

Doctor of Philosophy Program

In Computer Science and Information Systems (International Program)

Revised Program 2012

Name of Institution National Institute of Development Administration

Responsible Agency Graduate School of Applied Statistics

Section 1. General Information

1. Name of Program

Name in Thai : หลักสูตรปรัชญาดุษฎีบัณฑิต สาขาวิชาวิทยาการคอมพิวเตอร์และระบบสารสนเทศ
(หลักสูตรนานาชาติ)

Name in English : Doctor of Philosophy Program in Computer Science and Information Systems
(International Program)

2. Name of Degree

Full Name : ปรัชญาดุษฎีบัณฑิต (วิทยาการคอมพิวเตอร์และระบบสารสนเทศ)
Doctor of Philosophy (Computer Science and Information Systems)

Abbreviated Name : ปร.ด.(วิทยาการคอมพิวเตอร์และระบบสารสนเทศ)
Ph.D. (Computer Science and Information Systems)

3. Major

1. Computer Science
2. Information Systems

4. Number of credits in the curriculum

Plan 1(1.1) 48 credits

Plan 2(2.1) 54 credits

5. Characteristic of the Program

5.1 Characteristic

Doctorate degree according to the standard of higher education program

5.2 Medium of Instruction

English

5.3 Admissions

Open for Thai and International graduates with a master's degree in Computer Science, Information Systems Management, Computer Engineering, and Information Technology or in the related fields, having a good command of English, graduated from the institutes both domestic and abroad, which have been accredited by the Commission on Higher Education (CHE)

5.4 Cooperation with Other Institutes

Educational Institutes and Universities with collaboration agreements.

5.5 Presenting the Degree to the Graduates

The same degree will be provided for both majors.

6. Curriculum Status and the Consideration for Approval / Endorsement of the Curriculum

Improved Curriculum 2012 offered at the second semester, academic year 2012

Committee of the Academic Council authorized / approved the curriculum at its 3rd meeting on August 17, 2012

The Council of the National Institute of Development Administration authorized / approved the curriculum at its 8th meeting (special) on August 22, 2012

7. Readiness in Publishing the Curriculum with Quality and Standards

The curriculum is ready to be published with quality and standards according to Qualification Standards in the academic year 2014

8. Professionals to undertake after graduation

8.1 Scholars / professors in educational institutions

8.2 Researchers in computer and information technology

8.3 Executives on information technology and information systems management in both public and private organizations

9. Name, Identification Number, ID Card, Position and Qualifications of the Instructors Responsible for the Curriculum

Name-Family Name	ID Card Number	Highest qualification / Branches.	Institute of Attainment
Assoc. Prof. Dr. Surapong Auwatanamongkol	xxxxxxxxxxxxx	Ph.D.(Computer Science)	Southern Methodist University, USA.
Assoc. Prof. Dr.Pipat Hiranvanichakorn	xxxxxxxxxxxxx	D.E. (Information Processing)	Tokyo Institute of Technology, Japan
Asst.Prof. Dr.Pramote Kuacharoen	xxxxxxxxxxxxx	Ph.D.(Electrical and Computer Engineering)	Georgia Institute of Technology, USA.

10. Place for Studying

Graduate School of Applied Statistics, class rooms and places for studying of the National Institute of Development Administration

11. External Circumstances or Developments that Need to be Taken Into Consideration in Planning the Curriculum

The rapid advancement of information technology contributes to the changes, opportunities and threats to the economy and society. Thailand must be prepared to cope with such changes. The strategic goals of the country's information technology policies and communication have, therefore, been set for the development of many of qualified human resources and researchers in information technology to accommodate the situation.

12. Impact of Item 11 on the Development of the Curriculum and Its Relevance to the Mission of the Institute

12.1 Curriculum Development

Based on the external circumstances in Item 11, it is necessary to develop a curriculum to produce graduates with a doctorate in computer science and information systems with knowledge and ability to do research and apply knowledge to practical. The graduates must be good moral persons according to the policies and vision of the NIDA in producing the knowledgeable graduates with ethics.

12.2 Relevant to the Mission of the Institution

The curriculum is consistent with the mission of the Institute, that is to produce doctorate graduates with knowledge and virtue who will be the leaders in the development of both the economy and society of the country.

13. Relationship with Other Programs Offered in Other Schools / Departments of the Institute

13.1 Courses / Subjects in the Curriculum being offered by other Schools / Departments

English as remedial courses under the School of Language and Communication of NIDA

13.2 Courses / Subjects in this Curriculum that are available for Other Curriculums

Other students from other curriculums of the institution can choose to take all courses offered in the curriculum. Taking such courses must conform to the requirements of the curriculums, must receive the approval from advisor and instructor.

13.3 Administration

Lecturers responsible for the curriculum must coordinate with the representatives from other schools in relevant to subject matter, class schedule / examination schedule and in compliance with the standard for doctoral qualifications in Computer Science and Information Systems.

Section 2. Specific Information of the Curriculum

1. Philosophy, Importance and Objectives of the Curriculum

1.1 Philosophy

At present information technology plays major role for Thailand development. However, the country is in shortage for personnel in Information Technology, especially computer science and information system specialists. Therefore, the main objective of this doctoral program is to produce these needed Information Technology personnel.

1.2 Objectives

1.2.1 To produce graduates with expertise on both theoretical foundations and applications of computer science and information systems.

1.2.2 To produce computer science and information systems personnel at the Ph.D. level to fulfill the demand that increases rapidly in these areas.

1.2.3 To enhance Thailand capability to conduct research by producing researchers in the areas of computer science and information systems.

1.2.4 To produce graduates with good knowledge and high ethics, that will take part in the country development.

2. Development Plans

Development/Adjustment Plans	Strategies	Evidences/Indicators
- Improving the curriculum to meet the standards specified by CHE	- Developing the curriculum according to the standards specified by CHE	- Curriculum documents. - Curriculum evaluation reports
- Improving the curriculum to meet the needs of the markets and changes in information technology	- Curriculum evaluation on a regular basis - Tracking the changing needs of the markets and changes in the fields.	- Report on the evaluation of the satisfaction of the employers of the graduates - Satisfaction in the skills, knowledge, the ability to work of the graduates.

Section 3. Educational Management System, Implementation and the Structure of the Curriculum

1. Educational Management System

1.1 System

It is the bi-semester educational systems with credits. All requirements are in accordance with the regulation of the National Institute of Development Administration concerning the Education.

1.2 Summer Session Studying

Summer Session Studying is subject to the consideration of the lecturer responsible for the curriculum

1.3 Comparable Credits in the Bi-semester System

None

2. Implementation of the Curriculum

2.1 Studying Period

Semester 1	August–December
Semester 2	January–May
Summer Session	June-July

2.2 Qualifications of the Applicants

2.2.1 Must be graduated with master degree in Computer Science, Computer Engineering, Information Technology, Information System Management or related science from an institution accredited by CHE.

2.2.2 Have good academic records and good command of English, both written and verbal.

2.3 Obstruction of the New Students

Students applying to study in the program have English TOEFL or IELTS score less than the requirements.

2.4 Strategies to resolve problems / limitations of the student in Item 2.3.

Students need to learn the supplementary English courses according to the institute requirements.

2.5 Plans for Student Admission and Graduates within 5 Years

Number of the Students	Academic Year				
	2012	2013	2014	2015	2016
Number of Admission	5	5	5	5	5
Accumulated Number		10	15	20	20
Number of Graduates	-	-	-	4	5

2.6 Budget as Planned

The budget will be provided by the government and revenue of the National Institute of Development Administration.

2.7 Studying Methodology

- Classroom
- Distant study via publications
- Distant study via the broadcast media
- Distant study via E-learning
- Distant study via the internet
- Others (specify)

2.8 Education Equivalence Credits Transfer, Courses and Enrollment into Higher Education Institutions.

Guidelines for Education Equivalence Credits Transfer are based on the regulations of the National Institute of Development Administration concerning education and/or the notification of the Graduate School of Applied Statistics.

3. Curriculum and Instructors.

3.1 Curriculum

3.1.1 Number of Credits

Plan 1 (1.1) Focuses on research, no requirement for courses, a total of 48 credits.

Plan 2 (2.1) Research and course requirements, a total of 54 credits.

3.1.2 Curriculum Structure

Courses	Plan 1 (1.1) Focuses on research, no requirement for courses	Plan 2 (2.1) Research and courses requirements
Remedial courses	6 credits (Non-credit)	6 credits (Non-credit)
Core courses	-	6 credits
Major courses	-	6 credits
Elective courses (minimum)	-	6 credits
Thesis	48 credits	36 credits
Total not less than	48 credits	54 credits

3.1.3 Courses

(1) Remedial Courses (Non credit)

LC 6000	Advanced Reading and Writing in English for Graduate Studies	3 Credits
LC 4003	Advanced Integrated English Language Skill Development	3 Credits

(2) Core Courses (6 credits for Plan 2 (2.1) students)

CI 7000	Research Methods in Computer Science and Information Systems	3 Credits
CI 7104	Advanced Database Systems	3 Credits

(3) Major Courses (6 credits for Plan 2 (2.1) students)

Major in Computer Science

CI 7502	Advanced Computer Architectures	3 Credits
CI 7604	Design and Analysis of Algorithms	3 Credits

Major in Information Systems

CI 7210	Information Systems Management	3 Credits
CI 7305	Information Security Management	3 Credits

(4) Elective Courses (6 credits for Plan 2 (2.1) students)

CI 7213	Decision Technology for Management	3 Credits
CI 7214	Management of Information Technology Resources	3 Credits
CI 7306	Computer and Network Security	3 Credits
CI 7302	Cryptography	3 Credits

CI 7307	Wireless and Mobile Communications	3 Credits
CI 7402	Advanced Topics in Artificial Intelligence	3 Credits
CI 7403	Machine Learning	3 Credits
CI 7405	Advanced Topics in Data Mining	3 Credits
CI 7406	Data Mining	3 Credits
CI 7407	Neural Networks	3 Credits
CI 7503	Parallel Computing	3 Credits
CI 7504	Compiler Construction	3 Credits
CI 7602	Combinatorics and Graph Theory	3 Credits
CI 7605	Theory of Computation	3 Credits
CI 7801	Computer Graphics	3 Credits
CI 7802	Multimedia Processing	3 Credits
CI 7803	Image Processing	3 Credits
CI 8700	Readings in Computer Science and Information Systems	3 Credits
CI 8701	Seminar in Advanced Topics in Computer Science and Information Systems	3 Credits
CI 8800-8809	Selected Topics in Computer Science and Information Systems	3 Credits
CI 9000	Independent Study	3 Credits

Remark : - The Elective courses also include other graduate courses offered by the school or others in NIDA (To register for these courses, students must receive approvals from his/her advisor)

- Elective courses opened in each semester will be selected by the school and the institute.

(5) Dissertation

CI 9900	Dissertation	36, 48 Credits
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3.1.4 Study Plan

Plan 1 (1.1) Dissertation only

1st Semester of the 1st Year

LC 6000	Advanced Reading and Writing in English for Graduate Studies	3 Credits *
CI 9900	Dissertation	<u>6 Credits</u>
Total		6 Credits

2nd Semester of the 1st Year

LC 4003	Advanced Integrated English Language Skill Development	3 Credits *
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CI 9900	Dissertation	<u>6 Credits</u>
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Total		6 Credits
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Following semesters

CI 9900	Dissertation	<u>36 หน่วยกิต</u>
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Total		48 Credits
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Remark * Non credit

Study plan can be changed depending on suitability

Plan 2 (2.1) Dissertation and coursework**1st Semester of the 1st Year**

LC 6000	Advanced Reading and Writing in English for Graduate Studies	3 Credits *
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CI xxxx	Core course	3 Credits
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CI xxxx	Core course	3 Credits
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CI xxxx	Major course	3 Credits
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Total		9-12 Credits
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2nd Semester of the 1st Year

LC 4003	Advanced Integrated English Language Skill Development	3 Credits *
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CI xxxx	Major course	3 Credits
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CI xxxx	Elective course	6 Credits
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Total		9-12 Credits
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Following semesters

CI 9900	Dissertation	<u>36 Credits</u>
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Total		36 Credits
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Remark * Non credit

Study plan can be changed depending on suitability

3.1.5 Course Description

LC 6000 Advanced Reading and Writing in English for Graduate Studies **3 credits**

Review of essential reading and writing strategies required to read and write academic English. Course contents include work on sentence structures, vocabulary and recognition of major thought relationships in paragraphs, as well as practice in reading and writing academic English

LC 4003 Advanced Integrated English Languages Skill Development **3 credits**

Course contents and teaching activities focus on the integrated skills of listening, speaking, reading and writing with a particular emphasis on academic writing. Students will also work in small groups, practicing paper presentation techniques, precise writing, and research writing.

CI 7000 Research Methods in Computer Science and Information Systems **3 credits**

Introduction to research areas in computer science and information systems, qualitative and quantitative methods of research, research project writing and presentation, statistical analysis and experimental design techniques, literature searches and reviews, and research ethics.

CI 7104 Advanced Database Systems **3 Credits**

Advanced database system design principles and techniques, access methods, query processing and optimization, transaction processing, distributed databases, data warehousing
Prerequisite: CI 6101 Database Systems or Instructor Consent.

CI 7210 Information Systems Management **3 credits**

A broad overview of the issues managers face in the selection, use, and management of information technology, information technology strategies, information technology and organization, and information technology assets management.

CI 7213 Decision Technology for Management**3 credits**

Decision process, mathematical models for parameter determination, models for resource allocation, inventory, transportation and job assignment, dynamic programming model, stochastic models for business and industrial decision makings, Poisson process, birth-death process, continuous-time and discrete Markov chains, recurrent process, stochastic analysis, applications to queuing, inventory, financial and risk problems. Applications with management and business problems for minimizing cost and maximizing business advantages.

Prerequisite: AS 4001 Mathematics for Applied Statistics or Instructor Consent

CI 7214 Management of Information Technology Resources**3 credits**

Management of information technology (IT) as an organizational asset. Investigation of the problems, challenges, and issues facing IT managers in a rapidly changing, competitive environment. A "best practices" approach to solutions is developed.

CI 7302 Cryptography**3 Credits**

Theory, foundations, and applications of modern cryptography, number theory and its applications, Primarily testing, public-key and discrete-log cryptosystem, one-way functions, pseudo-randomness, zero-knowledge proofs, multiparty cryptographic protocols, practical

CI 7305 Information Security Management**3 Credits**

Security vulnerability in information systems, organizational impact in case of security violation, security policy development life cycle, security requirement assessment, steps in security policy development, security architecture, attack strategies, management roles and responsibilities, security policy implementation, auditing, virus protection, firewalls and firewall architectures authentication and access control, and encryption techniques.

Prerequisite: CI 6102 Data Communication and Computer Networks or Instructor Consent.

applications.

CI 7306 Computer and Network Security**3 Credits**

Principles of computer and network security. Symmetry and asymmetry key cryptosystem, authentication protocol, digital signature and public key infrastructure, message integrity. Threat and security management, secure programming, ethics and laws.

Prerequisite: CI 6102 Data Communication and Computer Networks or Instructor Consent.

CI 7307 Wireless and Mobile Communications**3 Credits**

Principled introduction to wireless and Mobile communications, wireless data transmission, radio frequency communications and propagation characteristics, antenna systems. Network architecture and security in WPANs, WLANs, WMANs and WWANs.

CI 7402 Advanced Topics in Artificial Intelligence**3 Credits**

Advanced topics in Artificial Intelligence, such as, Planning, Natural Language Processing, Web Search, Fuzzy Logic, Markov Decision Problems, Bayesian Networks, Genetic Algorithms, Reinforcement Learning.

Prerequisite: CI 7401 Artificial Intelligence or Instructor Consent

CI 7403 Machine Learning**3 Credits**

Probability, Classification Theory, Bayesian and Naïve Bayes Classifiers, Linear Regression, Decision Trees, Neural Networks, Instance-Based Learning, Support Vector Machine, Hidden Markov Models, Principal Component Analysis

Prerequisite: CI 7401 Artificial Intelligence or Instructor Consent.

CI 7405 Advanced Topics in Data Mining**3 Credits**

Advanced Topics in Data Mining, Classification Techniques, Clustering Techniques, Combining Multiple Techniques, Model Evaluation, Data Visualization, Web Mining and Text Mining.

Prerequisite: CI 7404 Data Mining or Instructor Consent

CI 7406 Data Mining**3 Credits**

Data Preprocessing, Statistical Approaches to Estimation and Prediction, Classification, Clustering, Association Analysis and Applications.

Prerequisite: CI 4002 Data Structures and Algorithm or Instructor Consent

CI 7407 Neural Networks**3 credits**

undamentals of neural networks computing, perceptrons, feed forward neural networks, radial basis function, support vector machine, self-organizing maps, and applications of neural networks.

Prerequisite: CI 7401 Artificial Intelligence or Instructor Consent

CI 7502 Advanced Computer Architectures**3 Credits**

Computer models and architectures, parallel computing, pipeline computer architectures, VLIW architecture, superscalar processor architecture, SIMD computer architectures, MIMD computer architecture, and interconnection networks.

Prerequisite: CI 7311 Computer Architectures or Instructor Consent.

CI 7503 Parallel Computing**3 Credits**

Survey of parallel computer architectures, models of parallel computation, and interconnection networks. Parallel algorithm development and analysis. Programming paradigms and languages for parallel computation. Different approaches to writing parallel software for shared-memory and message-passing paradigms. Example applications. Performance measurement and evaluation. Design and implementation of efficient and effective thread packages, communication mechanisms, process management, virtual memory, and file systems for scalable parallel processing

Prerequisite: CI 7311 Computer Architecture or Instructor Consent.

CI 7504 Compiler Construction**3 Credits**

Theory and practice in compiler construction, lexical and syntax analysis, basic theory on context-free languages and parsing, machine code generation and optimization, automatic parser generation, compiler writing, and extendible compilers.

Prerequisite: CI 4002 Data Structures and Algorithms or Instructor Consent.

CI 7602 Combinatorics and Graph Theory**3 Credits**

Enumeration, generating function, recurrence relations, counting numbers, inclusion-exclusions, graphs and their applications, Euler tours, Hamiltonian cycles, bipartite, connectivity, set covering, graph coloring, network flow problems

Prerequisite: CI 4002 Data Structures and Algorithms or Instructor Consent.

CI 7604 Design and Analysis of Algorithms**3 Credits**

Complexity of algorithms, analysis of algorithm complexity, divide-and-conquer algorithms, amortized analysis, disjoint sets, priority queues, graph algorithms, pattern matching, matrix multiplication, geometric algorithms, polynomial multiplication, fast Fourier, greedy algorithms, dynamic programming, NP-Completeness problems, approximation algorithms

Prerequisite: CI 4002 Data Structures and Algorithms or Instructor Consent.

CI 7605 Theory of Computation**3 Credits**

Deterministic finite state automata, nondeterministic finite state automata, regular language, push-down automata, context-free language, normal forms of context-free language, Turing machine, context-sensitive language, language hierarchy.

CI 7801 Computer Graphics**3 Credits**

Introduction to computer graphics: hardware and software, basic raster graphic algorithms, 2D Geometrical transformations, window and clipping, computer animation, 3D graphics, 3D modeling, introduction to hidden surface problems, 3D geometrical and viewing transformations, shading, curvature lines and surfaces.

Prerequisite: CI 4002 Data Structures and Algorithms or Instructor Consent.

CI 7802 Multimedia Processing**3 Credits**

Introduction to multimedia, multimedia data compression, multimedia realtime transmission and protocols, multimedia database systems, multimedia documents, presentation of multimedia data and applications of multimedia.

Prerequisite: CI 4002 Data Structures and Algorithms or Instructor Consent.

CI 7803 Image Processing**3 credits**

Digital images in color or black and white, image storages, image pre-processing, segmentation, shape representation and description, image recognition and understanding, image transformation, image compression, image processing software and system, and image databases.

Prerequisite: CI 4002 Data Structures and Algorithms or Instructor Consent

CI 8700 Readings in Computer Science and Information Systems**3 credits**

This course intends to allow a student who is preparing a dissertation proposal or is interested in a particular research topic to read academic papers under instructors' supervision. The student must present an analytical report on the topic to the supervisor.

CI 8701 Seminar in Advanced Topics in Computer Science and Information Systems **3 credits**

This course is to provide students the insights into advanced topics in computer science and information systems. The students must complete term papers and present them to the class.

CI 8800-8809 Selected Topics in Computer Science and Information Systems**3 credits**

Study in topics different from courses in the regular curriculum, under the school's approval.

CI 9000 Independent Study**3 Credits**

Students select an independent study topic which must be approved by the instructor and students must submit a term paper.

CI 9900 Dissertation**36-48 credits**

Each student conducts a research on a particular topic under consultation of an advisor as well as attends courses as suggested by the advisor. Students must submit a dissertation proposal, research progress reports, and take final examination

3.2 Title, name – surname, ID number and academic degree of staffs

3.2.1 Program's Responsible Staffs

Title / Name - Surname	ID No.	Degree	Major	Institute
Assoc.Prof Dr. Surapong Auwatanamongkol	xxxxxxxxxxxxxx	Ph.D.	Computer Science	Southern Methodist University, U.S.A.
Assoc.Prof Dr.Pipat Hiranvanichakorn	xxxxxxxxxxxxxx	D.E.	Information Processing	Tokyo Institute of Technology, Japan.
Asst.Prof Dr.Pramote Kuacharoen	xxxxxxxxxxxxxx	Ph.D.	Electrical and Computer Engineering	Geogia Institute of Technology,U.S.A.
Asst.Prof Dr.Supoj Sutanthavibul	xxxxxxxxxxxxxx	Ph.D.	Computer Science	University of Texas at Austin, U.S.A.
Dr. Rattakorn Poonsuph	xxxxxxxxxxxxxx	Sc.D.	Computer Science	University of Massachusetts Lowell, U.S.A.

3.2.2 Fulltime Faculty Members

Title / Name - Surname	ID No.	Degree	Major	Institute
Prof.Dr.Prachoom Suwattee	xxxxxxxxxxxxxx	Ph.D.	Statistics	North Carolina State University, U.S.A.
Assoc.Prof Dr.Jirawan Jitthavech	xxxxxxxxxxxxxx	Ph.D.	Statistics	University of Georgia, U.S.A.
Assoc.Prof Dr.Duanpen Teerawanviwat	xxxxxxxxxxxxxx	Ph.D.	Population Studies	University, of Hawaii (Manoa), U.S.A.
Assoc.Prof Dr.Pachitjanut Siripanich	xxxxxxxxxxxxxx	Ph.D.	Statistics	Oregon State University, U.S.A.
Assoc.Prof Dr.Pacharaporn Neammanee	xxxxxxxxxxxxxx	Ph.D.	Industrial Engineering	Oregon State University, U.S.A.
Assoc.Prof Dr.Pipat Hiranvanichakorn	xxxxxxxxxxxxxx	D.E.	Information Processing	Tokyo Institute of Technology, Japan.
Assoc.Prof Dr.Raweevan Auepanwiriyaikul	xxxxxxxxxxxxxx	Ph.D.	Computer Science	University of North Texas, U.S.A.

Title / Name - Surname	ID No.	Degree	Major	Institute
Assoc.Prof Dr.Vichit Lorchirachoonkul	xxxxxxxxxxxxx	Ph.D.	Electrical Engineering	Montana State University, U.S.A.
Assoc.Prof Dr.Samruam Chongcharoen	xxxxxxxxxxxxx	Ph.D.	Statistics	University of Missouri-Columbia, U.S.A.
Asst.Prof Dr.Kannapha Amaruchkul	xxxxxxxxxxxxx	Ph.D.	Industrial Engineering	University of Minnesota-Twin Cities, U.S.A.
Asst.Prof Dr.Jugkarin Sukmok	xxxxxxxxxxxxx	Ph.D.	Computer Science	Illinois Institute of Technology,U.S.A.
Asst.Prof Dr.Nithinant Thammakoranonta	xxxxxxxxxxxxx	Ph.D.	Industrial Management	Clemson University, U.S.A.
Asst.Prof Dr.Preecha Vichitthamaros	xxxxxxxxxxxxx	Ph.D.	Management of Technology	AIT., Thailand
Asst.Prof PatrawadeeTanawongsuwan	xxxxxxxxxxxxx	M.S.	Computer Science	Georgia Institute of Technology, U.S.A.
Asst.Prof Dr.Waraporn Jirachiefpattana	xxxxxxxxxxxxx	Ph.D.	Computing and Information systems	Monash University, Australia.
Asst.Prof Weena Chaisilaparungruang	xxxxxxxxxxxxx	M.S.	Statistics&Ac tuarial Science,	University of Iowa, U.S.A.
Asst.Prof Dr.Sukanya Suranauwarat	xxxxxxxxxxxxx	Ph.D.	Computer Science and Communicati on Engineering	Kyushu University, Japan.
Asst.Prof Suthichai Suttitossatam	xxxxxxxxxxxxx	M.S.	Hons. (Applied Statistics),	NIDA., Thailand
Asst.Prof Dr.Sutep Tongngam	xxxxxxxxxxxxx	Ph.D.	Computer Science	Illinois Institute of Technology, U.S.A.
Asst.Prof Dr.Ohm Sornil	xxxxxxxxxxxxx	Ph.D.	Computer Science	Virginia Tech, U.S.A.
Dr.Thitirat Siriborvornratanakul	xxxxxxxxxxxxx	Ph.D.	Computer Engineering	University of Tokyo, Japan
Dr.Pramote Luenam	xxxxxxxxxxxxx	Ph.D.	Information	University of

Title / Name - Surname	ID No.	Degree	Major	Institute
			Systems	Maryland, Baltimore County,U.S.A.

Dr.Lersan Bosuwan	xxxxxxxxxxxxx	Doctorate 3 Cycle	Mathematique Appliquees aux Sciences Sociales	Universite Des Sciences Sociales de Grenoble II, France.
Dr.Watchareeporn Chaimongkol	xxxxxxxxxxxxx	Ph.D.	Statistics	NIDA., Thailand.
Dr.Siwiga Dusadenoad	xxxxxxxxxxxxx	Ph.D.	Engineering Management	University ofMissouri-Rolla, U.S.A.

Section 5. Educational Evaluation and Grading System

1. Regulation and Grading Criteria

The grading system for the courses listed in the program conforms to the standard stated in the educational regulations of the National Institute of Development of Administration. Computation of grade point averages will be as follows:

A	=	4.0 (Excellent)
A-	=	3.7 (Very Good)
B+	=	3.3 (Good)
B	=	3.0 (Fairly Good)
B-	=	2.7 (Almost Good)
C+	=	2.3 (Fair)
C	=	2.0 (Almost fair)
C-	=	1.7 (Poor)
D	=	1.0 (Very poor)
F	=	0 (Failure)
W	=	Withdrawal
I	=	Incomplete
S	=	Satisfactory
U	=	Unsatisfactory
AU	=	Audit
P	=	Pass
IP	=	In progress
T	=	Terminate
TR	=	Transfer, work with which there is no comparable grade