logistics business. Applications of technology in sourcing, inventory management, warehouse management, packaging, and transportation management. Software package for logistics business.

15026418 STRATEGIC SUPPLY CHAIN AND LOGISTICS MANAGEMENT 3 (3-0-6)

PREREQUISITE : 15026401 LOGISTICS AND SUPPLY CHAIN MANAGEMENT

Principle of strategic management. Application of strategic management to supply chain and logistics management. Performance measures and key performance indicator for supply chain and logistics management. Strategic tools for supply chain and logistics management. Success case studies.

#### **Alternative Education**

15026800 LOGISTICS MANAGEMENT TRAINING 0 (0-0-0)

PREREQUISITE : NONE

Students must attend a 200-hour training in logistics management field. The training takes place during summer semester of the third year. At the end of semester, students responsible for delivery of training report. Grading is either S (Satisfactory) or U (Unsatisfactory).

15026801 CO-OPERATIVE EDUCATION 6 (0-45-0)

PREREQUISITE : NONE

Students must attend a 30-hour training program organized by Logistics Management Program prior the start of cooperative projects.

- 15026802 INDEPENDENT STUDY 1 1 (0-5-0)  
 PREREQUISITE : NONE  
 Individual study of theory and applications in logistics management and related industry. At the end of semester, students responsible for delivery of final research report and a presentation of the study.
- 15026803 INDEPENDENT STUDY 2 5 (0-40-0)  
 PREREQUISITE : NONE  
 Individual study of theory and applications in logistics management and related industry. At the end of semester, students responsible for delivery of final research report and a presentation of the study.
- 15026804 SPECIAL PROJECT 1 1 (0-5-0)  
 PREREQUISITE : NONE  
 A team of students design and develop a business project in logistics management and related industry. At the end of semester, students responsible for delivery of project report and a presentation of the project outcome.
- 15026805 SPECIAL PROJECT 2 5 (0-40-0)  
 PREREQUISITE : NONE  
 A team of students design and develop a business project in logistics management and related industry. At the end of semester, students responsible for delivery of project report and a presentation of the project outcome.
- 15026806 OVERSEA TRAINING 6 (0-45-0)  
 PREREQUISITE : NONE  
 Students must attend a 30-hour training program organized by Logistics Management Program prior the start of oversea trainings.

#### **Free Elective Courses**

- 15016906 SAFETY MANAGEMENT SYSTEMS 2 (2-0-4)  
 PREREQUISITE : NONE  
 Safety management systems introduction, basic safety concepts, safety management, hazards, risks, safety management systems regulation, safety management systems planning, safety management systems operations and approach.
- 15016907 CREW RESOURCE MANAGEMENT 2 (2-0-4)  
 PREREQUISITE : NONE  
 Culture awareness, team building and supportive environment. Communication, attitude and management styles. Managerial and supervisory skills, decision making and short-



term strategy. Leadership, error management, fatigue, workload management, street management, state of flight deck, automation, multi-crew operation, and situation crew operations.

15026901 BUSINESS NEGOTIATION 3 (3-0-6)

PREREQUISITE : NONE

The study of theory and practice of business negotiation. An analytic and interpersonal skills to conduct full-fledged negotiation effectively and successfully. Negotiation skills through a learning experience. An aspect of negotiation in depth. Investigation of important issues regarding the way prospective managers handle negotiation.

15026902 CONSUMER BEHAVIORS 3 (3-0-6)

PREREQUISITE : NONE

Overview of consumer behavior. Consumer behavior and its relation to the practice of marketing. Introduction to psychological foundations of consumer behavior. Consumer decision-making processes and factors that influence the processes. Knowledge application of consumer behavior to solve marketing problems.

15026903 HUMAN RESOURCE MANAGEMENT 3 (3-0-6)

PREREQUISITE : NONE

Concepts, practices, roles and responsibilities of a human resource manager. The importance and usage of human resource management as a strategic partner of the organization in today's world. The study covers employee recruitment, selection, orientation, training and development, retention, performance management, rewards and compensation, benefits, counseling, employment legislation, safety and health issues, labor relations, and multinational human resources.

15026904 SERVICE BUSINESS MANAGEMENT 3 (3-0-6)

PREREQUISITE : NONE

Study of characteristics and kinds of service business, process of service operations, service business management strategy, designing and development of service systems, service operations management, productivity and quality management of service and technology management in service business.